



Annual Report and
Form 20-F
2022

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

ANNUAL REPORT

PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

for the fiscal year ended December 31, 2022

Commission File Number 001-15106

Petróleo Brasileiro S.A. — Petrobras

(Exact name of registrant as specified in its charter)

Brazilian Petroleum Corporation — Petrobras

(Translation of registrant's name into English)

The Federative Republic of Brazil

(Jurisdiction of incorporation or organization)

Avenida República do Chile, 65 - 20031-912 - Rio de Janeiro - RJ - Brazil

(Address of principal executive offices)

Rodrigo Araujo Alves

Chief Financial Officer and Chief Investor Relations Officer

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Avenida República do Chile, 65 - 20031-912 - Rio de Janeiro - RJ - Brazil

(Name, telephone, e-mail and/or facsimile number and address of company contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class:	Trading Symbol(s):	Name of each exchange on which registered:
Petrobras Common Shares, without par value*	PBR/PBRA	New York Stock Exchange*
Petrobras American Depositary Shares, or ADSs (evidenced by American Depositary Receipts, or ADRs), each representing two Common Shares	PBR/PBRA	New York Stock Exchange
Petrobras Preferred Shares, without par value*	PBR/PBRA	New York Stock Exchange*
Petrobras American Depositary Shares (as evidenced by American Depositary Receipts), each representing two Preferred Shares		New York Stock Exchange
6.250% Global Notes due 2024, issued by PGF	PBR	New York Stock Exchange
5.299% Global Notes due 2025, issued by PGF	PBR	New York Stock Exchange
8.750% Global Notes due 2026, issued by PGF	PBR	New York Stock Exchange
7.375% Global Notes due 2027, issued by PGF	PBR	New York Stock Exchange
5.999% Global Notes due 2028, issued by PGF	PBR	New York Stock Exchange
5.750% Global Notes due 2029, issued by PGF	PBR	New York Stock Exchange
5.093% Global Notes due 2030, issued by PGF	PBR	New York Stock Exchange
5.600% Global Notes due 2031, issued by PGF	PBR	New York Stock Exchange
6.875% Global Notes due 2040, issued by PGF (successor to PifCo)	PBR	New York Stock Exchange
6.750% Global Notes due 2041, issued by PGF (successor to Pifco)	PBR	New York Stock Exchange
5.625% Global Notes due 2043, issued by PGF	PBR	New York Stock Exchange
7.250% Global Notes due 2044, issued by PGF	PBR	New York Stock Exchange
6.900% Global Notes due 2049, issued by PGF	PBR	New York Stock Exchange
6.750% Global Notes due 2050, issued by PGF	PBR	New York Stock Exchange
5.500% Global Notes due 2051, issued by PGF	PBR	New York Stock Exchange
6.850% Global Notes due 2115, issued by PGF	PBR	New York Stock Exchange

* Not for trading, but only in connection with the registration of American Depositary Shares pursuant to the requirements of the New York Stock Exchange.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

The number of outstanding shares of each class of stock as of December 31, 2022 was:
7,442,231,382 Petrobras Common Shares, without par value
5,601,969,879 Petrobras Preferred Shares, without par value

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined by Rule 405 of the Securities Act.

Yes No

If this report is an annual or transitional report, indicate by check mark if the registrant is not required to file reports pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically if any, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13 (a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b).

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

Yes No



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Disclaimer

We have presented the information in this annual report and Form 20-F in a manner consistent with how we view our business. In order to facilitate your review, this annual report and Form 20-F for the year ended December 31, 2022 (referred to herein as our “annual report”) has a cross reference guide to SEC Form 20-F under “Cross-Reference to Form 20-F”.

Unless the context otherwise indicates, please consider this report the annual report of Petróleo Brasileiro S.A. – Petrobras. Unless the context otherwise requires, the terms “Petrobras,” “we,” “us” and “our” refer to Petróleo Brasileiro S.A. – Petrobras and its consolidated subsidiaries, joint operations and structured entities.

Our audited consolidated financial statements, presented in U.S. dollars, included in this annual report and the financial information contained in this annual report that is derived therefrom are prepared in accordance with the International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board (“IASB”).

Our functional currency and the functional currency of all of our Brazilian subsidiaries is the Brazilian real and the functional currency of most of our entities that operate outside Brazil, such as Petrobras Global Finance B.V. or PGF, is the U.S. dollar. We have selected the U.S. dollar as our presentation currency to facilitate a more direct comparison to other oil and gas companies.

In this annual report, references to “real,” “reais” or “R\$” are to Brazilian reais and references to “U.S. dollars” or “US\$” are to United States dollars.

The 2022 GHG emissions performance results presented in this annual report will be subject to third party audit, and although we do not expect significant differences, the audited results may differ from the results presented herein.

Forward-Looking Statements

This annual report includes forward-looking statements that are not based on historical facts and are not assurances of future results. The forward-looking statements contained in this annual report, which address our expected business and financial performance, among other matters, contain words such as “believe,” “expect,” “estimate,” “anticipate,” “intend,” “plan,” “aim,” “will,” “may,” “should,” “could,” “would,” “likely,” “potential” and similar expressions (which are not the exclusive means of identifying such forward-looking statements).

Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. There is no assurance that the expected events, trends or results will actually occur.

We have made forward-looking statements that address, among other things:

- our marketing and expansion strategy;
- our exploration and production activities, including drilling;
- our activities related to refining, import, export, transportation of oil, natural gas and oil products, petrochemicals, power generation, biofuels and other sources of renewable energy;
- our commitment with respect to ESG practices and low carbon and environmental sustainability;
- our projected and targeted capital expenditures, commitments and revenues;
- our liquidity and sources of funding;
- our pricing strategy and development of additional revenue sources; and



- the impact, including cost, of acquisitions and divestments.

Our forward-looking statements are not guarantees of future performance and are subject to assumptions that may prove incorrect and to risks and uncertainties that are difficult to predict. Our actual results could differ materially from those expressed or forecast in any forward-looking statements as a result of a variety of assumptions and factors. These factors include, but are not limited to, the following:

- our ability to obtain financing;
- general economic and business conditions, including crude oil and other commodity prices, refining margins and prevailing exchange rates;
- global economic conditions;
- our ability to find, acquire or gain access to additional reserves and to develop our current reserves successfully;
- uncertainties inherent in making estimates of our oil and gas reserves, including recently discovered oil and gas reserves;
- competition;
- technical difficulties in the operation of our equipment and the provision of our services;
- changes in, or failure to comply with, laws or regulations, including with respect to fraudulent activity, corruption and bribery;
- receipt of governmental approvals and licenses;
- international and Brazilian political, economic and social developments, including the role of the Brazilian government, as our controlling shareholder, in our business;
- natural disasters, accidents, military operations, acts of sabotage, wars or embargoes;
- global health crises, such as the Covid-19 pandemic;
- the impact of expanded regional or global conflict, including the conflict between Russia and Ukraine;
- the cost and availability of adequate insurance coverage;
- our ability to successfully implement asset sales under our portfolio management program;
- our ability to successfully implement our 2023-2027 Strategic Plan (“Strategic Plan”), whether that Strategic Plan remains in place, and the direction of any subsequent strategic plans;
- the outcome of ongoing corruption investigations and any new facts or information that may arise in relation to the Lava Jato investigation;
- the effectiveness of our risk management policies and procedures, including operational risk;
- potential changes to the composition of our Board of Directors and our management team; and
- litigation, such as class actions or enforcement or other proceedings brought by governmental and regulatory agencies.

For additional information on factors that could cause our actual results to differ from expectations reflected in forward-looking statements, see “Risks” in this annual report.

All forward-looking statements attributed to us or a person acting on our behalf are qualified in their entirety by this cautionary statement. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information or future events or for any other reason.

The crude oil and natural gas reserve data presented or described in this annual report are only estimates, which involve some degree of uncertainty, and our actual production, revenues and expenditures with respect to our reserves may materially differ from these estimates.



Documents on Display

We are subject to the information requirements of the Exchange Act, and accordingly our reports and other information filed and furnished by us with the SEC may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You can obtain further information about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. You may also inspect our reports and other information at the offices of the New York Stock Exchange, or NYSE, at 11 Wall Street, New York, New York 10005, on which our ADSs are listed. For further information about obtaining copies of our public filings at the NYSE, please call +1 (212) 656-5060. Our SEC filings are also available to the public at the SEC's website at www.sec.gov and at our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.

We also furnish reports on Form 6-K to the SEC containing our unaudited consolidated interim financial statements and other financial information of our company.

We also file audited consolidated financial statements, unaudited consolidated interim financial information and other periodic reports with the CVM.



Glossary

Glossary of Certain Terms used in this Annual Report

Unless the context indicates otherwise, the following terms are defined as follows:

ACL	<i>Ambiente de Comercialização Livre</i> (Free Marketing Environment). Market segment in which the purchase and sale of electric energy are the subject of freely negotiated bilateral agreements, according to specific marketing rules and procedures.
ACR	<i>Ambiente de Comercialização Regulado</i> (Regulated Marketing Environment). Market segment in which the purchase and sale of electric power between selling agents and distribution agents, preceded by a bidding process, except for cases provided by law, according to specific marketing rules and procedures.
ADR	American Depositary Receipt.
ADS	American Depositary Share.
AIP	The <i>Acordo de Individualização da Produção</i> (Productions Individualization Agreement). The AIP applies in situations where the reservoirs extend beyond the areas granted or contracted, as regulated by the ANP.
AMS (Saúde Petrobras)	Our health care plan, effective as of 2021, which replaced the AMS (<i>Assistência Multidisciplinar de Saúde</i>).
ANEEL	The <i>Agência Nacional de Energia Elétrica</i> (Brazilian Electricity Regulatory Agency)
ANP	The <i>Agência Nacional de Petróleo, Gás Natural e Biocombustíveis</i> (Brazilian National Petroleum, Natural Gas and Biofuels Agency) is the federal agency that regulates the oil, natural gas and renewable fuels industry in Brazil.
ANTAQ	The <i>Agência Nacional de Transportes Aquaviários</i> (Brazilian National Agency of Waterway Transportation).
API	Standard measure of oil density developed by the American Petroleum Institute.
APS	The Associação Petrobras de Saúde (Petrobras Health Association), a non-profit association that operates our supplementary health care plan (Saúde Petrobras) since 2021.
B3	<i>Brasil, Bolsa, Balcão</i> , the Brazilian Stock Exchange.



BioQav	Aviation turbine fuel used to power aircraft, produced from several biomass sources in different production processes, also known as “biojet”, “biokerosine” or “SAF” (sustainable aviation fuel) and named by the ANP as “Alternative Jet Fuel”, which must be added to conventional jet fuel up to a maximum limit that varies from 10% to 50% by volume depending on the production process, as defined in ASTM (American Society for Testing and Materials) Annex D-7566 and ANP Resolution 778/2019.
Biofuel	Any fuel derived from the conversion of biomass as raw material (vegetable oils, algae material, crops or animal wastes etc.) and/or produced through biological processes, such as fermentation and others. Biofuels are considered renewable sources of energy.
Barrels	Standard measure of crude oil volume.
BNDES	<i>Banco Nacional de Desenvolvimento Econômico e Social</i> (Brazilian National Development Bank).
Braskem	Braskem S.A. is currently the largest producer of thermoplastic resins in the Americas and the largest producer of polypropylene in the United States. Its production focuses on polyethylene (PE), polypropylene (PP) and polyvinylchloride (PVC) resins, in addition to basic chemical inputs such as ethylene, propylene, butadiene, benzene, toluene, chlorine, soda, and solvents, among others. Together, they make up one of the most comprehensive portfolios in the industry by also including the green polyethylene produced from the sugarcane, from 100% renewable sources.
Brazilian Treasury	The <i>Tesouro Nacional</i> (Brazilian National Treasury) is a Secretariat of the Ministry of Finance, responsible for financial programming, accounting, management of the federal public debt, federal financial and securities assets and the relationship with states and municipalities in Brazil. The Brazilian National Treasury's mission is to seek fiscal balance through efficient, proactive and transparent management of public accounts, contributing to Brazil's intertemporal economic and social development.
Brent Crude Oil	A major trading classification of light crude oil that serves as a major benchmark price for commercialization of crude oil worldwide.
CADE	<i>Conselho Administrativo de Defesa Econômica</i> (Administrative Council for Economic Defense).
Câmara de Arbitragem do Mercado	An arbitration chamber governed and maintained by B3.
Capital Expenditures or “CAPEX”	Capital expenditures based on the cost assumptions and financial methodology adopted in our strategic plans, which includes acquisition of intangible assets and property, plant and equipment, investment in investees and other items that do not necessarily qualify as cash flows used in investing activities, comprising geological and geophysical expenses, pre-operating charges, purchase of property, plant and equipment on credit and borrowing costs directly attributable to works in progress.



CBA	<i>Acordo Coletivo de Trabalho</i> (Collective Bargaining Agreement).
CCUS	Carbon Capture, Utilization and Storage.
CEO	Chief Executive Officer.
CFO	Chief Financial Officer.
Central Bank of Brazil	The <i>Banco Central do Brasil</i> .
Central Depositária	The <i>Central Depositária de Ativos e de Registro de Operações do Mercado</i> , which serves as the custodian of our common and preferred shares (including those represented by ADSs) on behalf of our shareholders.
CGPAR	The <i>Comissão Interministerial de Governança Corporativa e de Administração de Participações Societárias da União</i> (Interministerial Commission on Corporate Governance and the Administration of Corporate Holdings of the Brazilian federal government) is the government institution that establishes procedures related to governance of state-owned companies.
CGU	The <i>Controladoria Geral da União</i> (General Federal Inspector's Office) is an advisory body of the Brazilian Presidency responsible for assisting in matters related to the protection of federal public property (<i>patrimônio público</i>) and the improvement of transparency in the Brazilian executive branch, through internal control activities, public audits, and the prevention and combat of corruption, among others.
CMN	The <i>Conselho Monetário Nacional</i> (National Monetary Council) is the highest authority of the Brazilian financial system, responsible for the formulation of the Brazilian currency, exchange and credit policy, and for the supervision of financial institutions.
CNODC	CNODC Brasil Petróleo e Gás Ltda.
CNOOC	CNOOC Petroleum Brasil Ltda.
CNPE	The <i>Conselho Nacional de Política Energética</i> (National Energy Policy Council), chaired by the Minister of Mines and Energy, is an advisory body to the Brazilian President for the formulation of energy policies and guidelines.
Condensate	Hydrocarbons that are in the gaseous phase at reservoir conditions but condense into liquid as they travel up the wellbore and reach separator conditions.
CONAMA	<i>Conselho Nacional do Meio Ambiente</i> (National Council for the Environment in Brazil).



CNPE	The <i>Conselho Nacional de Política Energética</i> (National Energy Policy Council) is an advisory body of the President of the Republic assisting in the formulation of energy policies and guidelines.
CVM	The <i>Comissão de Valores Mobiliários</i> (Brazilian Securities and Exchange Commission).
CVU	Custo Variável Unitário (Variable Cost per Unit for electrical energy).
D&M	DeGolyer and MacNaughton, an independent petroleum engineer consulting firm that conducts reserves evaluation of part of our net proved crude oil, Condensate and natural gas reserves.
Deepwater	Between 300 and 1,500 meters (984 and 4,921 feet) deep.
Depositary	JPMorgan.
Distillation	Physical process involving vaporization and condensation, whereby petroleum is separated (refined) into oil products.
DoJ	The U.S. Department of Justice.
E&P or Exploration & Production	Exploration & Production is our business segment that covers the activities of exploration, development and production of crude oil, NGL and natural gas in Brazil and abroad.
ESG	Environmental, Social and Governance.
Eletrobras	Centrais Elétricas Brasileiras S.A.
Exchange Act	Securities Exchange Act of 1934, as amended.
EWT	Extended well test.
Fitch	Fitch Ratings Inc., a credit rating agency.
FPSO	Floating production, storage and offloading unit.
G&P or Gas & Power	Gas & Power is our business segment that covers the activities of logistics and trading of natural gas and electricity, transportation and trading of LNG, generation of electricity by means of thermoelectric power plants, as well as holding interests in transportation and distribution companies of natural gas in Brazil and abroad. It also includes natural gas



	processing and fertilizer operations.
GASLUB Cluster	Located in southeastern Brazil (Itaboraí, in the state of Rio de Janeiro), the GASLUB Cluster is comprised of the GASLUB Itaboraí UPGNs and other underlying utilities.
Gaspetro	Petrobras Gás S.A.– Gaspetro was our subsidiary from which we divested in July 2022, in which we had a 51% equity interest and a holding company with equity interests in 18 Brazilian local gas distribution companies, with Mitsui holding the remaining 49% interest.
GHG	Greenhouse gas.
GSA	Long-term Gas Supply Agreement entered into with the Bolivian state-owned company Yacimientos Petrolíferos Fiscales Bolivianos.
GTB	Gás Transboliviano S.A. is a company operating in the natural gas transportation industry, responsible for the administration and operation of the 557 km gas pipeline system in the Bolivian section of the Bolivia–Brazil gas pipeline (“GASBOL”), with an installed capacity of 30 million m ³ /d. GTB is connected to TBG on the Bolivia–Brazil border in the state of Mato Grosso do Sul.
HCC or Hydrocracking	Conversion of heavier intermediate streams into the middle distillates boiling range (kerosene and diesel) in the presence of specific catalyst, hydrogen and severe conditions of temperature and pressure to produce high quality fuels. Depending on feedstock quality and operational conditions it is possible to direct production towards high quality lubes as well.
HDT or Hydrotreating	Process widely used in oil refining industry to remove heteroatoms such as sulfur and nitrogen from gasoline, kerosene and/or diesel in the presence of specific catalysts, hydrogen and adequate conditions of temperature and pressure. The aim is to adjust composition to comply with fuel specifications.
HSE	Health, Safety and Environment.
IAGEE	<i>Índice de Atendimento às Metas de Gases do Efeito Estufa</i> (Greenhouse Gas Emissions Target Achievement Indicator). The indicator of compliance with the Greenhouse Gas Emissions Targets.
IASB	International Accounting Standards Board.
IBAMA	The <i>Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis</i> (Brazilian Institute of the Environment and Renewable Natural Resources).
Ibovespa or IBOV	The gross total return index weighted by free float market cap and comprised of the most liquid stocks traded on the B3. It was created in 1968.



IFRS	International Financial Reporting Standards.
Inovar-Auto	This was a government program that proposed automotive industry to invest in research and development of more efficient and safe vehicles in exchange for tax benefits.
IMO	International Maritime Organization.
IOF	<i>Imposto sobre Operações Financeiras</i> (Brazilian taxes over financial transactions).
IPCA	The <i>Índice Nacional de Preços ao Consumidor Amplo</i> (National Consumer Price Index).
JPMorgan	JPMorgan Chase Bank, N.A.
Lava Jato	<i>Operação Lava Jato</i> (Lava Jato Operation), as detailed in “Risks – Risks Factors” and “Legal and Tax – Legal Proceedings – Lava Jato Investigation” in this annual report.
LIBOR	The London Interbank Offered Rate is a benchmark interest rate at which major global banks lend to one another in the international interbank market for short-term loans.
LNG	Liquefied natural gas.
LPG	Liquefied petroleum gas, which is a mixture of hydrocarbons with up to five carbon atoms.
MME	The <i>Ministério de Minas e Energia</i> (Ministry of Mines and Energy) of Brazil.
Moody's	Moody's Investors Service, Inc., a credit rating agency.
ME	The <i>Ministério da Economia</i> of Brazil (Ministry of Economy, former MPDM – <i>Ministério do Planejamento, Desenvolvimento e Gestão</i>).
MTF	Euro Multilateral trading Facility.
Natural Gasoline (C5+)	Natural Gasoline C5+ is a NGL produced at natural gas processing plants with a vapor pressure intermediate between Condensate and LPG, that may compose a gasoline blend.
Nelson complexity index or NCI	The Nelson Complexity Index or NCI is a measure of the sophistication of an oil refinery, where more complex refineries are able to produce lighter, more heavily refined and valuable products from a barrel of oil. The NCI is measured on a scale of one to 20, where higher numbers correspond to more complex and expensive refineries.



NGL	The liquid resulting from the processing of natural gas and containing the heavier gaseous hydrocarbons.
NYSE	The New York Stock Exchange.
NYSE Arca Oil Index or Arca Oil (former AMEX Oil Index)	The NYSE Arca Oil Index, formerly the AMEX Oil Index, ticker symbol XOI, is a price-weighted index of the leading companies involved in petroleum exploration, production and development. It measures the oil industry's performance through changes in the sum of the prices of component stocks. The index was developed with a base level of 125 as of August 27, 1984.
OCF	Operating Cash Flow (net cash provided by operating activities).
Oil	Crude oil, including NGLs and Condensates.
Oil Products	Petroleum by-products, produced through processing in refineries (diesel, gasoline, LPG and other products).
ONS	The <i>Operador Nacional do Sistema Elétrico</i> (National Electric System Operator) of Brazil.
OPEC+	Organization of the Petroleum Exporting Countries.
Operating income (loss)	The line equivalent to Net income (loss) before finance income (expense), results in equity-accounted investments and income taxes derived from our audited consolidated financial statements.
Organic Reserves Replacement Ratio or Organic RRR	Measures the amount of proved reserves added to a company's reserve base during the year, excluding disposals and acquisitions of proved reserves, relative to the amount of oil and gas produced.
OSRL	Oil Spill Response Limited.
Petrochemicals	Chemicals obtained from oil and natural gas (as opposed to fuels) such as ethane, propene, benzene, xylenes, polypropylene, polyethylene and others.
PAI	<i>Programa de Aposentadoria Incentivado</i> (Incentive Retirement Program).
PDV	<i>Programa de Desligamento Voluntário</i> (Voluntary Severance Program).
Petros	Fundação Petros de Seguridade Social, Petrobras' employee pension fund.



Petros 2	Petrobras' sponsored pension plan.
PFLOPS	One PFLOPS equals the processing capacity of a quadrillion mathematical operations per second.
PGF	Petrobras Global Finance B.V.
PifCo	Petrobras International Finance Company S.A.
PLR	The <i>Participação nos Lucros e Resultados</i> (Profit Sharing Program) is a remuneration model based on the division of profits with our employees. Our PLR is governed by Brazilian Law 10,101/2000 and follows the guidelines of the Secretariat of Coordination and Governance of State-Owned Companies ("SEST"). These annual guidelines define various aspects of this type of reward, such as format, flow, governance, financial and remuneration limits.
PLSV	Pipe laying support vessel.
PPP	The <i>Prêmio por Performance</i> (Performance Award Program) is part of our Variable Remuneration Program ("PRV"), which is also comprised of the Profit Sharing Program ("PLR") and is aligned with our strategic objectives, motivating everyone involved to achieve the results and goals defined by management.
Post-salt reservoir	A geological formation containing oil or natural gas deposits located above a salt layer.
PP&E	Property, plant and equipment.
PPSA	Pré-Sal Petróleo S.A.
Pre-salt Polygon	Underground region formed by a vertical prism of undetermined depth, with a polygonal surface defined by the geographic coordinates of its vertices established by Law No. 12,351/2010, as well as other regions that may be delimited by the Brazilian federal government, according to the evolution of geological knowledge.
Pre-salt reservoir	A geological formation containing oil or natural gas deposits located beneath a salt layer.
PREVIC	The <i>Superintendência Nacional de Previdência Complementar</i> (National Supplementary Pension Authority).
Proved reserves	Consistent with the definitions of Rule 4-10(a) of Regulation S-X, proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible – from a given date forward, from known reservoirs, and under existing



	<p>economic conditions, operating methods, and government regulations. Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price is the unweighted arithmetic average of the first-day-of-the-month price during the twelve-month period prior to December 31, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. The project to extract the hydrocarbons must have commenced or we must be reasonably certain that we will commence the project within a reasonable time. Reserves that can be produced economically through application of improved recovery techniques (such as fluid injection) are included in the “proved” classification when successful testing by a pilot project, or the operation of an installed program in the reservoir or an analogous reservoir, provides support for the engineering analysis on which the project or program was based.</p>
Proved developed reserves	<p>Reserves that can be expected to be recovered: (i) through existing wells with existing equipment and operating methods or for which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserve estimate if the extraction is by means not involving a well.</p>
Proved undeveloped reserves	<p>Reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required. Reserves on undrilled acreage are limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances. Undrilled locations are classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances justify a longer time. Proved undeveloped reserves do not include reserves attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir or by other evidence using reliable technology establishing reasonable certainty.</p>
PTAX	<p>The reference exchange rate for the purchase and sale of U.S. dollars in Brazil, as published by the Central Bank of Brazil.</p>
R&D	<p>Research and development.</p>
RNEST	<p>The <i>Refinaria Abreu e Lima</i> (Abreu e Lima Refinery).</p>
RTM or Refining, Transportation and Marketing	<p>Refining, Transportation and Marketing is our business segment that covers the activities of refining, logistics, transport and trading of crude oil and oil products in Brazil and abroad, exports of ethanol, petrochemical operations, as well as holding interests in petrochemical companies in Brazil.</p>
Reserves Replacement	<p>Measures the amount of proved reserves added to a company’s reserve base during the year relative to the amount of oil and gas produced.</p>



Ratio or RRR	
Reserves to production ratio or R/P	Calculated as the amount of proved reserves of the year relative to the amount of oil and gas produced during the year, indicates a number of years reserves would last if production remains constant.
S&P	Standard & Poor's Financial Services LLC, a credit rating agency.
SEC	The United States Securities and Exchange Commission.
SELIC	The Central Bank of Brazil base interest rate.
SEST	The <i>Secretaria de Coordenação e Governança das Empresas Estatais</i> (Secretariat of Coordination and Governance of State-Owned Companies).
Sete Brasil	Sete Brasil Participações, S.A.
Shell	Shell Brasil Petróleo Ltda.
Synthetic oil and synthetic gas	A mixture of hydrocarbons derived by upgrading (i.e., chemically altering) natural bitumen from oil sands, kerogen from oil shales, or processing of other substances such as natural gas or coal. Synthetic oil may contain sulfur or other non-hydrocarbon compounds and has many similarities to crude oil.
SPE	Society of Petroleum Engineers.
SS	Semi-submersible platform.
Strategic Plan	2023–2027 Strategic Plan
TAG	Transportadora Associada de Gás S.A.
TCU	The <i>Tribunal de Contas da União</i> (Federal Auditor's Office) is a constitutionally established body linked to the Brazilian Congress, responsible for assisting it in matters related to the supervision of the Brazilian federal government and its resources with respect to accounting, finance, budget, operational and public property (<i>patrimônio público</i>) matters.
TBG	Transportadora Brasileira Gasoduto Bolívia–Brasil S.A. ("TBG") is a company operating in the natural gas transportation industry, in which we have a 51% equity interest, owner of 2,593 km gas pipeline system, located mainly in the South and Southeast regions of Brazil, with installed capacity of 30 million m ³ /d. TBG is connected to Gás Transboliviano



	S.A. ("GTB"), which is responsible for the Bolivian side of the gas pipeline, which permits access to Bolivian natural gas, and is connected to Nova Transportadora do Sudeste S.A.'s ("NTS") gas pipeline, which permits access to Brazilian natural gas.
TJLP	The <i>Taxa de Juros de Longo Prazo</i> (Brazil's long-term interest rate) is set quarterly by the CMN (as defined above). The rate is one of the benchmark rates used by BNDES in its loans to companies.
TotalEnergies	Total E&P do Brasil Ltda.
Transfer of Rights Agreement or ToR	An agreement under which the Brazilian federal government assigned to us the right to explore and produce up to five billion barrels of oil equivalent ("bnboe") in specified pre-salt areas in Brazil. See "Legal and Tax —Material Contracts" in this annual report.
Transfer of Rights Agreement (ToR) Surplus	Volume that exceeds what has been contracted under the Transfer of Rights agreement in specified pre-salt areas. See "Legal and Tax —Material Contracts" in this annual report.
Transpetro	Petrobras Transporte S.A.
TRI	Total recordable injury per million man-hour frequency rate.
Ultra-deepwater	Over 1,500 meters (4,921 feet) deep.
UPGN	<i>Unidade de Processamento de Gás Natural</i> (Natural-gas processing Units). A natural gas processing plant is a facility designed to process raw natural gas from the offshore production fields by separating impurities and various non-methane hydrocarbons and fluids through different technologies to produce specified natural gas for final consumption. Through the process a gas processing plant can also recover natural gas liquids (condensate, natural gasoline and liquefied petroleum gas) with higher added value.
UTE	Usina Termoelétrica (Thermal Power Plant). A thermoelectric plant is a power generation plant in which heat energy is converted to electrical energy.
VAZO	The Oil and Oil Product Leak Volume Indicator. The total volume of oil leaked in events with a volume above one barrel and that reached bodies of water or non-impermeable soil.
Vibra	Vibra Energia S.A., formerly "Petrobras Distribuidora."
YPFB	Yacimientos Petroliferos Fiscales Bolivianos.



About Us



About us

We are a Brazilian company committed to being the best energy company in terms of value creation, with a focus on oil and gas, sustainability, safety and respect for people and the environment. We are one of the largest companies in market capitalization in Latin America, with a market capitalization of US\$65.7 billion as of December 31, 2022. We are one of the largest producers of oil and gas in the world, primarily engaged in exploration and production, refining, energy generation and trading. We have a large proven reserve base and have acquired expertise in deep and ultra-deepwater exploration and production since we started exploring Brazilian offshore basins decades ago, following our first subsea well in the Campos Basin in 1971. To discover these reserves and operate efficiently in deepwaters, we have developed our own technology and work in close collaboration with suppliers, universities, and research centers. We have over 45,000 employees (including subsidiaries in Brazil and abroad) and we hire specialized services such as offshore drilling rigs, production platforms, subsea vessels, and subsea hardware that set the entire energy industry chain into motion. We design and contract engineering, procurement, construction and installation (“EPCI”) for our entire business stream.



Datasheet

Name of the company: Petróleo Brasileiro S.A. – Petrobras

Date of Incorporation: 1953

Country of Incorporation: Brazil

Registration number at the CVM: 951-2

Central Index Key (or “CIK”) at the SEC: 0001119639

Address of principal executive office: Avenida República do Chile 65, 20031-912, Rio de Janeiro, RJ, Brazil

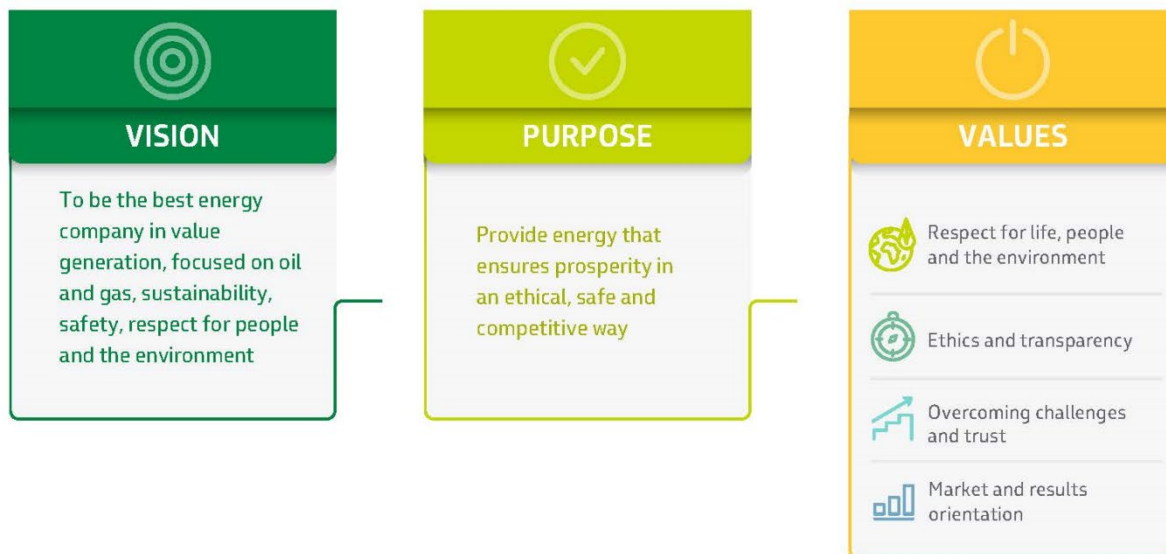
Telephone number: (55 21) 3224 2401

Corporate and investor relations websites: www.petrobras.com and www.petrobras.com.br/ir.

The information available on our website is not and shall not be deemed to be incorporated by reference in this annual report.

Corporate purpose established in our Bylaws: research, extraction, refining, processing, trading and the transport of oil, its by-products, natural gas and other fluid hydrocarbon from wells, shale and other rocks, in addition to energy-related activities, and the research, development, production, transport, distribution, sale and trading of all forms of energy, and other related activities or similar purposes.

Overview



We have a large base of proved reserves and operate and produce most of Brazil's oil and gas. The most significant part of our proved reserves is located in the adjacent offshore Campos and Santos Basins in southeast Brazil. Their proximity allows us to optimize our infrastructure and limit our costs of exploration, development and production. The Campos and Santos Basins are expected to remain the main source of our future growth in proved reserves and oil and gas production.

Our business, however, goes beyond oil and gas exploration and production. It entails a long process through which we get the oil and gas to our refineries and gas treatment units which are themselves in constant evolution to supply the best products.

We operate the majority of the refining capacity in Brazil. Our refining capacity is substantially concentrated in southeast of Brazil, within the country's most populated and industrialized markets and adjacent to the sources of most of our crude oil, in the Campos and Santos Basins. We meet our demand for oil products through a planned combination of domestic refining of crude oil and oil products imports, seeking value creation. We are also involved in the production of petrochemicals through stakes in some companies. We distribute oil products through wholesalers and retailers.

We also participate in the Brazilian natural gas market, including the logistics and processing of natural gas.

To meet the domestic demand, we process natural gas derived from our onshore and offshore production (mainly from fields of the Campos, Espírito Santo and Santos Basins), import natural gas from Bolivia and import liquefied natural gas ("LNG") through our regasification terminals. We also participate in the domestic power market primarily through our investments in gas-fired thermoelectric power plants.

We currently divide our business into three main segments:

- **Exploration and Production ("E&P"):** this segment covers the activities of exploration, development and production of crude oil, Natural Gas Liquids ("NGL") and natural gas in Brazil and abroad, for the primary purpose of supplying our domestic refineries. The E&P segment also operates through partnerships with other companies, including holding interests in non-Brazilian companies in this segment.



- **Refining, Transportation and Marketing (“Refining” or “RTM”):** this segment covers the activities of refining, logistics, transport, marketing and trading of crude oil and oil products in Brazil and abroad, exports of ethanol, petrochemical operations, such as extraction and processing of shale, as well as holding interests in petrochemical companies in Brazil.
- **Gas and Power (“G&P”):** this segment covers the activities of logistics and trading of natural gas and electricity, transportation and trading of LNG, generation of electricity by means of thermoelectric power plants, as well as holding interests in transportation and distribution companies of natural gas in Brazil and abroad. It also includes natural gas processing and fertilizer operations.

Activities that are not attributed to business segments are classified as “Corporate and Other Businesses,” including general corporate matters, in addition to distribution and biofuel businesses. Corporate items mainly include those related to corporate financial management, overhead central administration, and other expenses, including actuarial costs associated with pension and health plans for beneficiaries. The other businesses comprise the distribution of oil products abroad (South America) and the production of biodiesel and its co-products. In 2021 and 2020, the results of other businesses included the equity interest in our associate Vibra Energia (formerly Petrobras Distribuidora) until July 2021 (when we sold the remaining interest in this company).

For further information regarding our business segments, see Notes 12 to our audited consolidated financial statements, as well as “Operating and Financial Review and Prospects” in this annual report.

In 2022 we had activities in six countries besides Brazil (i.e., Argentina, Bolivia, Colombia, the U.S., the Netherlands, and Singapore).

In Latin America, our operations include upstream, marketing and retail services. In North America, we produce oil and gas through a joint venture. We have subsidiaries that support our trading and financial activities in Rotterdam, Houston, and Singapore. These companies act as complete and active trading desks for markets worldwide, and are responsible for market intelligence and trading of oil, oil products, natural gas, commodity derivatives and shipping.

We operate through 17 direct subsidiaries (15 incorporated under the laws of Brazil and two incorporated abroad) and one direct joint operation as listed below. We also have indirect subsidiaries, including Petrobras Global Trading B.V. (“PGT”), Petrobras Global Finance B.V. (“PGF”), Petrobras America Inc. (“PAI”) and PNBV.

Companies	Location	Our shareholding	Other shareholders
Petrobras Transporte S.A. – Transpetro	Brazil	100.00%	—
Petrobras Logística de Exploração e Produção S.A. – PB-LOG	Brazil	100.00%	—
Petrobras Biocombustível S.A.	Brazil	100.00%	—
Transportadora Brasileira Gasoduto Bolívia-Brasil S.A. – TBG	Brazil	51.00%	BBPP Holdings Ltda. (29%) YPFB Transporte S.A. (19.88%) Corumba Holding S.Á.R.L. (0.12%)
Procurement Negócios Eletrônicos S.A.	Brazil	72.00%	SAP Brasil Ltda. (17%) Accenture do Brasil S.A. (11%)
Araucária Nitrogenados S.A.	Brazil	100.00%	—
Termomacaé S.A.	Brazil	100.00%	—
Termobahia S.A.	Brazil	98.85%	Petros (1.15%)



Baixada Santista Energia S.A.	Brazil	100.00%	—
Fundo de Investimento Imobiliário RB Logística – FII	Brazil	99.15%	Pentágono SA DTVM (0.85%)
Petrobras Comercializadora de Gás e Energia e Participações S.A. – PBEN-P	Brazil	100.00%	—
Fábrica Carioca de Catalisadores S.A. – FCC ⁽¹⁾	Brazil	50.00%	Albemarle Brazil Holding Ltda. (50%)
Ibiritermo S.A.	Brazil	100.00%	—
Petrobras International Braspetro – PIB BV	Abroad	100.00%	—
Braspetro Oil Services Company – Brasoil	Abroad	100.00%	—
Refinaria de Mucuripe S.A	Brazil	100.00%	—
Refinaria de Canoas S.A. ⁽²⁾	Brazil	100.00%	—
Associação Petrobras de Saúde ⁽³⁾	Brazil	93.52%	Transpetro (6.05%) TBG (0.25%) Pbio (0.14%) Termobahia (0.05%)

(1) Joint operations.

(2) Company legally established, with capital contribution of US\$58.000, for the subsequent divestment of this refinery.

(3) A non-profit association that operates our supplementary health care plan (AMS - Saúde Petrobras) since 2021.

For an extended list of our subsidiaries and joint operations, including each of their full names, jurisdictions of incorporation and our percentage of equity interest, see Exhibit 8.1 to this annual report and Note 29 to our Financial Statements. Additionally, we participate in consortia that engage in the exploration of blocks and the production of oil fields in Brazil – see “Our Business— Exploration and Production — Overview” for more details.



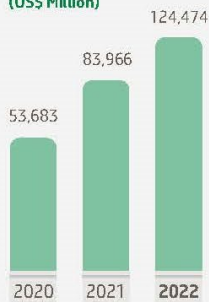
2022 Highlights



Consolidated Corporate Indicators



Sales Revenues (US\$ Million)



Operating Income (Loss)¹ (US\$ Million)



Gross Debt (US\$ Million)



Capital Expenditures² (US\$ Million)



Dividend paid per share³ (US\$)

■ PETR3
■ PETR4



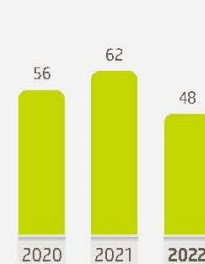
Total Recordable Injury Rate – TRI



Spilled Volume⁴ (M³)



GHG Emission (Million tons of CO₂e)



1) Operating Income (Loss) is equivalent to the line item Income before net finance expense, results of equity-accounted investments and income taxes derived from our audited consolidated financial statements.

2) 2022 Capex totaled \$9,848 million, including \$892 million for the signature bonus payment related to the S epia and Atapu fields.

3) Dividends declared in reais and converted into US dollars considering the exchange rate prevailing at the date of the Board of Directors' approval for anticipations and the year-end rate for the annual complementary dividends. ADS holders will receive these distributions in proportion to the number of underlying common or preferred shares that such ADSs represent.

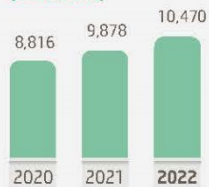
4) Sum of oil (or oil products) spills volumes that were individually greater than one barrel, that reached water bodies or non-waterproofed soil. The volumetric criterion (>1 barrel) is used in the corporate indicator of Oil and Oil Products Spills and is aligned with the National Oil Agency – ANP Manual for reporting incidents for E&P activities. Spills originated by illegal taps were not included.



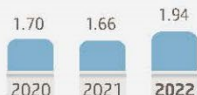
Operational Indicators by Business Segment



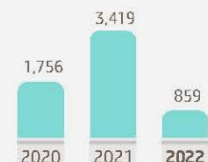
Proved Reserves (Millions boe)



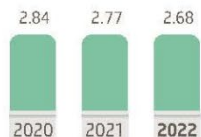
Refining Cost (US\$/bbl)



Power Generation (Average MW)



Oil and Natural Gas Production (Millions boed)



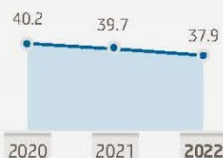
Brazilian Sales and Oil Products Production (Mbb/d)



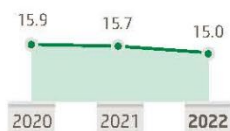
Lifting Cost – Brazil¹ (US\$/boe)



Carbon Intensity – Refining (kg CO₂e/CWT)



Carbon Intensity – E&P (kg CO₂e/boe)



1) Does not include leases.



Recent Developments

Recent Changes in our Executive Officers, Board of Directors and Fiscal Council

The Brazilian federal government controls a majority of our voting shares and has the right to elect a majority of the members of our Board of Directors. Our Board of Directors, in turn, selects our management.

On February 27, 2023, we received an official letter from the Brazilian Treasury of the Ministry of Finance, containing the nomination of two candidates for the composition of our Fiscal Council, whose elections will take place at our next General Shareholders' Meeting:

- Mrs. Viviane Aparecida da Silva Varga, as a member of Fiscal Council; and
- Mr. Otávio Ladeira de Medeiros, as an alternate member of Fiscal Council.

On March 7, 2023, the Brazilian federal government, through the Ministry of Mines and Energy (MME), sent us an official letter containing the list of candidates who will comprise the slate of the Brazilian federal government, in its capacity as controlling shareholder, to the eight seats on our Board of Directors, whose elections will take place at our next General Shareholders' Meeting in April 2023. These eight nominees are:

- Mr. Pietro Adamo Sampaio Mendes, as Chairman;
- Mr. Jean Paul Terra Prates, as a member of the Board of Directors;
- Mr. Efrain Pereira da Cruz, as a member of the Board of Directors;
- Mr. Vitor Eduardo de Almeida Saback, as a member of the Board of Directors;
- Mr. Eugênio Tiago Chagas Cordeiro e Teixeira, as a member of the Board of Directors;
- Mr. Bruno Moretti, as a member of the Board of Directors;
- Mr. Sergio Machado Rezende, as a member of the Board of Directors; and
- Ms. Suzana Kahn Ribeiro, as a member of the Board of Directors.

On March 15, 2023, we received an official letter from the MME presenting three supplementary nominations of candidates for the slate of the Brazilian federal government, as our controlling shareholder, for the eight vacancies of the Board of Directors whose elections will take place at our next General Shareholders' Meeting. At the request of the MME, these nominations must be evaluated by our responsible bodies so that, if impediments are found that disqualify one or more of the other candidates originally nominated, substitutions can be made in a timely manner, without delaying our General Shareholders' Meeting. The three nominees are:

- Mr. Renato Campos Galuppo;
- Ms. Anelize Lenzi Ruas de Almeida; and
- Mr. Evamar José dos Santos.

In addition, the letter from the MME formalized four nominations for our Fiscal Council, whose elections will also take place at the next General Shareholders' Meeting. These nominees are:

- Mr. Daniel Cabaleiro Saldanha, Fiscal Council Member (Principal);
- Mr. Gustavo Gonçalves Manfrim, Fiscal Council Member (Alternate);
- Ms. Cristina Bueno Camatta, Fiscal Council Member (Principal); and
- Mr. Sidnei Bispo, Fiscal Council Member (Alternate).



These nominations have been submitted for review in accordance with our internal corporate governance procedures pursuant to our Bylaws and Policy for Nominating Senior Management Members, in order to verify the fulfillment of legal, management and integrity requirements and subsequent opinion by the People Committee and our Board of Directors, pursuant to article 21, paragraph 4, of Decree No. 8,945/2016, as amended by Decree No. 11,048/2022 (together with our Bylaws and the Policy for Nominating Senior Management Members, the "Nomination Requirements").

In meetings held on March 16, 2023 and January 24, 2023, our People Committee opined the following:

With respect to Ms. Suzana Kahn Ribeiro, Mr. Vitor Eduardo de Almeida Saback and Mr. Bruno Moretti, our People Committee unanimously opined that these nominees meet the necessary Nomination Requirements and there are no impediments to them being elected as Members of the Board of Directors. Our current Board of Directors, by vote of all of the members participating in the deliberations, has agreed with our People Committee's conclusions and with the eligibility of these nominees.

With respect to Mr. Pietro Adamo Sampaio Mendes, our People Committee, by majority vote, opined that the nominee meets the necessary Nomination Requirements and there were no impediments to him being elected as a Member of the Board of Directors and Chairman of the Board of Directors, provided that his formal and legally valid resignation from the position of Secretary of Petroleum, Natural Gas and Biofuel of the MME is confirmed and that his condition as a licensed, removed or assigned ANP employee is maintained. However, our current Board of Directors, by majority vote, did not consider him to be eligible to be elected as a Member of the Board of Directors and as Chairman of the Board of Directors.

With respect to Mr. Sergio Machado Rezende, our People Committee unanimously opined that the nominee does not meet the necessary requirements set forth in the Nomination Requirements, based on the restrictions contained in article 21, paragraph 2, items IV and V, of our Bylaws, in article 17, paragraph 2, items I and II, of Law no. 13. 303/16 and of article 29, items IV and VI, of Decree no. 8,945/2016, since the nominee is a full member of the National Directory of the Brazilian Socialist Party (PSB), as stated on the party's website and in the Party Information Management System (SGIP) of the Superior Electoral Court (TSE). Our current Board of Directors, by vote of all of the members participating in the deliberations, accepted our People Committee's conclusion and did not consider him to be eligible to be elected as a Member of the Board of Directors.

With respect to Mr. Jean Paul Terra Prates, our People Committee, by majority vote, opined that the nominee meets the necessary Nomination Requirements and there are no impediments to him being elected as a Member of the Board of Directors and as CEO of Petrobras, provided that his formal and legally valid resignation to the mandate of Senator of the Republic is confirmed or his mandate is terminated. Our current Board of Directors has confirmed the validity of Mr. Jean Paul Terra Prates' resignation and has unanimously nominated him as Member of the Board of Directors and re-elected him as CEO for a new two-year term, ending on April 13, 2025.

For further information regarding the influence of our controlling shareholder, see "Risk Factors - 2.a) The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us" in this annual report.

On March 22, 2023, our current Board of Directors announced its election of new Executive Officers which will comprise our Executive Board. The Executive Officers will begin their transition period on March 29, 2023 with the new members officially taking their positions upon their execution of all required official documentation and satisfaction of other administrative requirements, which are expected to occur during the month of April 2023. Their term will begin on the date they officially take their positions and will end on April 13, 2025. The new members of our Executive Board are:

- Mr. Sergio Caetano Leite – Chief Financial and Investor Relations Executive Officer;
- Mr. Joelson Falcão Mendes – Chief Exploration and Production Executive Officer;
- Mr. Carlos José do Nascimento Travassos – Chief Production Development Executive Officer;
- Mr. Claudio Romeo Schlosser – Chief Trading and Logistics Executive Officer;



- Mr. William França da Silva – Chief Refining and Natural Gas Executive Officer;
- Ms. Clarice Coppetti – Chief Sustainability & Institutional Relations Executive Officer; and
- Mr. Carlos Augusto Burgos Barreto – Chief Digital Transformation and Innovation Executive Officer.

In addition, as stated above, our current Board of Directors has also decided to re-elect our CEO, Mr. Jean Paul Prates, for a new two-year term, ending on April 13, 2025. The nominations of new members of our Executive Board have been submitted for review in accordance with our internal corporate governance procedures pursuant to the Nomination Requirements.

On March 27, 2023, we received nominations of candidates for the Board of Directors from minority shareholders holding common and preferred shares, for the eight vacancies of the Board of Directors whose elections will take place at our next General Shareholders' Meeting if the multiple vote procedure is adopted pursuant to Art. 141, "caput" of Law No. 6.404/76. We also received nominations from such minority shareholders for our Fiscal Council, whose elections will also take place at the next General Shareholders' Meeting.

The nominees presented by certain shareholders of our common shares are:

- José João Abdalla Filho, as a member of the Board of Directors;
- Marcelo Gasparino da Silva, as a member of the Board of Directors;
- Michele da Silva Gonsales Torres, as a member of the Fiscal Council representing minority shareholders of common shares (Principal); and
- Aloisio Macário Ferreira de Souza, as a member of the Fiscal Council representing minority shareholders of common shares (Alternate).

The nominees presented by certain shareholders of our preferred shares are:

- João Vicente Silva Machado, as a member of the Fiscal Council representing minority shareholders of preferred shares (Principal); and
- Rochana Grossi Freire, as a member of the Fiscal Council representing minority shareholders of preferred shares (Alternate).

These nominations have been submitted for review in accordance with our internal corporate governance procedures pursuant to the Nomination Requirements.

Biographies: Newly Appointed Members of our Board of Directors

Below are the biographies of the newly appointed members of our Board of Directors:

Mr. **Pietro Adamo Sampaio Mendes**, 40 years old, is a career civil servant at the National Petroleum, Natural Gas and Biofuels Agency (ANP), and a specialist in the Regulation of Petroleum, Natural Gas and Biofuels of special class III, assigned to the Ministry of Mines and Energy with more than 16 years of experience in the oil, natural gas and biofuels sectors. He holds a bachelor's degree in Chemistry from the Fluminense Federal University (UFF), a degree in Law from the Federal University of the State of Rio de Janeiro (UNIRIO), an executive postgraduate degree in Oil and Gas from COPPE-UFRJ, an MBA in Strategic and Economic Management of Business from Fundação Getúlio Vargas (FGV), PhD in Technology of Chemical and Biochemical Processes (CAPES Concept 6) from the Federal University of Rio de Janeiro (UFRJ) and post-doctorate at the Beddie School of Business (Simon Fraser University) in Canada. At the Ministry of Mines and Energy (MME), he serves as Secretary of Petroleum, Natural Gas and Biofuels, responsible for the Secretariat of Petroleum, Natural Gas and Biofuels, with the attribution of developing and coordinating public policies in the oil, natural gas and biofuels sectors. At the Empresa de Planejamento e Logística S.A. (EPL) and Infra S.A., he was Advisor to the Presidency between June 2022 and February 2023, responsible for coordinating the process of incorporation of EPL by VALEC for the creation of Infra S.A., finalizing the documents necessary for the incorporation process, people management, strategic planning and business



planning. Between February 2022 and June 2022, he served at the MME as Deputy Secretary for Petroleum, Natural Gas and Biofuels, replacing the Secretary as needed, monitoring the fuel supply, in particular, of diesel, coordinating the Secretariat's expenses and coordinating the RenovaBio Committee and the Fuel of the Future Program. Still at MME, he was Director of the Biofuels Department between November 2020 and February 2022, coordinating the Fuel of the Future Program, the RenovaBio Committee and the Working Group for the inclusion of biofuels in the Diesel cycle. At ANP, he was Advisor to the Board between May 2018 and November 2020, having represented the Agency in public hearings in the National Congress, in inter-ministerial working groups and in national and international events. Between October 2017 and May 2018, he was Deputy Superintendent of Biofuels and Product Quality, responsible for conducting the first stage of RenovaBio's regulation related to RenovaCalc, the certification of producers and leading a mission to the United States on the LCFS and RFS.

Mr. **Efrain Pereira da Cruz**, 44 years old, is a former Director of the National Electric Energy Agency (ANEEL), former President of the Association of Energy Regulators of Portuguese-Speaking Countries (RELOP), professor at the Brazilian Institute of Teaching, Development and Research (IDP) and member of the National Council for Consumer Defense (CNDIC) with the Ministry of Justice. He is a lawyer, specialist in Energy Law, with a post-graduate degree in Public Law and a master's degree in Law and Development. He was Director of Centrais Elétricas de Rondônia (Ceron), of Companhia de Eletricidade do Acre (Eletroacre) and consulting member of the Special Commission on Energy of the Federal Council of the Brazilian Bar Association (OAB) in 2015 and 2016.

Mr. **Vitor Eduardo de Almeida Saback**, 41 years old, is director of the National Water and Basic Sanitation Agency – ANA, with a term slated to end on July 15, 2024. He was a Federal Public Servant of the Public Ministry of the Union, in the position of Public Management Analyst. He was a member of Boards of Directors, between 2018 and 2020, of state-owned companies and subsidiaries. He was also a strategist working on the approval of legislative matters for the public sector in the Legislative Houses (Chamber of Deputies and Federal Senate), and working in the Office of the Attorney General of the Republic (2011–2015), in the Secretariat of Institutional Relations of the Presidency of the Republic (2015–2016), at the Government Secretariat of the Presidency of the Republic (2016–2018) and at the Ministry of Economy (2019–2020). He received an award of recognition from the Legislative Chamber of the Federal District, for his work in social causes in the Federal District. He has also worked as an international lecturer on sustainability, water and basic sanitation. He studied business administration at the University of Brasília – UNB, specialized in Finance and Capital Markets at the Getúlio Vargas Foundation – FGV, holds a Bachelor of Laws from the Unified Education Center of Brasília – UniCEUB and is studying for a Master's degree in economics from the Brazilian Institute of Education, Development and Research, IDP. Since December 2020, he has served as Director at the National Agency for Water and Basic Sanitation, ANA – Brasília, responsible for deliberating and voting on matters related to the regulation of the use of water resources in order to guarantee the water security necessary for the sustainable development of Brazil, as well as the standards for basic sanitation, with the objective of contributing to the expansion of the service by 2033. In addition, he is responsible for implementing the National Water Resources Policy and the National Water Safety Policy at the federal level. Between January 2019 and December 2020, he was Special Advisor to the Minister of State for the Economy in the exercise of his duties and in the conduct of matters under his supervision. During the time he was in office, he paid special attention to dialogue with the National Congress, other government bodies, TCU, and the formulation and execution of strategies for the approval of government projects considered a priority by the Minister of State. He coordinated discussions and worked steadfastly for the approval of the Economic Freedom Law, the Positive Registry Law, the Judicial Reorganization and Bankruptcy Law, the Regulatory Agencies Law and the New Sanitation Legal Framework, among others. Between September 2016 and December 2018, he served as Special Advisor to the Deputy Chief of Parliamentary Affairs of the Secretariat of the Government of the Presidency of the Republic, establishing the link between the Federal Executive Branch and the National Congress, having assisted in conducting the relationship between the Powers and the formulation and execution of strategies for approval of matters of interest to the Federal Government. These approvals include the State-owned Law and other important laws to facilitate Brazil's accession to the Organization for Economic Cooperation and Development (OECD). Between August 2015 and August 2016, he was Advisor to the Deputy Head of Parliamentary Affairs at the



Secretariat of Rel. Institutions of the Presidency of the Republic, establishing the link between the Federal Executive Power and the National Congress, having helped facilitate the relationship between the Powers and formulate and execute the strategies for the approval of matters of interest to the Federal Government. Among the approvals are laws to combat violence and femicide, laws that allowed for easier conditions for women heads of families in public policies such as housing loans (Minha Casa Minha Vida) and education (Pronatec), among others. Between September 2011 and July 2015, he was Advisor to the Secretariat of Rel. Institutional members of the Attorney General's Office at the Attorney General's Office, coordinating, supervising and following up on matters of interest to the Federal Public Prosecutor's Office in progress in the National Congress, whether for approval or rejection. Between June 2004 and September 2011, he served as Deputy Manager, Advisor and Consultant at Caixa Econômica Federal, with branch service (Agência Lago Sul), and worked on development of credit card and acquisition of products and institutional relationships. His participation in Boards of Directors of state-owned companies or subsidiaries include (i) Elo Cartão (2018-2019), as a representative of Caixa Econômica Federal - founded in 2011 by Banco do Brasil, CAIXA and Bradesco, it is the largest Brazilian brand, with more 140 million cards issued in credit, debit and prepaid models and (ii) Companhia Imobiliária de Brasília - Terracap (2019-2020), the largest real estate company in Brazil, responsible for implementing economic and social development programs and projects linked to real estate activities of interest to the Federal District, with shareholders being the GDF and the Union of which he was a representative. He acted as a representative of the National Water and Basic Sanitation Agency in the following institutions and international councils, among others: (a) World Water Council (WWC – World Water Council); (b) OECD: Economic Regulators Network (NER) and Water Governance Initiative (WGI); (c) UN/FAO: Food and Agriculture Organization of the United Nations (FAO), in the context of the Steering Committee of the Initiative “Global Framework on Agricultural Water Scarcity”; and (d) CODIA: Conference of Ibero-American Water Directors. He has received awards including one from the Federal Union, the Mauá Merit Medal, granted by the Ministry of Infrastructure in 2021, Commander of the Order of Merit for Defense, granted by the Ministry of Defense in 2018, Medal of Merit Tamandaré, awarded by the Brazilian Navy in 2017, and Santos-Dumont Medal of Merit, awarded by the Brazilian Air Force in 2017. He received the Military Firefighter Order of Merit of the Federal District, Emperor Dom Pedro II, granted by the Commander of the Fire Department in 2018; and an award of recognition from the Legislative Chamber of the Federal District, for volunteer work provided to the population of the GDF, granted in 2018. For academic purposes, he published SABACK, V.E.A.; BAERE, W. ; BRUTO, M. ; ROMAN, F.J.; ZABAN, B. . How the Bidding Law was made: perspectives of the legislative process: Brazilian Journal of Public Law: RBDP, Belo Horizonte, v. 19, no. 73, p. 9-38, Apr.-June. 2021. He speaks fluent English and has spent time in Connecticut, USA. He volunteered at the Chico Xavier Children's Home. He was President of the Institution between 2017 and 2020.

Mr. **Eugênio Tiago Chagas Cordeiro e Teixeira**, 43 years old, is a professional with experience in the development of restructuring processes, business diagnosis, business feasibility analysis and strategic planning. He has significant experience in commercial work with the ability to implement activities related to the monitoring and evaluation of goals, relationship with customers and suppliers, development of promotional actions and establishment of partnerships with public and private institutions. In his work, he employs agile methodologies, KPIs, Dashboards and BI. He has experience in venture capital as an organizer and mentor of the Conecta 2018 Program, the largest Startup acceleration program in Brazil, and he led a partnership with CNT (Confederação Nacional dos Transportes), BMG Uptech, Bossa Nova Invest, NXP Labs and Fundação Dom Cabral. As a venture capital investor, he has invested in over 45 Startups. He is also interested in the following areas: Commercial, Marketing, New Business, Technology, Administrative Startups and Venture Capital. He graduated with a degree in Social Communication with specialization in Journalism from UNI-BH, and holds a CBA - Certificate in Business Administration, with Concentration in Business Management from IBMEC, MBA in Foreign Trade and International Business Management from Fundação Getúlio Vargas. He completed a Post-Graduation program in Business Management from Fundação Dom Cabral, a Media X, Innovation and Training For Brazil's Transportation Infrastructure by Stanford University, a Silicon Valley International Extension by HSM, a Program for the Development of Startups for the Transport Sector by FDC, a Program for the Development of Directors by FDC and a Lato Sensu Post-Graduation program with a specialization in Political Sciences, March 2023. He is CEO and



founder of Alpe Capital, a New Economy company that applies cutting-edge technology combined with complex quantitative analysis to build the future of investing. With data intelligence and hedging, the company creates trades that maximize yield while minimizing risk. It also models for real-time visualization of the futures market premium curve, in addition to atomic operations, derivatives, tokenization and trading in the crypto market. He is an Advisory Board Member of the Virtual Board. Between March 2019 and December 2021, he was CEO of PISOM, a holding company that owns interests in several companies in the financial, benefits and micro insurance sectors. Between September 2015 and January 2019, he was director for planning, electric mobility and new business at Axxiom Soluções Tecnológicas, responsible for building and maintaining the organization's Strategic Plan, management of Marketing and Institutional Communication strategies, working with the business teams to identify new businesses, management of the revenue, profitability and productivity of ongoing projects, analysis and monitoring of revenue and costs, performance of for financial analyses by the board, finance committee and fiscal council support to the Controllershship to attend the External Audit, billing control; management of the development of new software and Axxiom-MPS-BR Level C. From September 2013, he was managing partner of ETX Participações e Intermediações LTDA, responsible for developing the business plan, valuation of companies, exploration of opportunities for investors, oversight of merger and acquisitions, sourcing and closing deals, managing the results of the market analysis to develop the plan for the company's products and services, project management, development of strategic partnerships aimed at the development of projects and management of commercial contracts. Between February 2010 and September 2013, he was managing partner of Delta Publicidade e Marketing LTDA, responsible for sourcing and closing deals, managing the results of the market analysis to develop the plan for the company's products and services, project management, development of strategic partnerships aimed at the development of projects and management of commercial contracts. Between March 2008 and February 2010, he held a managerial and administrative position at Instituto João Alfredo de Andrade, directing the institution's commercial, administrative and financial departments, implementation of administrative processes through Business Units, definition of norms and operating procedures of the institution, development of partnerships with public and private companies in the region, with a view toward implementing new businesses, creation of the commercial segment focused on the dissemination of new products, support for the development of marketing campaigns, development and application of strategic commercial and marketing and development actions aimed at increasing revenue and the customer base, development of debt renegotiation strategies for the student body, and creation of the process for establishing an "examination board" for selecting faculty. He also oversaw the implementation of the system to control the presence of the teaching staff, restructuring of the institution's administrative and academic staff, restructuring of the undergraduate and graduate courses offered by the institution and implementation of the 360° assessment model for the administrative staff. Between July 2007 and March 2008, he was managing partner of Aurium Trading Importação e Exportação LTDA, responsible for developing the company's business plan, involving market research in the grain segment, brand development based on marketing planning, economic-financial analysis, preparation of labor, customs and other legislation studies for the development of export and import activities, and prospecting for suppliers. From June 2006 to July 2007, he worked in the commercial area of Rede Mineira de Rádio, working with a project to decentralize the accounting unit with redirection to the business units; improvement of the Radio Programming grid, implementation of projects in the commercial area, intensification of partnerships with Advertising Agencies to raise funds, development of indicators for commercial support, follow-up and evaluation of the goals of the commercial area,; management of the financial area, involving a collection system, payments and costs, among others, contact with suppliers to control the holding of events, restructuring of the radios' infrastructure with a view toward reducing costs, negotiation of the network's labor liabilities, implementation of a participatory remuneration system, development of promotional actions, development of partnerships with City Halls, implementation of feedback meetings and selection of professionals to fill open vacancies. Between May 2005 and June 2006, he worked in the communication department of the Administration of Stadiums of the State of Minas Gerais (ADEMG), producing clippings and releases, developing a project to digitize the Mineirão Stadium's information collection, developing the Organizational Climate Survey with proposals for improvement, expanding the institution's internal journal,



developing the Mineirão Stadium website project; advising on the project to change the institution's logo, supervising the institution's commemorative book project, working with the press office on activities of forwarding information to the communication channel, scheduling and carrying out interviews to publish articles in the internal newspaper, performing photo execution works and supporting journalism teams in cities in the interior of the state and other locations in events related to sports championships. He has participated in the following extracurricular courses: HSM expo '18, Mentors Course for Startups (July 2018), HSM – Disruptive Technologies – Silicon Valley International Extension (2018), Stanford University – Media X, Innovation and Training for Brazil's Transportation Infrastructure (2018), HSM Summit Leadership – The Power of Knowledge (2018), SingularityU Brasil Summit – The future beyond the curve (2018), Missão Empresarial China/Germany (2017), Learning to learn: powerful mental tools to help them master subjects – University of California San Diego – Online, Successful Negotiations: essential strategies and skills – University of Michigan – Online, Expanding your own business – London Business School (2010), Minas Gerais Seminar on Professional and Technological Education – SENATEC (2008), Financial Analysis and Planning – SEBRAE (2007), Seminar Latin America, Development and Inclusion, Prebisch's thinking and the challenges of the 21st century – BDMG – (2007), V Forum Young Leaders from Minas Gerais - BDMG (2007), Entrepreneurship Course – SEBRAE (2007), Business Plan – SEBRAE (2007), Marketing Course: Business Construction and Image Construction – Union of Journalists of Minas Gerais (2005), Fundamental Portuguese: Project Revisar o Português – Union of Journalists of Minas Gerais (2005), Entrepreneurs Seminars – UNA/MG (2003), MERCOSUR, FTAA and EU Seminar – PUC/MG (2003), Event entitled “Mini ONU” – PUC/MG (2000).

Mr. **Bruno Moretti**, 42 years old, holds a degree in economics from the Fluminense Federal University (UFF), a master's degree in Industry Economics from the Federal University of Rio de Janeiro (UFRJ), a PhD in Sociology from the University of Brasília (UnB) and a post-doctoral internship in Sociology from UnB. He is currently a doctoral student in Economic Development at Unicamp. He began his career as a Planning and Budget Analyst at the Ministry of Planning in 2004. Between 2009 and 2012, he was Director of the Secretariat for Planning and Strategic Investments. From 2013 to 2014, he served as Advisor to the Executive Secretariat of the Ministry of Planning and was an alternate member of Funpresp's Deliberative Council. Between 2013 and 2015, he served on the Board of Directors and Fiscal Council of EBSERH. He was Director and Deputy Executive Secretary of the Executive Secretariat of the Ministry of Health between 2014 and 2015. From 2015 to 2016, he served as Deputy Executive Secretary of the Civil House of the Presidency of the Republic. He was Technical Advisor in the Federal Senate on Economy, Infrastructure, Fiscal Policy and Public Budget between 2017 and 2022. He is currently the Special Secretary for Government Analysis of the Presidency of the Republic.

Mr. **Sergio Machado Rezende**, 82 years old, is a Full Professor Emeritus of the Department of Physics at the Federal University of Pernambuco where he began teaching in 1972. He studied Electronic Engineering at the Pontifical Catholic University of Rio de Janeiro, received a Master's Degree in Electrical Engineering from the Massachusetts Institute of Technology (MIT) and a PhD in Electrical Engineering-Materials Science, also from MIT. He served as an Adjunct Professor of Physics at the Pontifical Catholic University of Rio de Janeiro, Professor of Physics at the State University of Campinas, Visiting Professor at the University of California, Santa Bárbara, and Visiting Professor at the Physik Institut, Universität Zurich. He was Co-Founder and First Head of the Department of Physics at UFPE (1972-1976) as well as Director of the Exact Sciences Center at UFPE (1984-1988). He already holds positions in S&T Financing Agencies and Governmental Institutions, including (i) Co-Founder and First Scientific Director, FACEPE (1990-1993); (ii) Secretary of Science and Technology of the State of Pernambuco (1995-1998); (iii) Secretary for Heritage, Science and Culture, Municipality of Olinda (2001-2002); (iv) President of the Financier of Studies and Projects-FINEP (2003-2005); and (v) Minister of State for Science and Technology (2005-2010). With respect to scientific organizations, he was (i) Board Member of the Brazilian Society of Physics (1972-1973) and (1978-1982); (ii) Board Member of the Brazilian Society for the Progress of Science (1979-1982) and (1987-1990); (iii) Member of the Executive Committee of the International Physics Group of the American Physical Society (1983-1985); (iv) Vice President of the Brazilian Society of Physics (1985-1987); (v) Member of the IUPAP Commission on Magnetism (1994-2000); (vi) Vice-President of the International Union of Pure and Applied Physics (2002-2005), (vii) Member of the IUPAP Special Publications Commission (2012-2013); and



(viii) Honorary President, Brazilian Society for the Progress of Science (SBPC) (2017-Present). He participated in the organization of international conferences and workshops, including as co-president of the Workshop on New Trends in Magnetism in Recife (1989), President of the International Conference on Magnetism in Recife (2000) and Co-president of the Workshop on Magnonics II in Recife (2012). Since his first publication more than 50 years ago, (S. M. Rezende and F. R. Morgenthaler, Frequency conversion of spin waves in pulsed magnetic fields, Applied Physics Letters 10, 184 (1967)], he has published more than 300 articles and book chapters individually or in collaboration with students and colleagues on a variety of phenomena and properties of magnetic materials. He has supervised more than 40 master's and doctoral theses and has written books on electronic materials and devices that are used in many physics and engineering courses around the world. His publications have had over 9,400 citations, resulting in an H-index of 53 in the Google Scholar database. His published books are (i) Sergio M. Rezende, Materials and Electronic Devices, Editora Livraria da Física (4th Edition, 2015); (ii) Sergio M. Rezende, Fundamentals of Magnonics, Lecture Notes in Physics 969 (Springer, Cham, 2020); and (iii) Sergio M. Rezende, Introduction to Electronic Materials and Devices (Springer, Cham, 2022). He was awarded the only scholarship granted annually in Brazil by the Fulbright Foundation for Engineering and Economics for graduate studies in the United States (1964). He received a scholarship granted by CAPES for the doctoral program at MIT (1965-1967), in addition to being a Fellow of the Guggenheim Foundation in the area of Physics (1975-1976). He was elected a Full Member of the Brazilian Academy of Sciences (1977), received "Order of National Educational Merit" Medal, from the Ministry of Education (1988), "Order of Scientific Merit-Grand Cross", granted by the President of the Republic (1995), Anísio Teixeira Award, from the Ministry of Education, granted by the President of the Republic (2001) and the Bunge Prize for Physics and Engineering (2005). He is the only Brazilian to be awarded the "Outstanding American Physical Society Referees" award (2009). He received the Science Award from the Conrad Wessel Foundation (2013) and the Joaquim Costa Ribeiro Award for Condensed Matter Physicist, Brazilian Society of Physics (2020).

Ms. **Suzana Kahn Ribeiro**, 63 years old, holds a degree in Mechanical Engineering from the State University of Rio de Janeiro (1981), a master's degree in Energy Planning Program - COPPE/UFRJ (1988) and a doctorate in Production Engineering from the Federal University of Rio de Janeiro (1995). She is currently a professor at the Federal University of Rio de Janeiro, Deputy Director of COPPE/UFRJ since July 2019. She has been the director of the China Brazil Center since July 2019. She is also the Executive Director of the Fundo Verde project at the Federal University of Rio de Janeiro. She is a member of the Brazilian Business Council for Sustainable Development (CEBDS), the Board of the Museum of Tomorrow, the Global Alliance of Universities on Climate (GAUC), the advisory board of Vital Strategies since September 2021, the Board of the Institute for Development and Management (IDG), the Board of Directors of the Institute for Transportation & Development Policy (ITDP) since January 2022 and the International Bamboo and Rattan Organization since August 2022. She was the IPCC bureau vice chair from 2008 to 2015, Undersecretary of State for the Environment of Rio de Janeiro (SEA) from 2010 to 2013, National Secretary of Climate Change and Environmental Quality from 2008 to 2010, lead coordinator of the IPCC 6th Report chapter from 2018 to 2022 and Director of the Executive Graduate Program in Oil and Gas - MBP/COPPE from 1998 to 2020.

Mr. **Renato Campos Galuppo**, 46 years old, is a lawyer, a liberal professional in activity since February 2003, with extensive experience in litigation and advisory in electoral, criminal, constitutional and civil matters. He was legal advisor at the Chamber of Deputies (CNE 7, equivalent to DAS 6) from March 2007 to June 2014 and October 2014 to December 2021. He holds a Bachelor of Law degree from the Federal University of Ouro Preto (2002), with a specialty in Criminal Law and Applied Criminal Procedure from Centro Universitário UMA (2020) and a postgraduate degree in Economic Criminal Law from the Institute of European Criminal and Economic Law of the Faculty of Law of the University of Coimbra/ICCCRIM (2021). He is a member of ABRADep (Brazilian Academy of Electoral and Political Law), IBCCRIM (Brazilian Institute of Criminal Sciences) and ICP (Institute of Criminal Sciences).

Ms. **Anelize Lenzi Ruas de Almeida**, 44 years old, holds a Bachelor's Degree in Law from the Centro Universitário de Brasília (Ceub), a Postgraduate Degree in Public Law from the Centro Universitário do Distrito Federal and a Postgraduate Degree in Public Administration from the Fundação Getúlio Vargas, with study modules including public sector organizations, Negotiations and Public Budget, and in 2020 she



completed a Masters in Public Policy from the University of Oxford, UK, with study modules including Law, Evidence, Challenges in Public Policy and Economics. In 2006, she joined the Attorney General of the National Treasury, having assumed the position of Attorney General for the National Treasury in January 2023. In 2022, she was Deputy Attorney General for the National Treasury. In 2021, she assumed the position of advisor in the Deputy Office of Economic Policy of the Deputy Chief for Legal Affairs of the Presidency of the Republic. Between 2020 and 2021, at the office of the Advocacy-General of Brazil, she served as a consultant to the country, responsible for information from the President of the Republic in concentrated constitutionality control actions related to tax law, financial law, economic law, as well as processes of disciplinary law. In 2019, at the Attorney General of the National Treasury, she took over as Chief of Staff of the Attorney General. In 2017 and 2018, she served in the General Coordination of Financial Affairs, advising on tax and financial law and assisting bodies of the Ministry of Economy, in particular the National Treasury. Between 2014 and 2017, she was Deputy Attorney General for Brazil's Active Debt, participating in the national coordination of recovery strategies for credit registered under DAU and FGTS Active Debt, and in the planning and definition of strategies to improve the efficiency of debt recovery and registered credit. Between 2009 and 2013, she was Chief of Staff to the Attorney General. In 2009, she served as Chief Prosecutor for Brazil's Active Debt in the PRFN 1 Region. Between 2007 and 2009 she was Chief Prosecutor of the PFN / DF (interim). In 2006, she was Attorney at the National Treasury in Amazonas. Between 2003 and 2006, she worked at the Federal Regional Court of the First Region, in Brasília, as a Judiciary Technician (mid-level), Official of the Judge's Office. Between 2000 and 2003, she was a Judiciary Technician (mid-level) at the Center for Judicial Studies of the Federal Justice Council in Brasília. Since 2021, she has been a member of the Supervisory Board of Serenas, a non-profit, non-partisan organization that works to guarantee the rights of girls and women in Brazil, serving as a volunteer. In 2022, she served as a volunteer mentor for the Fourth Class of the Alumna Network and on the Board of Reviewers for the Magazine of the Public Ministry of the Federal District and Territories. She was an arbitrator for the VI Tax Moot Brasil. Between 2016 and 2018, she served on the Board of Directors of Caixa Econômica Federal. Between 2014 and 2016, she was a member of the Fiscal Council of Caixa Econômica Federal. Between 2011 and 2013, she was a member of the Fiscal Council of Banco do Brasil. She participated in public hearings in the Chamber of Deputies on the recovery of public debts registered in Brazil's Active Debt and the impact on social security reform, tax evasion including discussion on the proposal of the new tax execution law.

Mr. Evamar José dos Santos, 61 years old, holds a Bachelor's Degree in Business Administration from FACE-FUMEC and a Graduate Degree in Finance and Public Accounting from FACE-UFMG. Since 2017, he has been working as a financial advisor. In the public sector, he was a public servant with 37 years of services provided in the Legislative Assembly of the State of Minas Gerais (1980 to 2017) including experience in various positions and managerial functions: (i) Deputy General Manager (March 2011 to November 2017); (ii) Infrastructure Officer (June 2007 to March 2011); (iii) Deputy Director General (May 2001 to June 2007); (iv) Special Advisor to the General Director (August 1998 to May 2001); (v) Treasury Manager (FG3) (January 1991 to August 1998); (vi) Accounting Coordinator Manager (December 1986 to January 1991); (vii) Special Advisor to the Financial Inspectorate (February 1985 to December 1986); and (viii) Security Agent (November 1980 to January 1985). In the private sector, he worked at Banco Mercantil do Brasil from 1978 to 1980, was a typist from July 1979 to October 1980 and a clerk from October 1978 to June 1979. Between 2018 and 2020, he was Counselor of the Ethics Committee of COFAL - Cooperativa de Economy and Mutual Credit of Employees of the Legislative Assembly of the State of Minas Gerais. From 2015 to 2017, he served as Administrative Director of PROCON - ASSEMBLEIA. From 2011 to 2015, he was President of the Commission for Works and Building Maintenance of the Legislative Assembly of the State of Minas Gerais. From 1986 to 1988, he was Chief Financial Officer of COFAL - Cooperative of Economy and Mutual Credit for Employees of the Legislative Assembly of the State of Minas Gerais. From 1987 to 1998, he was a Technical Member of the Special Commission for Preparing the Annual Budget Proposal of the Legislative Assembly of the State of Minas Gerais.

Mr. José João Abdalla Filho, 77 years old, also known as Juca Abdalla, through his investment vehicles, is one of B3's largest individual long-term investors, in amounts in excess of R\$20 billion, focusing on the oil and gas, energy and mining sectors, for more than 10 years. Despite being an alternate for a period, in both Cemig and CEG, alternates attend the meetings of the Board of Directors. Through such involvement, he



gained valuable experiences in the energy and oil and gas sectors, and has led to him focusing his work on the interests of all stakeholders, especially in state-controlled companies. Juca seeks to support the performance of the Board of Directors, with a focus on controlling operating costs, capital allocation discipline and return equivalent to the risk assumed by all stakeholders, especially the company's shareholders, always with a long-term vision. .

Mr. **Marcelo Gasparino da Silva**, 52 years old, is a lawyer who graduated from UFSC and a specialist in Corporate Tax Administration from ESAG. He completed executive training in mergers and acquisitions at the London Business School, and CEO training at Fundação Getúlio Vargas (IBE / FGV / IDE). He is a professor at the ENÁ Foundation. He practiced law for 15 years (1995-2010), starting an executive career as the Legal-Institutional Director of CELESC (2007-2009). He has been a Board Member certified by the IBGC since 2010, and in the last 12 years, he has served as an Independent Board Member in publicly-held companies, with more than 30 mandates as a member of Boards of Directors and five mandates as an Audit Board Member. He is Chairman of the Board of ETERNIT (2017-present) as well as a Board Member of both VALE (2020-present) and Petrobras (2021-present). At VALE, he is Coordinator of the Sustainability Committee and a member of the Nomination Committee and was a member of the Operational Excellence and Risks Committee (2020-2022). At Petrobras, he is Chairman of the Minority Shareholders Committee, and member of the Committees on Investments, Audit of Petrobras Conglomerate Companies and Safety, Environment and Health. At CEMIG, he is a member of the Finance and Strategy Committee. At ETERNIT, he is Coordinator of the Photovoltaic Generation Committee. Through various positions in the mining and steel, oil & gas, petrochemical, logistics, generation, transmission and distribution of energy, basic industry, civil construction, photovoltaic generation, storage and basic sanitation sectors, he acquired skills that allow him to contribute to the most diverse subjects and strategies. He was part of emblematic cases of minority activism, such as the election of the first and only Chairman nominated and elected by minority shareholders at Usiminas (2015), the first minority election by multiple vote (Eletrobras-2016, Vale-2019 and Petrobras 2020), the dispute at the CVM of the proposal to include the "negative vote" in the electoral process for the Board of the Brazilian Public Company (Vale 2021), the election of four alternative candidates in the first electoral process of Vale Corporation (2021) and the first time that minority shareholders elect two directors through the multiple voting process at Petrobras (2022). In April 2017, he assumed the Presidency of the Board of Directors of ETERNIT to lead its turnaround with the election of a new board, but with the restriction on the use of Chrysotile Asbestos in Brazil, the company started the Judicial Recovery process (2018). Leading the board in the complex moment, he worked on the diversification of ETERNIT's portfolio, through the photovoltaic energy area, one of the most successful processes in Brazil. He was a member of the boards of Bradespar (2015-16), Battistella (2016-17), Casan (2019), Celesc (2011-14 and 2018-19), Companhia Energética de Minas Gerais (CEMIG) (2016-2022), Eletrobras (2012-14 and 2016), Eletropaulo (2016-18), Gasmig (2020-21), Kepler Weber (2017-20) Tecnisa (2012-14) and Usiminas (2012-16). He was a member of the Fiscal Councils of AES TIETÊ (2013-14), BRADESPAR (2014-15), BRASKEM (2018-19) and Petrobras (2018-21). He is the oldest External Consultant for the Innovare Award.

Biographies: Newly Appointed Members of our Executive Board

Below are the biographies of the newly appointed members of our Executive Board:

Mr. **Sergio Caetano Leite**, 53 years old, holds a master's degree in Economics and Management and is a CVM-certified portfolio and investment fund manager, with international experience in investment banking and mergers and acquisitions in Brazil and outside of Brazil. He worked for over 15 years in the oil industry as a financial consultant and in capital markets in fund management and fiduciary administration, serving institutional and structured funds. Recently, he served as undersecretary of the Northeast Consortium responsible for the Thematic Chambers of Sanitation, Energy (Renewable Energy, Oil and Gas), and Infrastructure and Investment. He also coordinated the Consortium's Investment Platform, structuring more than 2 billion *reais* in financing for the member states in the last three years.



Mr. **Joelson Falcão Mendes**, 59 years old, is a mechanical engineer with a degree from the Federal University of Rio de Janeiro (UFRJ) with an MBA in business management from FGV and specialization in advanced management from INSEAD, France. He joined Petrobras in 1987 as an equipment engineer and has held several managerial positions in the last 31 years. He was Operations Manager of several platforms and General Manager of the Petrobras units in Amazonas, Rio Grande do Norte and Ceará states and Campos Basin. Later, he was Executive Manager of deepwater and Executive Manager of ultra-deepwater. Currently, he is responsible for the Executive Management of Safety, Environment and Health at Petrobras. He is a member of the Board of Directors of OSLR - Oil Spill Response Limited.

Mr. **Carlos José do Nascimento Travassos**, 55 years old, holds a degree in Mechanical Engineering and has 37 years of experience in the market, including four years at the Arsenal of the Navy in Rio de Janeiro, working in shipbuilding, and 33 years at Petrobras, having occupied several leadership positions with passages in the Executive Boards of Exploration and Production and Production Development, acting in Brazil and outside of Brazil, both in operational and managerial positions. He worked on the implementation of structuring programs in the areas of engineering, contracting, construction, commissioning and pre-operation, and was responsible for the delivery of the units P-66, P-67, P-68, P-69, P-70 and P-71 and for the design of new FPSOs focused on reducing emissions of greenhouse gases. In the downstream segment, he was responsible for the implementation of projects in the main refineries in the country, working in the areas of processing and natural gas, hydrotreatment units, refinery expansions and revamps. As Deepwater Executive Manager (AGP), he was responsible for the management of the Campos Basin and Espírito Santo units, along with the complementary development of the fields in these units. He currently holds the position of Executive Manager of Surface Systems, Refining, Gas and Energy (SRGE), the area responsible for engineering projects and the implementation of major capital investment works in the areas of Exploration and Production, Refining, Gas, Energy and Logistics.

Mr. **Claudio Romeo Schlosser**, 58 years old, is a chemical engineer with a degree from the Federal University of Santa Maria, and a lawyer with a degree from the Pontifical Catholic University of Petrópolis - RJ. He has an MBA in Finance from FGV and Management from INSEAD and Fundação Dom Cabral, and an Executive MBA from Rice University, located in Houston. He joined Petrobras in 1987 as Petroleum Processing Engineer. He has over 35 years of experience in the most diverse areas of processing, marketing, and logistics of oil and oil products. Among several positions previously held, he was General Manager of Henrique Lage Refinery (REVAP) and Landulpho Alves Refinery (RLAM), Manager and Director of Fábrica Carioca de Catalisadores, Vice-President of Petrobras America and Executive Manager of Refining, Petrochemicals and Fertilizers of Petrobras, commanding 13 refineries, one industrial shale plant and Petrobras' petrochemical complexes and fertilizer plants.

Mr. **William França da Silva**, 62 years old, holds a degree in Chemical Engineering from the Federal University of Rio de Janeiro (UFRJ) and in Law from the State University of Rio de Janeiro (UERJ), an MBA in Business Management (COPPEAD/UFRJ) and training in Strategic Management and Value Chain (INSEAD/France). He began his career at Petrobras as a processing engineer in 1988, at the Duque de Caxias Refinery/RJ (Reduc). His professional experience includes work as an asset manager of the Guillermo Bell Refinery/Bolivia and general manager of the refineries including RPBC/Cubatão-SP, REGAP/Betim-MG, RLAM/Mataripe-BA, and REDUC/Duque de Caxias-RJ. He was also executive manager and director of Transpetro and Transpetro Internacional.

Ms. **Clarice Coppetti**, 59 years old, has a degree in Accounting and Economic Sciences. She has a postgraduate degree in Strategic Information Technology Management from FGV and a postgraduate degree in Forensic and Banking Law from UniBF/Ibucapa. She was Commercial Director of Companhia de Processamento de Dados do Estado do Rio Grande do Sul, PROCERGS, and was Vice-President of Information Technology at CAIXA Econômica Federal. She was Director of Operations and Services of the Olympic Public Authority and Director of Institutional Relations, accumulating the Financial Directory of the company NORTE ENERGIA S/A. She was a permanent member of the Audit Committee of CAIXA Econômica Federal, permanent member of the Risk Committee of CAIXA and President of the Information Technology Committee of CAIXA Econômica Federal. She was a permanent member of the Deliberative Council and of the Fiscal Council of Fundação dos Economistas Federais, FUNCEF. She was a permanent member of the



Board of Directors of CAIXA Capitalização S/A and an alternate member of the Fiscal Council of CAIXA Consórcios S/A. She is currently a member of CAIXA's Audit Committee.

Mr. **Carlos Augusto Barreto**, 55 years old, graduated from PUC-RJ in Information Technology, with extension courses at New York University (NYU). He holds several certifications in IT, Project Management and Process Management. Process Digital Transformation Leader with more than 25 years of experience in the corporate environment. He worked in financial institutions and authorities such as the Federal Reserve and Mitsubishi Bank and companies in various industries such as Charter Communications and Cushman Wakefield. He was also a large-scale IT Project Manager in companies such as IBM, Dun & Bradstreet, with implementations in several countries and multiple stakeholders.

Continuing Uncertainty Concerning our Executive Officers and Board of Directors

For a current list of our Executive Officers and Board of Director members as of the date of this annual report, see “Management and Employees – Management” and “Management and Employees – Executive Officers” in this annual report.

If there are vacancies at the Board of Directors or our Executive Officers, it is possible that such positions will not be filled promptly.

The upcoming changes to the composition of our Board of Directors and our Executive Officers may result in significant additional uncertainty. It is difficult to predict the future strategic, business or policy decisions or views that any newly-elected members of our Board of Directors or our Executive Officers may take or have, and we cannot predict how this will affect our business, our results of operations and our financial condition, which could in turn adversely affect the value of our securities.

Our Strategic Plan consists of our continuous evaluation of the business environment and the implementation of our strategies, allowing for adjustments to be made in more efficient ways. See “Strategic Plan — 2023-2027 Strategic Plan” in this annual report. The recent developments described above, including any changes to our Board of Directors and our Executive Officers, may affect not only our ability to implement our Strategic Plan, but whether that Strategic Plan remains in place, as well as the direction of any subsequent strategic plans, including decisions related to the management of our operations and investments.

Risk Factors

The recent developments described above may materially and adversely impact our business, prospects, results of operations and financial condition, and the value of our securities. The role of the Brazilian federal government as our controlling shareholder presents specific risks for investors. For more information, see “Risk Factors - 2.a) The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us” in this annual report.



Risks



Risks

The nature of our operations exposes us to a number of risks that, individually or jointly, may have an effect on our financial performance. For the year ended December 31, 2022, we have changed the structure of the risk factors to adapt them to the new order of relevance required by the Brazilian Securities and Exchange Commission (“CVM”), our local regulator, in order to present information to investors in a more consistent manner, in this annual report. The risk factors are presented in the following groups:

Risks related to (1) our company; (2) our shareholders, in particular our controlling shareholders; (3) our directors; (4) our suppliers; (5) our customers; (6) the sectors of the economy in which we act; (7) the regulation of the sectors in which we are involved; (8) foreign countries where we are involved; (9) social issues; (10) environmental issues; (11) climate issues, including physical and transition risks; (12) the use of our trademark; and (13) our shares and debt securities.

Risk Factors

1) Risks related to our company

1.a) We are exposed to health, safety and environmental risks in our operations, which may lead to accidents, significant losses, administrative proceedings and legal liabilities.

Activities related to the oil and gas business present high risks, generally because they involve high temperatures and pressures. Our activities, particularly those in deep and ultra-deepwaters and refining, present several risks, such as oil and product leakage, fires and explosions in refineries and exploration and production units, including platforms, ships, pipelines, terminals and losses of containment in dams, among others assets owned or operated by us. These events can occur due to technical or human failures or natural disasters, among other factors. The occurrence of one of these events, or other related incidents, may result in health impacts on our workforce and/or surrounding communities, fatalities and environmental damage. They can cause material damage, production losses, financial losses and, in certain circumstances, liability in civil, labor, criminal, environmental and administrative proceedings. As a result, we may incur expenses related to mitigation, recovery and/or compensation for the damages caused.

We are also exposed to corporate security risks arising from acts of intentional interference by third parties in our pipelines and nearby areas, especially illegal taps (thefts) of oil and oil products, mainly in the states of São Paulo and Rio de Janeiro. If this interference continues, it may result in small or large accidents, including leaks or damage in our facilities, which may affect our continued operations and lead to the payment of fines and indemnities to the affected parties, all of which may negatively impact our results. For more information, please see “Our Business – Exploration and Production” and “Environment, Social and Governance” in this annual report.

Finally, due to risks such as those mentioned above, we may face difficulties in obtaining or maintaining operating licenses and may suffer damages to our image and reputation.

1.b) We may incur losses and spend time and financial resources defending pending litigations and arbitrations.

We are currently party to several administrative, legal and arbitration proceedings related to civil, administrative, tax, labor, environmental and corporate claims filed against us. These claims involve substantial amounts of money and other resources, and the total cost of unfavorable decisions can have a material adverse effect on our results and financial condition.



These legal, administrative and arbitration proceedings can have a negative impact on our results due to their outcome, such as contracts' termination and/or revision of governmental authorizations. Depending on the outcome, litigation can result in restrictions on our operations and have a material adverse effect on some of our business.

We can be affected by changes in rules, regulations and jurisprudence that can have a material adverse effect on our financial condition and results.

1.c) Failures in our information technology systems, information security systems (cybersecurity) and telecommunications systems and services can adversely impact our operations and reputation.

Our operations are highly dependent on information technology and telecommunications systems and services, as well as the degree of technological protection and the strength of the associated internal controls. Interruptions or malfunctions affecting these systems and/or their infrastructure, caused by obsolescence, technical failures and/or deliberate acts, or even arising from geopolitical factors or derived from third-party systems and digital infrastructure, may harm or even paralyze business and adversely impact our operations and reputation. They may also bring unforeseen costs for the recovery of information and assets, in addition to the imposition of fines or legal penalties.

Information security failures (including industrial and automation systems) due to external, intentional or not (e.g. malware, hackers, cyberterrorism) or internal (e.g. neglect or misuse of IT assets by employees or contractors) may also impact our business and reputation, our relationship with stakeholders and external agents (government, regulatory bodies, partners, suppliers, among others), our strategic positioning towards our competitors and our results.

1.d) The selection and development of our investment projects have risks that may affect our expected results.

We constantly evaluate new project opportunities to compose our investment portfolio. As most projects are characterized by a long development period, we may face changes in market conditions, such as changes in prices, consumer preferences and demand profile, exchange and interest rates and financing conditions that may jeopardize our expected rates of return. We may also change our criteria for approving projects, resulting in different risk and return profiles.

We also face specific risks for oil and gas projects. Despite our experience in the exploration and production of oil in deepwater and ultra-deepwater and the continuous development of studies during the planning stages, the quantity and quality of oil and gas produced in a certain field will only be fully known in the phases of deployment and operation, which may require adjustments throughout the project lifecycle and its expected rate of return.

There are also risks related to potential delays in the execution of oil and gas projects, which may result in the mismatch of required dates between upstream and downstream projects (e.g., delay in onshore infrastructure, impacting offshore flow of oil and gas, and onshore gas transportation). In addition, we face risks associated with external conflicts, wars or unplanned downtime events of critical assets (such as drilling rigs and the natural gas and LNG chain) that can also impact offshore and onshore flow and may compromise the continuity of our business production chain. Additionally, our failure to meet obligations established by ANP may generate fines and liabilities.

Moreover, despite our experience in exploration and production, we may face new technical challenges as we move closer to the technological frontier.

In addition, our Strategic Plan includes initiatives related to climate change, which is increasingly becoming a material business risk. Climate change risks may include physical risks, such as extreme weather events, and transition risks, such as policy and regulatory changes and shifting market demands. To address these risks, we may need to increase our investments in climate change mitigation and adaptation measures, which may result in increased capital expenditures and significantly impact our Strategic Plan. For further information on how climate change could impact our results and strategy, please see "Risk Factors – Risks related to climate issues, including physical and transitional risks - 11.a) Climate change could impact our results and strategy."



Furthermore, we may decide to invest in new energy transition projects that are beyond our current scope of experience and expertise. In addition to the risks and challenges described above, we may encounter other risks associated with these new investments and ventures, which could negatively impact our portfolio's risk profile and rate of return.

1.e) We have substantial liabilities and may be exposed to significant liquidity constraints in the short and medium term, which may materially and adversely affect our financial condition and results.

We have substantially reduced the level of our debt in recent years. However, our liabilities are still relevant and could potentially weaken our liquidity in adverse times. Considering that there may be liquidity constraints on the debt market to finance our planned investments, pay principal and interest obligations in contracted terms, and honor our financial commitments, any difficulty in raising significant amounts of debt capital in the future may affect our results and the ability to fulfill our Strategic Plan or any subsequent plan adopted.

Our lack of investment grade credit rating and any further lowering of our credit ratings may have adverse consequences on our ability to obtain financing in the market through debt or equity securities, or may affect our financing cost, making it more difficult and/or costly to refinance maturing obligations. The impact on our ability to obtain financing and the cost of financing may adversely affect our results and financial condition.

In addition, our credit rating is sensitive to any change in the credit rating of the Brazilian federal government. Any further lowering in the credit ratings of the Brazilian federal government may have additional adverse consequences on our ability to obtain financing and/or on the cost of our financing and, consequently, on our results and financial condition.

1.f) Differing interpretations of tax regulation or changes in tax policies may have an adverse effect on our financial condition and results.

We and our Brazilian and foreign subsidiaries, are subject to tax rules and regulations that may be interpreted differently over time or that may be interpreted differently by us, our subsidiaries and Brazilian (including the federal, state and municipal) and foreign tax authorities. As a result of such divergences, we and our subsidiaries may take unanticipated provisions and charges. In some cases, when we and/or our subsidiaries have exhausted all administrative remedies to a tax contingency, further appeals must be made in the judicial courts, which may require us to provide the judicial courts with judicial guarantees, such as the deposit of amounts equal to the potential tax liability, plus accrued interest and accumulated fines. In some of these cases, a settlement of the matter may be a more favorable option for us and our subsidiaries. In addition, a settlement of a tax dispute may have a broader impact on other tax disputes.

The Brazilian Congress may approve tax reforms, implementing substantial changes to the Brazilian tax framework, that could impact our business. Furthermore, Brazilian (including the federal, state and municipal) and foreign tax authorities may also publish new legislation and/or regulation that impacts the fulfillment of tax obligations (primary and ancillary) requiring relevant efforts (human and systemic resources) by taxpayers to implement the obligations within the legal deadline. The obligation to adapt the taxpayer's processes to the new legal framework in a short time may have an adverse effect on our results and the results of our subsidiaries.

Any of these occurrences may have a material adverse effect on our financial condition and results.

1.g) Maintaining the long-term oil production objectives depends on our ability to successfully incorporate and develop our reserves.

Our ability to incorporate additional reserves depends on exploration activities, which expose us to its inherent risks and may not lead to the discovery of commercially viable oil or natural gas reserves.



Adding new reserves also depend on our ability to conceive and implement development projects. Exploration and development activities in deepwater and ultra-deepwater require significant capital investments and involve several factors that are beyond our control, such as significant changes in economic conditions, climate and environmental regulations and permits, supply market capacity, and unexpected operating conditions, including equipment failures or incidents, which may restrict, delay or cancel our operations.

In addition, increased competition in the oil and gas sector in Brazil and our own capital constraints may make it more difficult or costly to obtain additional acreage in bidding rounds for new contracts and to develop existing contracted areas.

1.h) Our crude oil and natural gas reserve estimates involve some degree of uncertainty, which could adversely affect our ability to generate income.

Our proved crude oil and natural gas reserves set forth in this annual report are the estimated quantities of crude oil and natural gas that geological and engineering data demonstrate with reasonable certainty to be economically producible from a given date forward from known reservoirs under existing economic and operating conditions (i.e. at current prices and costs) according to Regulation S-X and other applicable regulations.

The reserve estimates presented are prepared based on assumptions and interpretations that are subject to risks and uncertainties. If the geological and engineering data that we use to estimate our reserves is inaccurate, our reserves may be less than what is currently indicated in our quantitative portfolio estimates and what is reported by the companies that conduct evaluation of our reserve estimates. In addition, reserve estimates may be affected by significant changes in economic conditions.

Downward revisions in our reserve estimates indicate lower future productions, which may have an adverse effect on our results and financial condition.

1.i) Decommissioning projects have been growing and becoming more relevant in our portfolio, in addition to being subject to increasing regulatory requirements and stakeholder expectations, which may result in damage to our image and increased costs.

Decommissioning projects have grown and become more relevant to our portfolio as concession contracts and production systems expire. With the publication of ANP Resolution 817/2020, we may face some difficulties in defining the scope of these decommissioning projects and meeting regulatory requirements, especially due to the learning curve of the industry and ours in this area. Although our decommissioning plans have been developed in compliance with applicable legislation, these plans may face scrutiny from stakeholders or fail to meet market demands or expectations regarding environmental, social and governance practices. As a result, our image and reputation may be adversely affected, and the resources and costs foreseen for these projects may also increase.

1.j) Obligations relating to pension plans ("Petros") and health care benefits are estimates that are reviewed annually and may diverge from actual future contributions due to changes in market and economic conditions, as well as changes in actuarial assumptions, which may require additional contributions to rebalance the plans.

The calculation of actuarial obligations, both for our pension plans and for our health care plan benefits, is based on actuarial estimates and assumptions, as well as on the modeling of business rules, observing the applicable regulation and legislation. Thus, the value of the obligations corresponds to an estimate that may change over time, as the assumptions and estimates are not confirmed.

In addition, we and Petros face risks related to supplementary pension, including those that affect the financial assets held by Petros to cover obligations of the benefit plans sponsored by us, which may not generate the necessary returns to cover the relevant liabilities, in which case additional contributions from us and participants may be necessary, subject to the constitutional contributory parity rule.



Regarding health benefits, projected cash flows may also be impacted by the following factors:

- increase in medical costs higher than expected;
- additional claims arising from benefits extension; and
- difficulty in adjusting the contributions of participants to reflect increases in health costs.

These factors may result in an increase in our liabilities and may adversely affect our results and our financial condition.

1.k) Difficulties in attracting, developing and retaining people with the necessary skills and qualifications can negatively impact the implementation of our strategy.

Our success depends on the capacity to continue training and qualifying our personnel so that they are qualified to assume senior positions in the future.

The entry of employees in a public position or employment in Brazil is made possible by public selection process, as provided for in the Federal Constitution. Furthermore, considering that the *Consolidação das Leis do Trabalho* (Consolidation of Labor Laws) does not allow the requirement of more than six months' previous experience, we cannot guarantee that new employees have the adequate experience to perform the activities for which they are designated, that is, with qualifications, experience and skills previously developed in the market.

There is no guarantee that we will adequately allocate and train our workforce, nor that we will be able to do so without incurring additional costs. Any failure may adversely affect our results and business.

1.l) Strikes, work stoppages or labor unrest by our employees or by the employees of our suppliers or contractors may adversely affect our results and our business.

Several factors may lead to legal issues and labor claims, giving rise to strikes and stoppages, such as:

- Disagreements and dissatisfaction regarding our business strategy, in particular, those related to portfolio management and its implications for the workforce;
- Human resources policies regarding remuneration, benefits and number of employees;
- Workers' contributions to cover the deficit of our pension plan (Petros);
- Implementation of regulations recently created for health care and pension plans; and
- Changes in labor legislation.

Strikes, work stoppages or other forms of labor demands at any of our facilities or in our major suppliers, contractors or their facilities or in sectors of society that affect our business may impair our ability to continue our operations and complete our projects, adversely impacting our results and our financial condition.

1.m) Our business may be materially and adversely affected by the emergence of epidemics or pandemics, such as Covid-19.

Epidemics and pandemics caused by infectious agents, such as the Covid-19 pandemic, can impact the health of our workforce, our partners and suppliers, as well as demand the redesign of routines, procedures and organization of work in general, and may consequently affect the continuity of various activities and our productivity. The operation of facilities such as platforms, refineries, terminals, among others may be impacted, as well as the full functioning of the supply chain. In addition, such public health events may affect oil prices and demand, which, consequently, may negatively impact our results and financial condition.



1.n) We do not maintain insurance against business interruption in operations in Brazil and most of our assets are not insured against war or sabotage.

We generally do not maintain insurance coverage for business interruptions of any nature for our operations in Brazil, including business interruptions caused by labor disputes. If, for instance, our workers or those of our main suppliers, vendors and service providers were to strike, the resulting work stoppages could have an adverse effect on us. In addition, there is no insurance for most of our assets in case of war or sabotage. Therefore, an attack or incident that causes the interruption of operations may have a material adverse effect on our results and financial condition.

Additionally, our insurance policies do not cover all types of risks and liabilities in the area of safety, environment, health, government fees, fines or punitive damages, which may impact our results. We cannot guarantee that incidents will not occur in the future, that there will be insurance to cover the damages or that we will not be held responsible for these events, which may negatively affect our results.

Furthermore, we cannot guarantee that the amounts of insurance coverage contracted for risks related to our activities will be sufficient to guarantee, in the event of a claim, the payment of all damages caused, which may adversely affect our business and results.

1.o) The ability to develop, adapt and access new technologies is fundamental to our competitiveness.

The maintenance of our reserve rates and production viability in an efficient manner requires constant development and access to new technologies. If we are no longer on the technological frontier of oil and gas exploration in ultra-deepwaters, our performance may become less competitive than other companies in the sector, jeopardizing our long-term strategy.

Our competitiveness is also tied to the development of new products and processes with intense use of technologies to aspire to our goal to net zero operating emissions, in addition to answering environmental regulations and new market trends.

1.p) As a result of divestments and partnerships, we are exposed to risks that could lead to financial losses.

Upon completion of each divestment or partnership (post-closing stage), we must perform integrated management and monitoring of the actions required and provided under the contracts related to each project, taking into account the rights and compliance with the obligations established for each party. Failure to comply with such contractual obligations or non-exercise of rights may result in financial losses.

Furthermore, as determined by the ANP, in case of the total or partial sale of our participation in E&P contracts, we remain jointly liable for abandonment costs after the new concessionaire's production ends, should it default on this task. Such joint liability covers obligations arising prior to or after the transfer, provided that it arises from activities carried out on a date prior to the transfer. The same applies to environmental liabilities, regardless of the segment of which the divested asset is part. According to environmental legislation, liability for environmental damage is the responsibility of all those who directly or indirectly contributed to its realization, and the adjustments made between the buyer and seller parties do not release those parties of their liability.

Additionally, the sale of our assets may negatively impact existing synergies or logistics integration within our company, which may adversely affect our results.

Our present or future partners may not be able to meet their obligations, including financial ones, which may jeopardize the viability of some projects in which we participate. When we act as an operator, our partners may have the right to veto certain decisions, which may also affect the viability of some projects.

Regardless of the partner responsible for the operations of each E&P project, we may be exposed to risks associated with those operations, including litigation (where joint liability could apply) and the risks of government sanctions arising from such partnerships, which could have a material adverse effect on our operations, reputation, cash flow and financial condition.



1.q) We are subject to the risk that internal control over financial reporting may become inadequate due to changes in the control environment, or that the degree of compliance with our policies and procedures may deteriorate.

Limitations inherent in internal control over financial reporting may cause them to fail to prevent or detect errors and may adversely affect our ability to report financial results in future periods accurately and in a timely manner. In addition, it is difficult to project the effectiveness of internal control over financial reporting for future periods, as our controls may become inadequate due to changes in the control environment, or because our degree of compliance with our policies and procedures may deteriorate.

The identification of a material weakness in our internal control over financial reporting or any of the above occurrences may adversely affect our business and operations and may generate negative market reactions regarding us, potentially affecting our financial conditions and leading to a decline in the value of our shares.

1.r) Potential adverse developments in the Lava Jato investigation or other future investigations regarding the possibility of noncompliance with the U.S. Foreign Corrupt Practices Act may adversely affect us. Violations of this or other laws may require us to pay fines and expose us and our employees to criminal penalties and civil suits.

The Lava Jato investigation is still being conducted by Brazilian authorities and additional relevant information affecting our interests may come to light. Adverse developments could negatively impact us and could divert the efforts and attention of our management team from our ordinary business operations. In connection with any future investigation or proceedings carried by any authorities in Brazil or any other jurisdiction arising out of Lava Jato investigation, or other possible noncompliance with the U.S. Foreign Corrupt Practices Act or other laws, we may be required to pay fines or other types of financial convictions, or to comply with court orders on future conduct or suffer other penalties, any of which may have a material adverse effect on us.

1.s) We may face additional proceedings related to the Lava Jato investigation.

We are currently party to a collective action commenced in the Netherlands, an arbitration proceeding in Argentina and arbitration and judicial proceedings commenced in Brazil regarding the Lava Jato investigation. In each case, the proceedings were brought by investors (or entities that allegedly represent investors' interests) who purchased our shares traded on the B3 Stock Exchange or other securities issued by us outside the United States, alleging damages caused by facts uncovered in the Lava Jato investigations.

In Argentina, we are defendants in two criminal lawsuits brought by Consumidores Financieros Asociación Civil para su Defensa, currently named Consumidores Damnificados Asociación Civil. For additional information, see "Legal and Tax - Legal Proceedings - Criminal Actions in Argentina".

In addition, EIG Management Company, LLC ("EIG Management") and eight of its managed funds ("EIG Funds") (together with EIG Management, "EIG") filed a complaint against us on February 23, 2016 before the United States District Court for the District of Columbia. For additional information, see "Legal and Tax - Legal Proceedings - Sete Brasil's Investor Claim and Mediation Procedure" in this annual report.

It is possible that additional complaints or claims might be filed in the future in the United States, Brazil or elsewhere against us relating to the Lava Jato investigation. It is also possible that further information damaging to us and our interests will come to light in the course of the ongoing investigations of corruption by Brazilian authorities. Our management may be required to direct its time and attention to the defense of these claims, which could prevent them from focusing on our core business.

In addition, as a result of the continuing Lava Jato investigation, substantive additional information may come to light in the future that would make the estimate that we made in 2014 for overpayments incorrectly capitalized appear, retrospectively, to have been materially low or high. In previous years, we were required to write off capitalized costs representing amounts that we overpaid for the acquisition of property. We may be required to restate our financial statements to further adjust the write-offs representing the overstatement of our assets recognized in our audited consolidated financial statements from prior years.

**1.t) Operations with related parties may not be properly identified and handled.**

In accordance with our Related Party Transaction Policy, transactions with related parties must be carried out under market conditions, executed in our best interest, without conflict of interest and meeting the necessary requirements: competitiveness, compliance, transparency, equity and commuting. The decision processes involving these transactions must be objective and documented. In addition, we must comply with the rules of adequate disclosure of information, in accordance with applicable legislation and as determined by the CVM and the SEC. Any failure in our process of identification and treatment of these situations may adversely affect our economic and financial condition, as well as lead to regulatory assessments by agencies.

1.u) Violations of applicable data protection laws may result in fines and other types of sanctions that may adversely affect us.

According to Brazilian Law No. 13,709/2018 – *Lei Geral de Proteção de Dados Pessoais* (General Personal Data Protection Law - “LGPD”), we will be subject to penalties in cases of disclosure or misuse of personal data.

We process personal data from various stakeholders, such as: employees, outsourced employees, customers, suppliers, investors, visitors to our physical facilities and websites. Failure to comply with the requirements set by the LGPD may result in administrative penalties, including warnings, fines, publication of the infringement, blocking access to personal data and deletion of personal data.

2) Risks related to our shareholders, in particular our controlling shareholder**2.a) The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us.**

Our Board of Directors is composed of a minimum of seven and a maximum of eleven members, who are elected at our shareholders’ meeting for a term of up to two years, with a maximum of three consecutive reelections allowed. Brazilian law requires that the Brazilian federal government owns the majority of our voting stock and, so long as it does, it will have the power to elect a majority of the members of our Board of Directors and, through them, the executive officers, who are responsible for our day-to-day management. This means that the Brazilian federal government has a great deal of control over our operations, governance and strategy, through the influence of both our management and our Board of Directors. As a result, we may engage in activities that give preference to the objectives of the Brazilian federal government, rather than our own economic and business objectives. The interests of our controlling shareholder may differ and not be in the best interest of our minority shareholders, and the decisions taken by our controlling shareholder may involve different considerations, strategies and policies than they have in the past.

As our controlling shareholder, the Brazilian federal government has guided, and may continue to guide, in the future, certain macroeconomic and social policies through us, as permitted by law.

Accordingly, as a result, we may make investments, incur costs and engage in activities and transactions on terms that have an adverse effect on our results and financial condition.

Presidential elections in Brazil occur every four years, and changes in elected representatives may lead to a change in the members of our Board of Directors appointed by the controlling shareholder, which may result in significant impacts on the implementation of our strategy and business guidelines, including our Strategic Plan. The recent presidential elections resulted in a new Brazilian president, from a different political party than the prior administration. As a result, the Brazilian federal government, as our controlling shareholder, has exercised its rights to nominate new members of our Executive Board and Board of Directors and may suggest other changes to our management structure.

Members of our Board of Directors may also be removed before the end of their term, and this replacement must be approved at a General Shareholders' Meeting.

Please see “Management and Employees – Management – Board of Directors” in this annual report.



2.b) The payment of dividends and the amount allocated for distribution to shareholders depends on our dividend policy, which is subject to change.

Our dividend policy provides for the distribution of dividends and interest on capital values that depend, among other factors, on our level of investments and operating cash flow. If we decide on a strategic plan that requires a greater volume of investments, or amend our strategic plan to do so, the amount allocated to the distribution of dividends may be reduced. In addition, operating cash flow can be impacted by several factors, including oil price and production, thus influencing dividend distribution. Our ability to pay dividends to shareholders may be affected by a variety of factors, including our financial performance, capital requirements, future prospects, and other business considerations. Our dividend policy may be terminated or amended by the Board of Directors at any time, potentially impacting parameters such as periodicity of payments, calculation formula, financial indicators, minimum payment (if any), among others. The payment of dividends above the statutory and legal minimum in previous periods is not a guarantee of future payments and does not serve as a reference level. In addition, changes to the composition of our Board of Directors and our management may result in changes or termination of our dividend policy. There is a possibility that any such changes to our dividend policy may be material, and could result in us paying fewer or no dividends in the future.

3) Risks related to our directors

3.a) Failures to prevent, detect in a timely manner, or correct behaviors inconsistent with our ethical principles and rules of conduct may have a material adverse effect on our results and financial condition.

We are subject to the risk that our directors, management, employees, contractors or any person doing business with us may engage in fraudulent activities, corruption or bribery, circumvent or override our internal controls and procedures or misappropriate or manipulate our assets for its personal or third party benefit, against our interest.

This risk is heightened by the fact that we have many complex, high value contracts with local and foreign suppliers and the wide variety of counterparties involved in our business.

We cannot guarantee that all our directors, management, employees, contractors or any other person doing business with us will comply with our principles and rules of ethical behavior and professional conduct aimed at guiding our directors, management, employees and service providers. Any failure, whether actual or perceived, to abide our ethical principles or to comply with applicable governance or regulatory obligations could harm our reputation, limit our ability to obtain financing and have a material adverse effect on our results and financial condition.

4) Risks related to our suppliers

4.a) We rely on suppliers of goods and services for the operation and execution of our projects and, as a result, we may be adversely affected by failures or delays by such suppliers.

We are susceptible to the risks of contracting, performance, product quality and capacity within our supply chain. If our suppliers and service providers delay or fail to deliver the goods and services owed to us, we may not meet our operational goals within the expected cost and/or timeframe. In this case, we may ultimately need to postpone one or more of our projects, which may have an adverse effect on our results and financial condition.

Our strategic plan foresees a concentration of contracts for oil production units in the coming years. Due to new technological obstacles, FPSOs have increased in complexity, size and weight of its process plants and this will pose a challenge to the supplier market to fully respond to the demand in this time interval. Additionally, there may be risks of delays in the customs clearance process caused by external factors, which may impact the supply of goods to us and affect our operations and projects.

Furthermore, delays or interruptions in supply due to health events such as a pandemic or geopolitical conflicts, such as the war in Ukraine, could have an impact on our supply chain and results.



5) Risks related to our customers

5.a) We are exposed to credit risks of some of our customers and the associated default risks. Any material payment default or non-compliance by some of our customers may adversely affect our cash flow, results and financial condition.

Some of our customers may experience financial constraints or liquidity issues that could have a significant negative effect on their creditworthiness. Serious financial issues encountered by our customers could limit our ability to collect amounts owed to us or to enforce the performance of obligations owed to us under contractual arrangements.

In addition, many of our customers finance their activities through their cash flow from operations, the incurrence of short and long-term debts, with no availability of reserves for contingencies.

Declining economic conditions in Brazil and resulting decreased cash flows, combined with the difficulty of access to financing from our clients, may affect us, since many of our customers are Brazilian.

This could result in a decrease in our cash flow and may also reduce or curtail our customers' future demand for our products and services, which may have an adverse effect on our results and financial condition.

Due to the possibility of us being obliged in court to guarantee the supply of products or services to counterparties who are in default, as stated in item 5.b (we may be required by courts to guarantee the supply of products or services to counterparties who are in default), our cash flow may be reduced, which may have an adverse effect on our results and financial condition.

5.b) We may be required by courts to guarantee the supply of products or services to counterparties who are in default.

We may be required by the Brazilian courts to provide products and services to clients, whether public or private institutions, with the purpose of guaranteeing supplies to the domestic oil and gas market. In this case, we may be required to provide products and services even in situations in which these clients and institutions are in default with contractual or legal obligations, where we have no legal and contractual obligations to provide such services or products or in unfavorable economic and commercial conditions. See "Legal and Tax – Legal Proceedings" in this annual report. Although we typically appeal these decisions to higher courts, a requirement that we provide such supply in exceptional situations may adversely affect our economic and financial condition.

6) Risks related to sectors of the economy in which we act

6.a) Our cash flow and profitability are exposed to the volatility of prices of oil, gas, liquefied natural gas (LNG) and oil products.

Most of our revenue derives primarily from sales of crude oil, oil products and, to a lesser extent, natural gas. International prices for oil and oil products are volatile and strongly influenced by conditions and expectations of global supply and demand. Volatility and uncertainty in international oil prices are structural and will likely continue. Changes in oil prices usually result in changes in the prices of oil products and natural gas.

Diesel and gasoline prices in the Brazilian market are defined, considering the balance with the international prices and the level of market share. Pursuant to our pricing policy, price readjustments are carried out without a defined frequency, but rather according to market conditions and analysis of the external environment, enabling us to compete more efficiently and providing more flexibility.

Our current positioning in Brazil considers domestic market conditions and seeks to align the price of oil products with international prices while avoiding the immediate transfer of volatility of international quotations and the exchange rate.



Considering that one of our current pricing objectives is to maintain fuel prices in parity with global market trends, substantial or extended declines in international oil prices may have a material adverse effect on our business, results and financial condition and may also affect the value of our proved reserves. Additionally, the periodicity of the fuel adjustments, determined by us, may be revised due to exogenous factors that affect our customers, such as the transportation sector, among others, and, consequently, our business.

In the past, our management has adjusted our pricing of oil, gas and oil products from time to time. In the future, there may be periods during which our product prices will not be in parity with international product prices. Actions and legislation imposed by the Brazilian federal government, as our controlling shareholder, could affect these pricing decisions. Representatives of the Brazilian federal government have at times expressed their views on the need to modify and adjust our pricing policy to take into account domestic conditions. Our Executive Board and management team or Board of Directors may propose changes to our pricing policy, including a decision that such policy may not seek for an alignment with international price parity. Such actions by our controlling shareholder may not be in line with the best interest of our minority shareholders and could result in material adverse effects on our financial condition and results of operation. See “Risk Factors - 2.a) *The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us*” and “Recent Developments” in this annual report.

In our gas and power segment, in addition to natural gas own production, we import gas from Bolivia and LNG worldwide. The costs of imported gas are volatile and strongly influenced by conditions and expectations of world supply and demand. They are also influenced by international geopolitics and the level of thermoelectric plants generation, which are directly related to hydrologic conditions in Brazil. Changes in sales prices in the domestic market occur influenced by contract lengths and indexes, agreed when signed, in a way there is a risk of discrepancy between sale prices and costs incurred with LNG.

We cannot guarantee that our way of setting prices will not change in the future. Changes to our fuel pricing policy could have a material adverse impact on our business, results, financial condition and the value of our securities.

6.b) Changes in the competitive environment of the Brazilian oil and gas market may intensify the requirements for our performance levels to remain in line with the best companies in the sector. The need to adapt to an increasingly competitive and more complex environment may compromise our ability to implement our current Strategic Plan or any subsequent plans adopted.

The commitment agreement signed between us and the Administrative Council for Economic Defense (“CADE”) includes the sale of approximately 50% of our refining capacity, which represents the sale of eight refining units, three of which have already been completed and one has already signed contract. As a result, we may face greater competitive forces in the downstream market in Brazil, with the appearance of new companies competing against us in this sector. If we are not able to reduce costs, sell our products competitively, and implement new technologies in our business, we may have adverse effects on our operations and results. Alternatively, it is possible that our Board of Directors or management may seek to revise our commitment agreement with CADE, changing the obligations under the existing agreement.

Additionally, in the upstream market, we may not succeed in the acquisition of exploratory blocks in future bidding rounds if our competitors are able to bid based on better cost and capital structures than us. In that case, we may therefore have difficulty in repositioning our upstream portfolio towards assets that offer higher profitability and competitive advantage, especially in the pre-salt layer, which could negatively affect our results.

In the natural gas market, we also have signed commitment agreements with the CADE and the National Petroleum, Natural Gas and Biofuels Agency (“ANP”). These commitments include:

- third-party access to outflow routes and processing units (partially completed),
- reduction in the purchase of national gas from other producers (partially completed),
- sale of our shareholding participation in companies of the gas transportation (partially completed),



- sales of shares in distribution companies (completed),
- leasing regasification terminal (completed), and
- flexibility reduction agreement with gas transportation companies, allowing the remaining capacity to be offered to other companies (completed).

If we do not comply with these commitment agreements, we may face negative impacts, such as administrative proceedings and fines, as well as harm our image and reputation. Additionally, regulatory changes in antitrust and competition laws may impose penalties, business restrictions and difficulties in renewing concessions, which could adversely impact our operations and results and compromise our future sustainable growth.

On February 28, 2023, we received an official communication from the Ministry of Mines and Energy (“MME”) requesting: *“(..) the suspension of the sales of assets for 90 (ninety) days, due to the reassessment of the National Energy Policy currently underway and the establishment of a new composition of the National Energy Policy Council (CNPE), respecting the Company’s governance rules, commitments made to government entities and without putting Petrobras’ interests at risk.”*

We are analyzing the ongoing processes from the standpoint of civil law and consistent with our governance standards and applicable law, as well as the terms of any commitments already made and the consequences of any suspension or termination, which could have significant implications for us.

6.c) Fragility in the performance of the Brazilian economy, instability in the political environment, legal or regulatory changes and investor perception of these conditions may adversely affect the results of our operations and our financial performance and may have a relevant adverse effect on us.

Our activities are strongly concentrated in Brazil. Economic policies adopted by the Brazilian federal government may have important effects on Brazilian companies, including us, and on market conditions and prices of Brazilian securities. Our financial conditions and results may be adversely affected by several factors, such as:

- exchange rate movements and volatility;
- inflation;
- financing of government fiscal deficits;
- price instability;
- interest rates;
- liquidity of domestic capital and lending market;
- tax policy;
- legal or regulatory policy for state owned companies and their subsidiaries;
- wages and labor costs;
- regulatory policy for the oil and gas industry, including pricing policy and local content requirements; and
- other political, diplomatic, social and economic developments affecting Brazil.

For instance, the Brazilian federal government may also increase the export tax rates for oil and oil products, which are currently subject to a 10% tax rate. Such a policy change could negatively impact our profitability and competitiveness in global markets, as it may result in an increase in the cost of exporting our products to international markets.



In addition, there is a risk that in the future Brazilian law and/or our policies may require us to increase our use of local Brazilian suppliers. While these actions may be intended to support the development of the Brazilian market, local suppliers may not have the same level of experience as international suppliers, potentially resulting in delays or non-performance in the delivery of goods and services we require for our operations. Furthermore, the costs associated with local suppliers may be higher than those of our current suppliers, which could impact our profitability.

Uncertainty about whether the Brazilian federal government will implement changes in policy or regulations that may affect any of the factors mentioned above or other factors in the future may lead to economic uncertainty in Brazil and increase the volatility of the Brazilian securities market and securities issued abroad by Brazilian companies, which may have a material adverse effect on our results and financial condition.

In addition, the Brazilian political environment has been considered polarized in the past few years, and that polarization has continued following the recent Brazilian presidential elections. Any developments in the current political situation or any new facts relevant to the Brazilian political situation may result in political unrest. Moreover, any difficulties of the Brazilian federal government in obtaining a majority vote in the National Congress to implement reforms may adversely affect Brazil's economic growth and, in turn, affect our operating results and financial condition. You should make your own assessment about Brazil and prevailing conditions in the country before deciding to invest in us.

6.d) Allegations of political corruption against members of the Brazilian federal government could create economic and political instability.

In the past, members of the Brazilian federal government and the Brazilian legislature have faced allegations of political corruption. As a result, a number of politicians, including senior federal officials and congressmen, resigned or have been arrested.

Elected officials and other public officials in Brazil continue to be investigated for allegations of unethical and illegal conduct identified during the Lava Jato investigation being conducted by the Office of the Brazilian Federal Prosecutor. The potential outcome of these investigations is unknown, but they have already had an adverse impact on the image and reputation of the implicated companies (including us), in addition to the adverse impact on general market perception of the Brazilian economy. These proceedings, their conclusions or further allegations of illicit conduct could have additional adverse effects on the Brazilian economy. Such allegations may lead to further instability, or new allegations against Brazilian federal government officials may arise in the future, which could have a material adverse effect on us. We cannot predict the outcome of any such investigations and accusations, nor their effects on the Brazilian economy.

6.e) Market fluctuations related to political instability, acts of terrorism, insurrection, armed conflicts and wars in various regions of the world may have a material adverse effect on our business.

Geopolitical risk factors have recently become more prominent in the world. For example, as a result of the ongoing military conflict involving Russia and Ukraine, the prices of oil, natural gas and liquified natural gas (LNG) remain extremely volatile. Such military conflict and the resulting economic sanctions imposed on the Russian government, certain Russian citizens and enterprises could have a negative effect on the global economy, including Brazil. We cannot predict the extent of this conflict and its impacts on our business. These events also impact crude oil flows and the related markets as could other similar events or acts. One example is the change in oil exports offered by Russia, which have moved to China and India, restricting residual demand from these markets to other bidders. In addition, potential supply chain delays or interruptions, significant increase in costs, as well as high oil, LNG and natural gas prices, could have an adverse effect on demand for our goods and services and the price of our securities.



6.f) We are vulnerable to increased debt service resulting from depreciation of the real in relation to the U.S. dollar and increases in prevailing market interest rates.

As of December 31, 2022, 83.6% of our finance debt was denominated in currencies other than the *real*. A further depreciation of the *real* against other currencies will increase our debt service in *reais*, as the amount of *reais* necessary to pay principal and interest on foreign currency debt will increase with this depreciation.

Foreign exchange variations may have an immediate impact on our reported expenses and incomes. Some of our operating expenses, capital expenditures, investments and import costs will increase in the event of a depreciation of the *real*. In turn, as most of our revenues are denominated in *reais*, but linked to international oil and oil products dollar prices, unless we increase the prices of our products in the local market to reflect the depreciation of the *real*, our cash generation relative to our capacity to service debt may decline.

Debt service can also be impacted by changes in interest rates. To the extent we refinance our maturing obligations with newly contracted debts, we may incur additional interest expenses.

As of December 31, 2022, 43.4% of our finance debt consisted of floating rate debt. We generally do not enter into derivative contracts or similar financial instruments or make other agreements with third parties to hedge against the risk of an increase in interest rates.

To the extent that floating rates rise, we may incur in additional expenses. Moreover, as we refinance our existing debt in the coming years, the mix of our indebtedness may change, specifically as it relates to the ratio of fixed to floating interest rates, the ratio of short-term to long-term debt, and the currencies in which our debt is denominated or to which it is indexed. Changes that affect the composition of our debt and cause rises in short- or long-term interest rates may increase our debt service payments, which could have an adverse effect on our results and financial condition.

6.g) External factors could impact our portfolio management and the successful implementation of our partnerships.

Portfolio management covers the movements of investing and divesting. Pursuant to our Strategic Plan, our divestment portfolio currently includes several assets in different stages of the sales process.

External factors, such as the decline of oil prices, exchange rate fluctuations, the deterioration of the Brazilian economy and global economic conditions, the Brazilian political scenario, judicial and administrative decisions, the passing of new legislation, among other unpredictable factors, may reduce, delay or hinder sale opportunities for assets, or affect the price at which we can sell them.

Our Strategic Plan is amended from time to time. This means that we cannot assure that our Strategic Plan will not be changed in the future due to new decisions. In the event that our Strategic Plan changes, including as a result of decisions of the Brazilian federal government as our controlling shareholder, our divestment plan might be revised. See “Risk Factors - 2.a) *The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us*” and “Recent Developments” in this annual report. In addition, any changes to our Board of Directors and our management team may affect not only our ability to implement our Strategic Plan, but whether that Strategic Plan remains in place, as well as the direction of any subsequent strategic plans, including decisions related to the management of our operations and investments. See “Recent Developments” in this annual report.

In addition, on February 28, 2023, we received an official communication from the MME requesting the suspension of the sales of assets for 90 days, which could affect our portfolio management. See “Risk Factors - 6.b) *Changes in the competitive environment of the Brazilian oil and gas market may intensify the requirements for our performance levels to remain in line with the best companies in the sector. The need to adapt to an increasingly competitive and more complex environment may compromise our ability to implement our current Strategic Plan or any subsequent plans adopted.*” We may conduct a general review of our current business plan and strategy, potentially resulting in changes to our portfolio management strategy. Such changes could include the cancellation of ongoing and future divestments.



If we are unable to successfully implement our planned partnerships and divestments or if our divestment plan is modified, this may impact our business.

6.h) Developments in the economic environment, the oil and gas industry and other factors have resulted, and may result, in substantial write-downs of the carrying amount of certain of our assets, which could adversely affect our results.

We evaluate on an annual basis, or more frequently when necessary, the carrying amount of our assets for possible impairments. Our impairment tests are performed by a comparison of the carrying amount of an individual asset or a cash generating unit with its recoverable amount, whether in operation or in implementation. Whenever the recoverable amount of an individual asset or cash generating unit is less than its carrying amount, an impairment loss is recognized to reduce the carrying amount to the recoverable amount.

Changes in the economic, regulatory, business or political environment in Brazil or other markets where we operate may have a material impact on the assumptions used to conduct impairment tests. For example, a significant decline in international crude oil and gas prices, depreciation of the *real*, changes in financing conditions, such as deterioration of risk perception and interest rates for assets and projects, among other factors, may affect the original profitability estimates of our projects, which could imply impairment and adversely affect our results.

7) Risks related to the regulation of the sectors in which we are involved

7.a) Differences in interpretations and new requirements by the agencies in our industry may result in our need for increased investments, expenses and operating costs or may cause delays in production.

Our activities are subject to regulation and supervision by regulatory agencies, such as ANP, ANEEL, ANA, ANTAQ and ANM, as well as other agencies, such as CADE, IBAMA, ICMBio and others in the States.

Issues such as market concentration across the natural gas and downstream value chains, compliance with local content requirements, procedures for the unification of areas, definition of reference prices for the calculation of royalties and government participation, oil products specifications, rules related to monitoring and decommissioning of wells, allocation of natural gas transportation costs among market players, among others, are subject to a regulatory regime overseen by Brazilian regulatory agencies.

Regulatory changes considered unfavorable by the industry, as well as change or differences of interpretation between us and regulatory agencies may directly affect the technical and economic assumptions that guide our investment decisions and materially impact our results and financial condition.

7.b) We do not own any subsoil accumulations of crude oil and natural gas in Brazil.

Under Brazilian law, the Brazilian federal government owns all the country's mineral resources, including subsoil accumulations of crude oil and natural gas. According to Brazilian regulations, the concessionaire or contracted party owns the oil and gas it produces from these subsoil accumulations pursuant to the exploration and production contracts signed with the Brazilian federal government. We possess, as a concessionaire or contracted party of certain oil and natural gas fields in Brazil, the exclusive right to develop the volumes of crude oil and natural gas included in our reserves pursuant to the respective exploration and production contracts, for a specific time frame. The access to crude oil and natural gas reserves is essential to an oil and gas company's sustained production and generation of income, and our ability to generate income could be adversely affected if there are restrictions on the exploitation of these crude oil and natural gas reserves, due to changes in current legislation or implementation of exception measures.



8) Risks related to foreign countries where we are involved

8.a) We have assets and investments in other countries in South America, where the political, economic and social situation may negatively impact our business.

We have significantly reduced our participation abroad. However, we still operate and have business in countries where there may be political, economic and social instabilities. In such regions, external factors may negatively affect the results and financial condition of our subsidiaries, including:

- imposition of price control;
- imposition of restrictions on hydrocarbon exports;
- fluctuation of local currencies against the *real*;
- nationalization of our oil and gas reserves and our assets;
- increases in export tax and income tax rates for oil and oil products; and
- unilateral (governmental) and contractual institutional changes, including controls on investments and limitations on new projects.

If one or more of the risks described above occurs, we may fail to achieve our strategic objectives in these countries or in our international operations as a whole, which may negatively impact our results and financial resources.

9) Risks related to social issues

9.a) Our projects and operations may negatively affect different communities, especially in relation to human rights. Such projects and operations may also be affected by the expectations and dynamics of these populations, impacting our business, image and reputation.

It is part of our policy to respect human rights, remedy violations, and maintain responsible relationships with the communities where we operate and to be diligent with suppliers and partners. However, throughout the life of projects and operations, we may inadvertently commit human rights violations in our activities, operations, and contracts in case of non-compliance with the guidelines of the Code of Ethical Conduct, the Human Rights Guidelines, and the Guide to Ethical Conduct for Suppliers, as well as any error in the process of identifying and assessing human rights risks in HR management, the supply chain, partnerships and communities. Furthermore, the various locations where we operate are exposed to a wide range of issues related to political, social and economic instability, as well as intentional acts such as illegal taps, crime, theft, sabotage, roadblocks and protests. We cannot control the changes in local dynamics and the expectations of the communities where we operate and establish our business.

Social impacts arising from our direct and indirect decisions and activities – especially those related to divestments and decommissioning – and disagreements with these communities and local governments may affect the schedule or budget of our projects, hinder our operations due to possible lawsuits, have a negative financial impact and harm our image and reputation.

For further information regarding our main activities, initiatives, management practices, indicators and commitments related to environmental, social and governance (“ESG”) issues, please see our Sustainability Report available on our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference in this annual report.



10) Risks related to environmental issues

10.a) Differing interpretations of numerous health, safety, environmental regulations and industry standards that are becoming more stringent may result in increased capital and operating expenditures and reduced production, as well as the application of sanctions and difficulty in obtaining or renewing licenses.

Our activities are subject to evolving industry standards, best practices and a wide variety of federal, state and local laws, regulations and permit requirements related to the protection of human health, safety and the environment, both in Brazil and in other jurisdictions where we operate. These laws, regulations and requirements may result in significant additional costs, which may have a negative impact on the profitability of projects that we intend to implement or may make such projects economically unfeasible.

Any substantial increase in expenditures for compliance with health, safety or environmental regulations may have a material adverse effect on our results and financial condition. These increasingly stringent laws, regulations and requirements may result in significant decreases in our production, including unplanned shutdowns, which may also have a material adverse effect on our results and financial condition.

There are constant changes in norms and laws related to occupational health and often there are divergences between them. In addition, the judicialization of health-related issues is increasingly frequent, as are issues related to the characterization of work accidents and all its consequences, in the civil, labor, administrative and even criminal spheres.

In addition, the implementation of the Digital Bookkeeping System of Tax, Social Security and Labor Obligations (eSocial), established by Decree No. 8373/2014, has resulted in government oversight agencies having easier access to workers' information (including those related to accidents at work), and consequently these agencies have been more proactive in their activities.

Additionally, we have operational units in several metropolitan regions of the country and, in some of these locations, the concentration of pollutants generated by a variable set of polluters (industries, passenger cars, trucks, etc.) may exceed the air quality standards defined by legislation. In 2018, more restrictive air quality standards were defined by federal and state environmental agencies, which increased the requirements for the implementation of technological improvements that would reduce air pollution in industrial units such as refineries, power plants and terminals installed in regions that already have air quality problems. This may include obstacles to obtaining or renewing operating licenses and the need to adopt new environmental control practices, such as new types of practices, increasing frequency monitoring emissions and installing new environmental protection equipment, generating higher costs for us. There is also a risk that the use of fuels will be subject to restrictions related to the level of pollutant emissions, which may increase the need for investments in refineries or market loss. It is possible that our efforts to comply with such regulations result in increased expenditures, and failure to comply with such regulations may cause damage to our reputation and lead to the payment of fines and indemnities to the affected parties.

Situations of water scarcity in a water shed where industrial units are located, in addition to immediate impacts of water scarcity where we operate, may also result in the formulation or expansion of requirements of licensing agencies in relation to the restriction of freshwater use for industrial purposes, and may require for example: the installation of water reuse units in operational units or even purchase of water for reuse of external sources, which can lead to the need for investments and increased operating costs for this purpose.

We cannot guarantee that the planned schedules and budgets of our projects, including the decommissioning of mature fields and divestments, are not affected by the internal procedures of regulatory and environmental agencies regarding the issuance of relevant licenses and permits in a timely manner. Potential delays in obtaining permits can impact our oil and gas production goals, negatively influencing our results and financial condition.

We are also subject to sanctions that may result in delays in the delivery of some of our projects and difficulties in achieving our oil and gas production goals, such as partial or total embargoes or interdictions.



In addition, changes in interpretation or differing interpretations regarding health, safety and environmental regulations, as well as our decision to settle any claims related to such regulations, may have a material adverse effect on our financial condition and results.

11) Risks related to climate issues, including physical and transitional risks

11.a) Climate change could impact our results and strategy.

Climate change poses new challenges and opportunities for our business. With the aggravation of climate change and advances in agreements and regulations, if we do not prepare for new global challenges, we may incur fines and/or higher taxes, impacting our cash flow, decreasing our competitiveness, and diminishing shareholder value. Changes in environmental conditions could potentially affect some of the operating conditions in our assets, such as water availability for our refineries and thermoelectric plants, as well as wave, wind, and ocean current patterns for our offshore platforms.

Stricter environmental regulations, including policy-driven responses aimed at mitigating climate change, such as greenhouse gas (“GHG”) emission permits and other mitigation responses, can potentially increase operating costs and reduce production. Establishing a regulatory framework for adopting a carbon pricing instrument for GHG reduction in Brazil is in the implementation phase, through Decree 11,075 of the Brazilian federal government, in May 2022, which establishes the National System for Reducing Greenhouse Gas Emissions. Environmental laws and international treaties could increase litigation risks and have a material adverse effect on us.

A growing number of investors seek to align their investments with medium and long-term climate policies. Investors’ increased perception of climate risks and more significant regulatory restrictions related to carbon-intensive sectors, can lead to greater difficulty accessing capital and increased costs. Investors based in countries committed to the Paris Agreement with more aggressive decarbonization targets tend to experience even stronger pressures in their investment decisions.

We foresee increasing pressure to develop and use more advanced technology to improve operational performance in emissions to keep up with the demands of a low-carbon world. Risk arises from the loss of competitiveness due to the non-implementation of technologies or the implementation of ineffective technologies that could apply to our business. This could also potentially impact our reputation related to our climate change mitigation initiatives.

The evolution of technologies brings competitiveness to specific new products that could shift the demand from fossil to low-carbon products and may negatively impact the demand for oil and cause a drop in oil prices more significantly than predicted in our planning. In Brazil, the replacement of fossil fuels, particularly in the transportation sector, due to public policies such as Renovabio and other potential initiatives and trends may affect Brazil’s market and compromise our expected revenues.

These factors may have a negative impact on demand for our products and services and may jeopardize or even impair the implementation and operation of our business, adversely impacting our results and financial condition and limiting some of our growth opportunities.

For further information on how climate change could impact our Strategic Plan, please see “Risk Factors – Risks related to the company – 1.d) The selection and development of our investment projects have risks that may affect our expected results.”

11.b) Water scarcity events in some regions where we operate may impact the availability of water in quantity and/or quality required for our operations, as well as difficulties in obtaining grants of the right to use water resources, impacting the business continuity of our industrial units.

We have industrial facilities that demand the use of water, ranging from large users, such as refineries, to small users, such as transport terminals that, although not very hydro intensive, are logistically important within our chain. In recent years, several regions of the world, including some regions in Brazil, have experienced events of shortage of freshwater, including for public consumption. In case of water scarcity, the grants pursuant to which we have the right to use water resources may be suspended or temporarily



modified and, as a result, we may be required to reduce or suspend our production activities, since the availability of water for public consumption and watering of animals have priority over industrial use. This may temporarily jeopardize our business continuity, as well as generate financial impacts on us and our image.

Water scarcity may also result in the activation of thermal plants, which have a higher cost when generating electricity, and increases the cost of this energy for industrial units.

12) Risks related to the use of our trademark

12.a) The performance of companies licensed to use our brands may impact our image and reputation.

Our ongoing divestment plan has included the partial or total sale of our companies in the fuel distribution segment and some of these deals involve licensing agreements for our brands. Once a licensee holds the right to display our brands in products, services and communications, it may be perceived by stakeholders as us; our legitimate representative or spokesperson. Licensees' actions or events related to their business, such as: failures, accidents, errors in business performance, environmental crisis, corruption scandals and improper use of our brands, among other factors - may negatively impact our image and reputation, with possible financial losses.

13) Risks related to shares and debt securities

13.a) The size, volatility, liquidity or regulation of the Brazilian securities markets may curb the ability of holders of ADSs to sell the common or preferred shares underlying our ADSs.

Our shares are among the most liquid traded on the B3, but overall, the Brazilian securities markets are smaller, more volatile and less liquid than the major securities markets in the United States and other jurisdictions, and therefore may be regulated differently from the way in which U.S. investors are accustomed. Factors that may specifically affect the Brazilian stock markets may limit the ability of holders of ADSs to sell the common or preferred shares underlying our ADSs for the price and time they desire.

13.b) Holders of our ADSs may be unable to exercise preemptive rights with respect to the shares underlying the ADSs.

Holders of ADSs who are residents of the United States may not be able to exercise the preemptive rights relating to the shares underlying our ADSs, unless a registration statement under the Securities Act is effective with respect to those rights or an exemption from the registration requirements of the Securities Act is available. We are not obligated to file a registration statement with respect to shares relating to these preemptive rights and therefore we may not file such registration statement. If a registration statement is not filed and an exemption from registration does not exist, JPMorgan, as depository, will attempt to sell the preemptive rights and the holders of ADSs will be entitled to receive the proceeds of the sale. However, the preemptive rights will expire if the depository cannot sell them. For a more complete description of the preemptive rights with respect to the common or preferred shares, see "Information to Shareholders - Shareholders' Rights - Other Shareholders' Rights" in this annual report.

13.c) If holders of our ADSs exchange their ADSs for shares, they risk losing the ability to timely remit foreign currency abroad and other related advantages.

The Brazilian custodian of our shares underlying our ADSs must obtain a certificate of registration from the Central Bank of Brazil to be entitled to remit U.S. dollars abroad for payments of dividends and other distributions relating to our shares or upon the disposition of the shares.

The conversion of ADSs directly into ownership of the underlying shares is governed by CMN Resolution No. 4,373 and foreign investors wishing to do so are required to appoint a representative in Brazil for the purposes of CMN Resolution No. 4,373, who will be in charge of keeping and updating the investors' certificates of registration with the Central Bank of Brazil, which entitles registered foreign investors to buy and sell directly on the B3. Such arrangements may require additional expenses from the foreign investor.



Moreover, if such representatives fail to obtain or update the relevant certificates of registration, investors may incur additional expenses or be subject to operational delays which could affect their ability to receive dividends or distributions relating to the common or preferred shares or the return of their capital in a timely manner.

The custodian's certificate of registration or any foreign capital registration directly obtained by such holders may be affected by future legislative or regulatory changes, and we cannot assure such holders that additional restrictions applicable to them, the disposition of the underlying common or preferred shares or the repatriation of the proceeds from the process will not be imposed in the future.

13.d) Holders of our ADSs may face difficulties in protecting their interests.

Our corporate affairs are governed by our Bylaws and Law No. 6,404/76 ("Brazilian Corporate Law"), which differ from the legal principles that would apply if we were incorporated in a jurisdiction in the United States or elsewhere outside Brazil. In addition, the rights of an ADS holder, which are derivative of the rights of the holders of our shares, as the case may be, to protect their interests, are different under Brazilian Corporate Law than under the laws of other jurisdictions. The laws concerning insider trading, self-dealing and the preservation of shareholders' interests may also be different in Brazil compared to the United States. Additionally, the structure of a class action in Brazil is different from that in the United States. Under Brazilian law, shareholders of Brazilian companies do not have standing to bring a class action and, under our Bylaws, must, generally with respect to disputes concerning rules regarding the operation of capital markets, arbitrate such disputes. See "Information to Shareholders - Shares and Shareholders - Dispute Resolution" in this annual report.

We are a state-controlled company organized under the laws of Brazil and all our directors and officers reside in Brazil. Substantially all of our assets and those of our directors and officers are located in Brazil. As a result, it may not be possible for holders of ADSs to effect service of process upon us or our directors and officers within the United States or other jurisdictions outside Brazil or to enforce against us or our directors' and officers' judgments obtained in the United States or other jurisdictions outside Brazil. Because judgments in U.S. courts for civil liability based on U.S. federal securities laws may only be enforced in Brazil if certain requirements are met, holders of ADSs may face greater difficulties in protecting their interest in actions against us or our directors and officers than the shareholders of a company incorporated in a state or other jurisdiction of the United States.

13e) Holders of our ADSs do not have the same voting rights as our shareholders. In addition, holders of ADSs representing preferred shares do not have voting rights.

Holders of our ADSs do not have the same voting rights as holders of our shares. Holders of our ADSs are entitled to the contractual rights set forth for their benefit under the terms of the deposit agreements. ADS holders exercise voting rights by providing instructions to the depository, as opposed to attending shareholders' meetings or voting by other means available to shareholders. In practice, the ability of a holder of ADSs to instruct the depository as to voting will depend on the time and procedures for providing instructions to the depository, either directly or through the holder's custodian and clearing system.

In addition, a portion of our ADSs represents our preferred shares. Under Brazilian Corporate Law and our Bylaws, holders of preferred shares are entitled to vote on specific agenda items in shareholder meetings. Holders of ADSs representing preferred shares are not entitled to vote most of decisions. See "Shareholders - Shareholders' Rights - Shareholders' Meetings and Voting Rights" in this annual report.

13.f) The market for PGF's debt securities may not be liquid.

Some of PGF's notes are not listed on any securities exchange and are not quoted through an automated quotation system. Most of PGF's notes are currently listed both on the NYSE and the Luxembourg Stock Exchange and are traded on the NYSE Euronext and Euro Multilateral Trading Facility ("MTF") markets, respectively, although most trading in PGF's notes occurs over-the-counter. PGF can issue new notes that can be listed on markets other than the NYSE and the Luxembourg Stock Exchange and traded on markets other than the NYSE Euronext and the Euro MTF market. We can make no assurance as to the liquidity of or trading markets for PGF's notes. We cannot guarantee that the holders of PGF's notes will be able to sell



their notes in the future. If a market for PGF's notes does not develop, holders of PGF's notes may not be able to resell the notes for an extended period of time, if at all.

13.g) We would be required to pay judgments of Brazilian courts enforcing our obligations under the guarantee relating to PGF's notes only in reais.

If proceedings were brought in Brazil seeking to enforce our obligations in respect of the guarantee relating to PGF's notes, we would be required to discharge our obligations only in *reais*. Under Brazilian exchange controls, an obligation to pay amounts denominated in a currency other than *reais*, which is payable in Brazil pursuant to a decision of a Brazilian court, will be satisfied in *reais* at the exchange rate in effect on the date of payment, as determined by the Central Bank of Brazil.

13.h) A finding that we are subject to U.S. bankruptcy laws and that the guarantee executed by us was a fraudulent conveyance could result in PGF's noteholders losing their legal claim against us.

PGF's obligation to make payments on the PGF notes is supported by our obligation under the corresponding guarantee. We have been advised by our external U.S. counsel that the guarantee is valid and enforceable in accordance with the laws of the state of New York and the United States. In addition, we have been advised by our general counsel that the laws of Brazil do not prevent the guarantee from being valid, binding and enforceable against us in accordance with its terms. In the event that U.S. federal fraudulent conveyance or similar laws are applied to the guarantee, and we, at the time we entered into the relevant guarantee:

- were either insolvent or rendered insolvent by reason of our entry into such guarantee;
- were either engaged in business or transactions for which the remaining assets with us constituted unreasonably small capital; or
- intended to incur or incurred, or believe or believed that we would incur, debts beyond our ability to pay such debts as they mature; and
- in each case, intended to receive or received less than reasonably equivalent value or fair consideration therefor, then our obligations under the guarantee could be avoided, or claims with respect to that agreement could be subordinated to the claims of other creditors.

Among other things, a legal challenge to the guarantee on fraudulent conveyance grounds may focus on the benefits, if any, realized by us as a result of the issuance of the PGF notes. To the extent that the guarantee is held to be a fraudulent conveyance or unenforceable for any other reason, the holders of the PGF notes would not have a claim against us under the relevant guarantee and would solely have a claim against PGF. We cannot ensure that, after providing for all prior claims, there will be sufficient assets to satisfy the claims of PGF noteholders relating to any avoided portion of the guarantee.

Corporate Risk Management

We believe that integrated and proactive risk management is essential for the delivery of results in a safe and sustainable way. Our risk management policy establishes guidelines and responsibilities, and is based on the following fundamental principles:

- respect for life and life diversity;
- full alignment and consistency with our Strategic Plan;
- ethical behavior and compliance with legal and regulatory requirements;
- integrated risk management; and
- the risk response actions consider the possible long-term cumulative consequences, the possible impacts on our stakeholders and should be oriented towards preserving or adding value and for business continuity.



The risk management organizational structure, that is under the supervision of our Chief Financial Officer (“CFO”), is responsible for:

- establishing a corporate methodology for risk management guided by an integrated and systemic view, which allows for an environment of continuous monitoring of risks in several hierarchical levels;
- disseminating knowledge and supporting the use of risk management practices in organizational units; and
- identifying, monitoring and reporting periodically to our Board of Executive Officers and Board of Directors regarding our major risks.

In order to support the risk management process, our corporate risk management policy specifies authorities to be consulted, responsibilities to be undertaken, and five principles and ten guidelines that drive our risk management initiatives.

This policy has a comprehensive approach to corporate risk management, which combines the traditional economic and financial risk management approach with other relevant areas of interest, such as protection of life, health and environment, assets and business information protection (property and security) and combating fraud and corruption (legal and compliance), among other corporate risks.

For further information regarding our revised business risk management policy, please visit our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference in this annual report.

Disclosures about Market Risk

Commodity Price Risk

We operate in an integrated manner throughout the various stages of the oil industry. A significant portion of our results relate directly to oil exploration and production, refining and the sale of natural gas, biofuels, and electricity in Brazil. As our purchases and sales of crude oil and oil products are linked to international commodity prices, we are exposed to their price fluctuations, which may influence our profitability, our cash flow from operations and our financial situation.

We prefer to maintain exposure to the price cycle than use financial derivatives to systematically protect purchases and sale transactions that focus on fulfilling our operation needs. However, based on crude oil market conditions and prospects of realization of our Strategic Plan, we may decide to implement protection strategies using financial instruments to manage our cash flow expenses.

In addition, we are party to derivative contracts in order to protect our margins for short-term commercial transactions carried out abroad. Our derivatives contracts provide economic hedges for oil product purchases and sales in the global markets, generally expected to occur within a 30 to 360-day period.

For more information about our commodity derivatives transactions, including a sensitivity analysis demonstrating the net change in fair value of an adverse change in the price of the underlying commodity for options and futures, see Note 34 to our audited consolidated financial statements.

Exposure to interest rate and exchange rate risk

For information about interest rate and exchange rate risk, see “Operating and Financial Review and Prospects” in this annual report.



Insurance

Regarding operational risks, our policy is to maintain insurance coverage when the obligation to maintain such coverage derives from a legal or contractual instrument or our Bylaws; or the event covered may cause significant damage to our financial results, and coverage is economically feasible.

We maintain several insurance policies, including policies against fire, operational risk, engineering risk, property damage coverage for onshore and offshore assets such as fixed platforms, floating production systems and offshore drilling units, hull insurance for tankers and auxiliary vessels, third party liability insurance and transportation insurance. The coverages of these policies are hired according to the objectives we define, and the limitations imposed by the global insurance and reinsurance markets. Although some policies are issued in Brazil, most of our policies are reinsured abroad with reinsurers rated A- or higher by Standard & Poor's or A3 by Moody's and/or B++ or higher by A.M. Best.

Our policies are subject to deductibles, limits, exclusions and limitations, and there is no assurance that such coverage will adequately protect us against liability from all possible consequences and damages associated with our activities. Thus, it is not possible to assure that insurance coverage will exist for all damages resulting from possible incidents or accidents, which may negatively affect our results.

We do not maintain insurance coverage to safeguard our assets in case of war or sabotage. We also do not maintain coverage for business interruption, except for some specific assets in Brazil. In addition, our third-party liability policies do not cover government fines or punitive damages.

In 2022 we hired an insurance policy for well-control covering exploratory wells (wildcat and appraisal activities) and development wells (drilling and completion activities) in Brazil, with a coverage of up to US\$1 billion and maximum deductible of US\$10 million. Prior to 2022 we did not maintain coverage for our wells in operation in Brazil, except when required by a joint operating agreement. This change was due to new studies and a change in our risk assessment.

We are currently evaluating insurance companies that can offer coverage for our specific concerns related to cyber-attacks.

Our national property damage policies have a maximum deductible of US\$180 million and their indemnity limits can reach US\$2 billion for refineries and US\$2 billion for platforms, depending on the replacement value of our assets.

Our general third-party liability policy with respect to our onshore and offshore activities in Brazil, including losses due to sudden pollution, such as oil spills, has a maximum indemnity limit of US\$250 million with an associated deductible of US\$10 million. We also maintain marine insurance with additional protection and indemnity against third parties related to our domestic offshore operations with an indemnity limit of US\$50 million up to US\$500 million, depending on the type of vessel. For activities in Brazil, in the event of an explosion or similar event on one of our non-fixed offshore platforms, these policies may provide third-party combined liability coverage of up to US\$750 million. In addition, although we do not insure most of our pipelines against property damage, we have insurance against damages or losses to third parties arising from specific incidents, such as unexpected infiltration and oil pollution.

Furthermore, throughout the year we receive surveys from the insurance market that evaluate the operational risks of our facilities and make recommendations. In general, the risk ratings of our assets are at or above the market average. In 2022, we had surveys in 21 onshore and offshore units, 12 of them remote. Based on these surveys, last year we heeded almost 200 recommendations that improve the safety of our company.



Outside Brazil, we maintain different levels of third-party liability insurance, as a result of a variety of factors, including country risk assessments, whether we have onshore and offshore operations, or legal requirements imposed by a particular country in which we operate. We maintain separate well-control insurance policies in our international operations to cover liabilities arising from the uncontrolled eruption of oil, gas, water or drilling fluid. In addition, such policies cover claims of environmental damage caused by wellbore explosion and similar events as well as related clean-up costs with coverage limits of up to US\$325 million depending on the country.



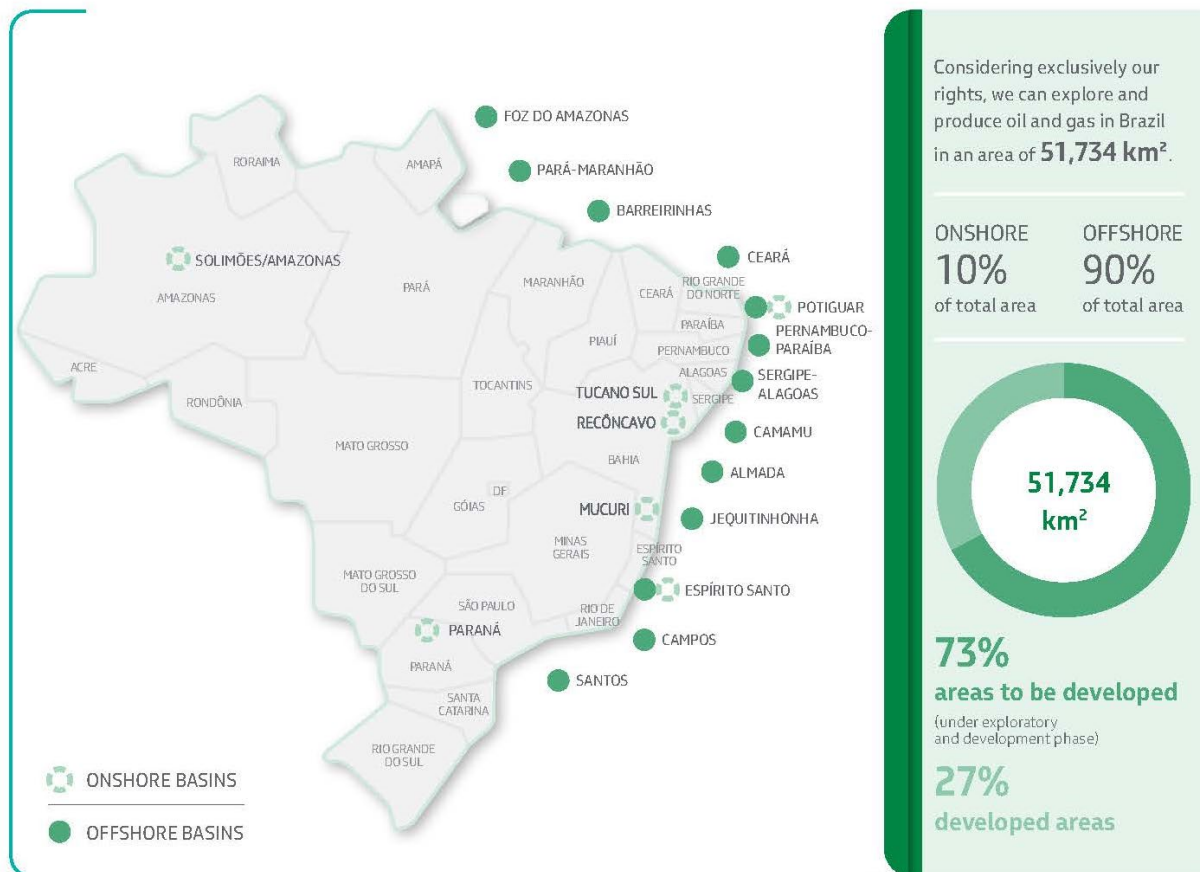
Our Business

Exploration and Production

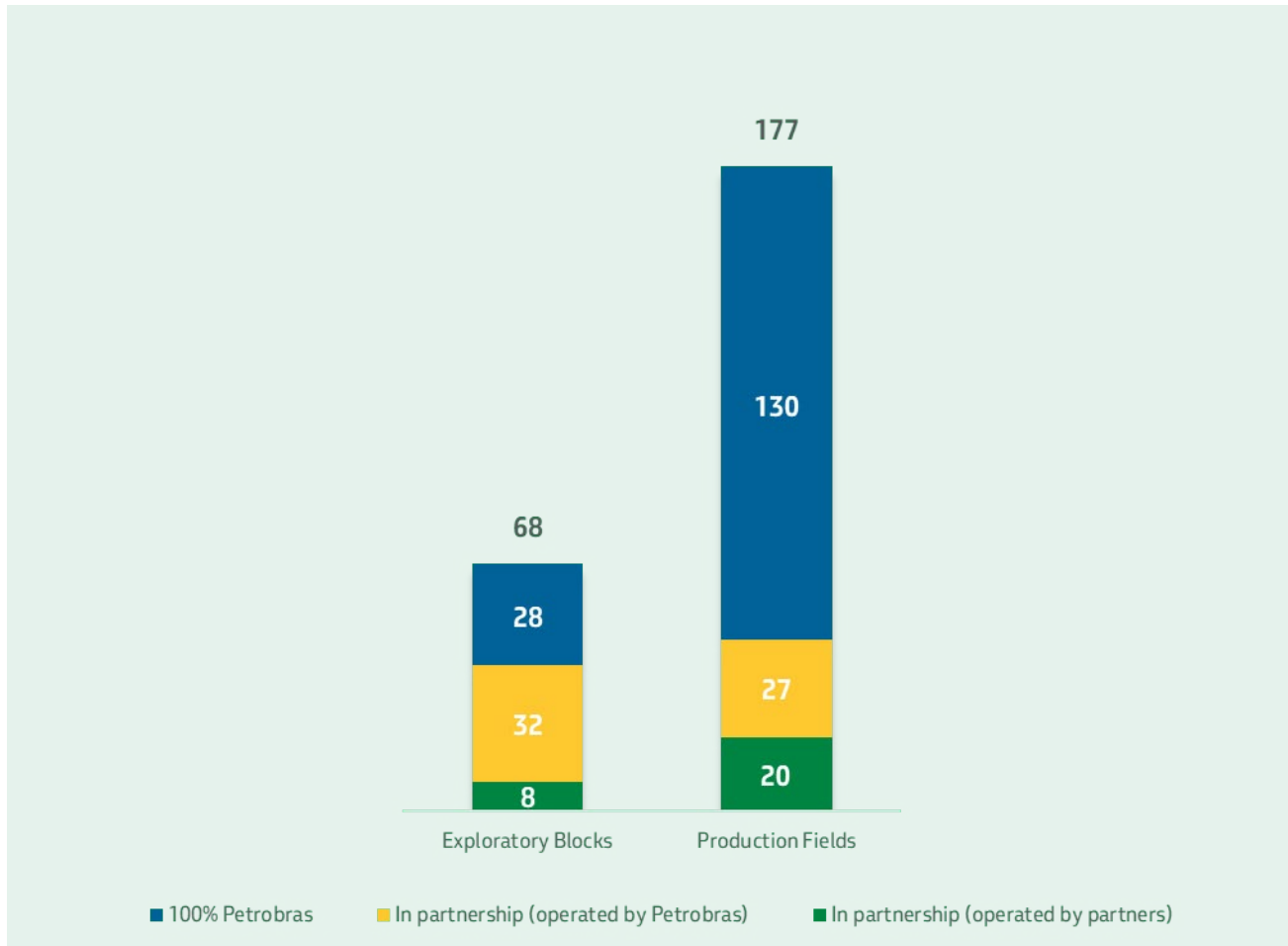
Overview

Our oil and natural gas exploration and production activities are the major components of our portfolio and include offshore and onshore exploration, appraisal, development, production and incorporation of oil and natural gas reserves, producing oil and natural gas in a safe and profitable way.

Our activities are focused on deepwater and ultra-deepwater oil reservoirs in Brazil, which accounted for 92% of our total production in 2022. We also have activities in mature fields in shallow waters and onshore, as well as outside Brazil as detailed below in this annual report. Brazilian exploration and production assets represent 90% of our worldwide blocks and fields, 99% of our global oil production and 99.5% of our oil and natural gas reserves.



We have 245 blocks and fields in exploration and production including 87 consortia with other oil and gas companies in Brazil and other countries. From the 245 blocks and fields, 219 are under Concession Agreements, 16 are under Production Sharing Agreements and 10 are regulated by Transfer of Rights Agreements.

**EXPLORATION AND PRODUCTION BLOCKS AND FIELDS** (Number of blocks and fields)

Like most major oil and gas companies, we operate in partnerships using E&P consortia in the exploration of blocks and the production of oil fields in Brazil, mainly in ultra-deepwaters.

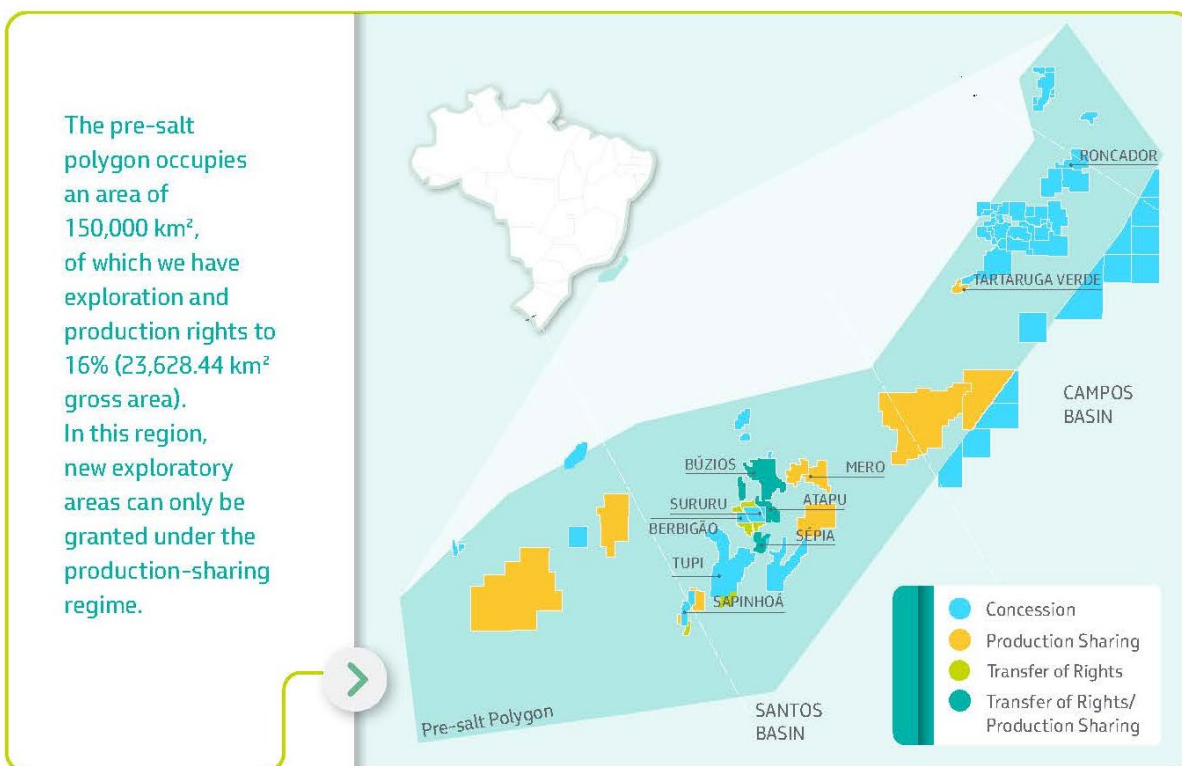
We lead and operate E&P consortia that are responsible for some major projects under development, such as Mero (Petrobras 38.6%, Shell 19.3%, TotalEnergies 19.3%, CNODC 9.65%, CNOOC 9.65% and PPSA 3.5%), Atapu (Petrobras 65.7%, Shell 16.7%, TotalEnergies 15%, Petrogal 1.7% and PPSA 0.9%), Búzios (Petrobras 88.99%, CNOOC 7.34% and CNODC 3.67%) and Sêpia (Petrobras 55.3%, TotalEnergies 16.91%, QatarEnergy 12.69%, Petronas 12.69% and Petrogal 2.41%)¹.

These E&P consortia also comprise some of the biggest production fields in Brazil, such as Tupi (Petrobras 65%, Shell 25%, Petrogal 10%), Sapinhoá (Petrobras 45%, Shell 30%, Repsol Sinopec 25%), Roncador (Petrobras 75%, Equinor 25%), Tartaruga Verde (Petrobras 50%, Petronas 50%) and Berbigão and Sururu (both with Petrobras 42.5%, Shell 25%, TotalEnergies 22.5% and Petrogal 10%).

¹ The participating interest mentioned in this paragraph refers to the shared deposits percentages.



Our main blocks and fields in the Pre-salt Polygon on December 31, 2022



Campos Basin



The Campos Basin is one of Brazil's main and most prolific oil and gas offshore basins. Its oil production started in the 1970's and although in decline, we have been able to mitigate the natural depletion of mature fields of the Campos Basin by drilling in-fill wells and installing new production systems.

Most of our production in the Campos Basin is from post-salt reservoirs. Pre-salt reservoirs in the Campos Basin, on the other hand, are a growing source of production. Our pre-salt oil production started in 2008 in the Jubarte field.



Santos Basin

350,000 km ²	1970	23	Tupi, Búzios, Sapinhoá, Berbigão, Sururu, Atapu, Sépia, Mero and Itapu	1,511 mbb/d Oil Production in 2022	Pre-salt: 1,505 mbb/d Post-salt: 6 mbb/d

We believe the Santos Basin is one of the most promising offshore exploration sites in the world, containing the southern and most prolific part of the pre-salt region. Our pre-salt activities in the Santos Basin began with the acquisition of blocks in 2000.

We currently have 21 pre-salt production units in the Santos Basin. With these units, we have been increasing the pre-salt oil production in the Santos Basin since its first oil production, in 2009.

Total area Start of exploration activities Platforms in production in operated fields (in 2022) Main fields Oil production

Other Basins

We produce oil and gas and hold exploration acreage in 10 other basins in Brazil. The most significant potential for exploratory success of these other basins is within the Equatorial Margin.

International

Outside Brazil, we have activities in South America and North America. We have focused on opportunities to leverage the deepwater expertise we have developed in Brazil. However, since 2012 we have been substantially reducing our international activities through the sale of assets in accordance with our portfolio management.

South America

We conduct exploration and production activities in Argentina, Bolivia and Colombia.

In **Argentina**, through our subsidiary Petrobras Operaciones S.A., we have a 33.6% working interest in the Rio Neuquén production asset. Our unconventional gas and Condensate production is concentrated in the Neuquén Basin. In 2022, our production of oil and gas in Argentina, including NGL, was 9.7 mboed.

In **Bolivia**, we produce gas and Condensate primarily in the San Alberto and San Antonio fields with 35% working interest in each of those service operation contracts, which are operated mainly to supply gas to Brazil and Bolivia. In 2022, our production of oil and gas in Bolivia, including NGL, was 18.03 mboed. The return on such contracts is a proportion of the production.

In **Colombia**, we operate and hold a 44.44% working interest in the Tayrona offshore exploration block, which includes the Uchuva gas discovery.



North America

In the United States, we focus on deepwater fields in the Gulf of Mexico, where we have non-consolidated production from the 20% participation of Petrobras America Inc. (“PAI”) in our joint venture with Murphy Exploration & Production Company (“Murphy”), the MPGOM LLC. The main production fields are Chinook, Saint Malo and Dalmatian. In 2022, our 20% participation represented a production of 8.9 mboed, including NGL.

For more information on our divestments, see “Portfolio Management” in this annual report.



Main Assets

	2022	2021	2020
Exploration and Production			
Production wells (oil and natural gas) ⁽¹⁾	5,003	5,042	5,646
Floating rigs	19	18	20
Operated platforms in production ⁽²⁾	56	57	67 ⁽³⁾

(1) Includes the total amount of wells of our equity method investees (44.50 and 39 (reinstated) wells in 2022, 2021 and 2020, respectively).

(2) Includes only definitive production systems, EWT and EPs units.

(3) Does not include mothballed, non-producing and platforms in fields operated by partners.



Exploration

The oil and gas industry value chain begins in the exploratory phase, with the acquisition of exploratory blocks either through bid rounds conducted by governments or by purchases from other companies.

In Brazil, the Brazilian State owns the oil deposits, but companies and consortia are allowed to extract and explore such oil upon payment in several forms, such as royalties. Forms of payment differ, depending on the applied regulatory model. Biddings rounds are the main process for the acquisition of rights over the exploratory blocks.

There are currently three regulatory models in Brazil: Concession Agreements, Transfer of Rights Agreements and Production Sharing Agreements. The concession model fully governed the oil and natural gas exploration and production until 2010, when the Brazilian federal government enacted laws establishing the Transfer of Rights Regime and the Production Sharing Regime in the Pre-salt Polygon.

For information on the regulatory models applicable to our exploration and production activities, see “Legal and Tax” in this annual report.



Bidding rounds

Over the past few years, we have participated selectively in the bidding rounds carried out by the ANP, aiming to reorganize our exploratory portfolio and maintain the relationship between our reserves and our production in order to ensure the sustainability of our future oil and gas production. Our joint operation with large oil companies in consortia is also aligned with our strategic goal to strengthen partnerships, with the intent to share risks, combine technical and technological skills and capture synergies to leverage results.

In 2020, due to limitations resulting from the Covid-19 pandemic, the 17th Bidding Round was postponed. The Second Cycle of Open Acreage was the only bidding round of the year and took place on December 4, 2020. We did not present any offers during this bidding round.

In 2021, we acquired the exploration and production rights of the surplus volumes of the Transfer of Rights from the Atapu and Sepia offshore fields in the Second Round Transfer of Rights under the Production Sharing Regime. With respect to the Atapu field, we acquired the rights to be the operator with 52.5% interest in its surplus volumes in partnership with Shell (25%) and TotalEnergies (22.5%). As to the S epia field, we exercised our preemptive right to be the operator with 30% interest in the acquisition of its surplus volumes. The other members of the consortium are TotalEnergies (28%), Petronas (21%) and Qatar Petroleum (21%).

In 2022, we acquired the exploration and production rights of three exploratory blocks:  gua Marinha and Norte de Brava, both in the Campos Basin, and Sudoeste de Sagit ario, in the Santos Basin. With respect to the  gua Marinha block, we exercised our preemptive right to be the operator with 30% interest. The other members of the consortium are TotalEnergies (30%), Petronas (20%), and Qatar Petroleum (20%). As for the Norte de Brava block, we acquired the rights to be the operator with 100% of interest. As for the Sudoeste de Sagit ario block, we acquired the rights to be the operator with 60% interest with Shell (40%).



Exploration Activities

As of December 31, 2022, we had 68 exploratory blocks (including 28 with 100% working interest), that had three discoveries in 2022 (in the Sépia Coparticipated Area, in the Alto de Cabo Frio block and in the Tayrona block). We serve as the operator in 30 of the exploration partnership blocks.

The table below breaks down our participation in exploration activities in 2022:

OUR PARTICIPATION IN EXPLORATION ACTIVITIES IN 2022

	Net exploratory area			Exploratory blocks			Evaluation plans			Wells drilled		
	(km ²)			(number)			(number)			(number)		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2022	2021	2020
Brazil	35,198	37,719	42,996	65	69	82	43	42	32	5	8	9
Other S. America	4,284	5,466	5,751	3	4	4	1	1	2	2	1	0
North America	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	39,482	43,185	48,747	68	73	86	44	43	34	7	9	9

In 2022, our exploratory efforts were concentrated on evaluating Brazil's southeast margin Pre-salt provinces, and we also drilled a wildcat well in Colombia, with the following highlights:

Santos Basin

In 2022 we drilled two wells in the Santos Basin.

The Sépia Transfer of Rights (ToR) Surplus Consortium confirmed an oil discovery in the northwestern part of the Sépia Coparticipated Area. The well is located 250 km south of the city of Rio de Janeiro, under a water depth of 2,197 meters. We are analyzing the oil-bearing interval, but the net oil column is one of the thickest ever recorded in Brazil. The consortium will continue operations to characterize the reservoirs' conditions of the reservoirs found and verify the extent of the discovery.

The Sépia Coparticipated Area composed of comprises the Sépia block and the Sépia ToR Surplus. The Sépia ToR Surplus was purchased by a consortium comprising Petrobras (Operator), TotalEnergies, QatarEnergy, and Petronas, with Pre-Sal Petróleo S.A. (PPSA) as manager.

We are currently evaluating the results in the Três Marias block, where we drilled a well in the Temist location. We are the operators of the consortium, with Shell and Chevron.

Campos Basin

In 2022, we drilled two wells in the Campos Basin.

We confirmed a discovery of a pre-salt reservoir in the Alto de Cabo Frio block in the southern portion of the Campos Basin. The wildcat well was drilled in Alto de Cabo Frio Central Noroeste. The new discovery, announced on April 1st, is located 230 km away from the city of Rio de Janeiro-RJ, in a water depth of 1,833 meters. The test hick interval of pre-salt carbonate reservoir rocks and confirmed good productivity. The consortium will continue operations to characterize the conditions of the reservoirs found and verify the extent of the discovery.

We have also drilled a well in the Dois Irmãos block, in the Vaz Lobo prospect. We are the operators of consortium with BP and Equinor, and we are currently evaluating the 'results of the well.



Espírito Santo Mar Basin

In the Espírito Santo Basin, we have drilled one well, and we are evaluating the results of the prospect Andurá. We are the operators and sole owners of the exploratory block ES-M-596.

Colombia

In Colombia, we drilled one well in the Uchuva location, in 2022. The discovery of natural gas accumulation was confirmed in the Uchuva-1 exploratory well, drilled in the deepwaters of Colombia, 32 kilometers off the coast and 76 kilometers from the city of Santa Marta, in a water depth of approximately 830 meters.

The Uchuva-1 well was drilled in the Tayrona Block, with Petrobras as the operator of the consortium (44.44% work interest), in partnership with Ecopetrol, with 55.56% work interest.

The consortium will continue its activities in the Tayrona Block, aiming to assess the dimensions of the new gas accumulation.

E&P Strategic Programs Highlights

We continue the development of the strategic program EXP100 that has been designed to access and process 100% of the technical data and emerging technologies with impact on the exploration projects, reducing uncertainties and costs by accelerating production development. This program aims to better estimate and predict geological properties through an integrated data platform, by using data science, machine learning, artificial intelligence and high-performance computing capacity, that enable the application of more complex algorithms in the processing of large volumes of data. Several initiatives are already underway, with important advances in the integration and connection of data and digital solutions on the Geological and Geophysical (G&G) interpretation workflows, supporting the development of a new generation of greenfields.

In addition, the PROD1000 strategic program is still in progress and it aims to shorten the time between the discovery of the asset and the start of production (first oil), ultimately achieving greater return on invested capital.

The PROD1000 aims to place us in the first quartile of the oil & gas industry. Our efforts in such program are related to exploration and reservoir development integration, project design standardization, processes optimization and parallelization, faster procurement (bidding) and construction and assembly of the FPSO. The areas that currently contribute most to the reduction of project time are exploration, reservoir, surface and subsurface systems and procurement.

Our efforts in 2022 focused on applying some solutions on our portfolio. In recent exploratory discoveries, we acquired Nodes Seismic with only one exploratory well drilled to reduce the appraisal duration. We also applied partial schedule reductions in our development projects already incorporated into the 2023-2027 Strategic Plan.



Production

Production Development

After a field is declared commercially viable, the process of production development begins. The investments made in this phase are mainly focused on designing and contracting production systems, which includes platforms, subsea systems, drilling, and the completion of wells.

We continue to achieve optimizations by implementing strategic well construction programs, which enable the application of new drilling and completion technologies, innovative well configurations, campaign optimization, and supply chain integration. In 2022, our average offshore well construction duration (total time for drilling plus completion) was 109 days/well. In terms of cost performance, in 2022, we had a slight 3% rise, compared to 2021, in yearly cost average due to higher durations (operational problems) and increasing resource rates (inflationary pressures), which were balanced by optimization efforts through the application of new technologies and contractual structures. In post-salt projects, we have reached a 12% reduction compared to 2021. Since 2020, we have reached a 6% reduction in average construction costs and, specifically in post-salt projects, a 38% reduction, when compared to 2022.

In addition, we reduced well connections costs in the Santos Basin pre-salt area by nearly 7% on average per year during the past three years. In 2022 our performance was at the same level as the previous year.

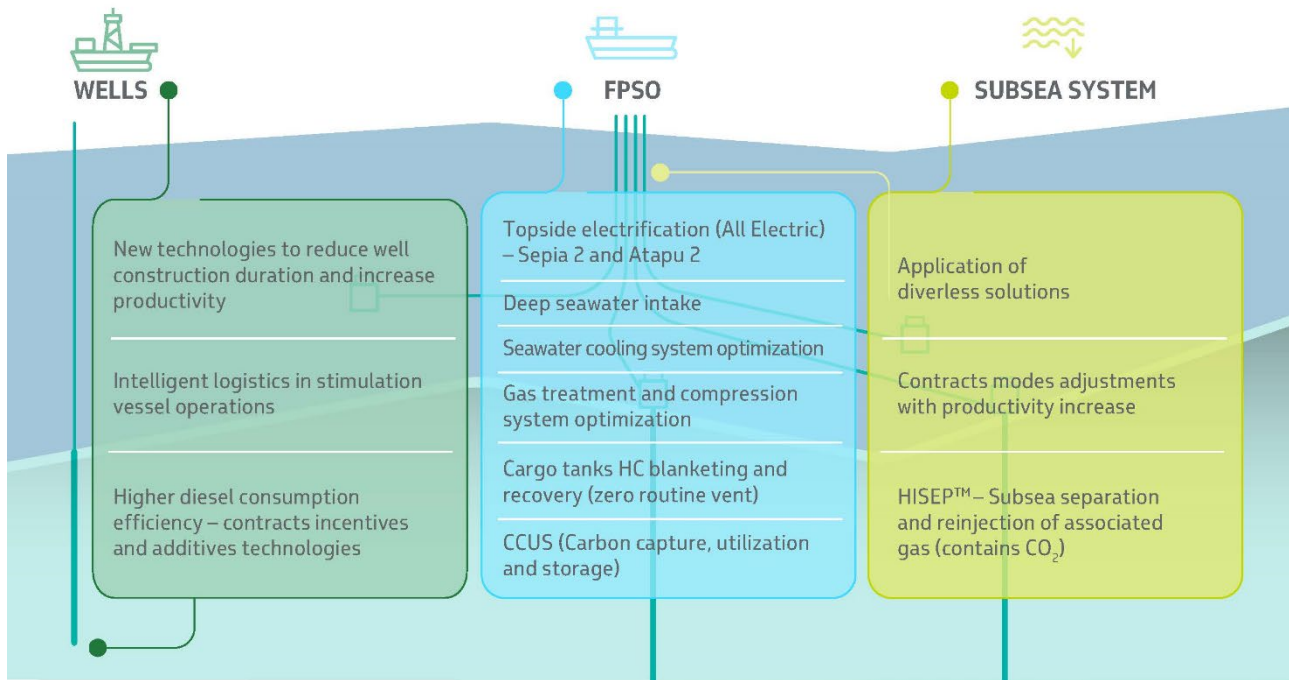
Regarding the integrity of subsea systems, we have made progress in the development and application of new tools for inspection, leading to greater reliability and availability of equipment, pipes and other components, especially those subsea components exposed to corrosion events. In 2022, we reduced subsea production losses by 57% when compared to the forecast, through inspection campaigns on flexible pipes and engineering for life extension. We continue to implement initiatives such as expanding the supplier base to develop special tools and flexible pipes immune to the effect of corrosion.

As it relates to platforms, the High Capacity Design was finished in 2021 with oil production capacity of 225 mbbbl/d and gas processing of 423 mmcf/d as a result of more than a decade of learning by us in the cycles of design, construction, start-up, and operation of production platforms in the pre-salt layer, with an increase in production capacity in relation to previous projects. The Búzios 9, 10 and 11 FPSO bidding used the High Capacity Design and was concluded in 2022.

The All Electric Design was finished in 2022 for the pre-salt FPSOs, aiming for higher efficiency and lower GHG emission, representing the new generation of our FPSOs. For these units, the oil production capacity is 225 mbbbl/d and 353.9 mmcf/d of Gas. The Sêpia 2 and Atapu 2 FPSO bids incorporate the All Electric Design.

We invest in technological solutions combined with the transition to a low-carbon global economy, focusing on reducing greenhouse gas emissions.

TECHNICAL SOLUTIONS TO REDUCE GREENHOUSE EMISSIONS IN DEVELOPMENT PRODUCTION PROJECTS*



* The adoption of FPSO technologies is evaluated at each project.

In the last three years, we have installed several major systems, mainly in the Santos Basin pre-salt area, which helped mitigate the Santos Basin’s natural decline. In 2020, we started the P-70 platform, located in the Atapu field. In 2021, the FPSO Carioca started operations in the Sépia field and in 2022 the FPSO Guanabara started up as the first definitive system in the Mero field. In the end of 2022, the P-71 started operation in the Itapu Field. Those four new systems added new 24 wells (14 production and 10 injection wells) into our production systems.

In 2022, the P-68 platform, in the Berbigão and Sururu field, reached its full capacity of 152 mbb/d in June and the daily production record of 161 mbb/d in October, above nominal capacity due to the optimizations achieved in the production plant. The FPSO Carioca continued in production ramp up in 2022 and reached production of 175 mbb/d with the fourth producing well start up.

In January 2023, the Guanabara platform reached its maximum production capacity, with the mark of 180 mbb/d, about eight months after the unit started operating. The FPSO Guanabara achieved this result with four producing wells and three gas injectors.

In 2022, our producing platforms had a daily production of 2.15 million barrels of oil and 2,989 million cubic feet of natural gas (discounting the liquefied volume). In 2022, we owned 39 and leased 17 offshore producing platforms. Besides these offshore platforms, there are five storage and offloading units, totaling 61 active platforms.

Considering that the P-71 started operating in December 2022, earlier than planned, we expect to install four more FPSOs in 2023: the FPSO Anna Nery and the FPSO Anita Garibaldi in the Marlim field, the FPSO Almirante Barroso in the Búzios field and the FPSO Sepetiba in the Mero field. We also expect to install 17 new FPSOs in the next five years.



SYSTEMS INSTALLED SINCE 2010

Start up (year)	Basin	Field/Area	Production unit	Crude oil nominal capacity (bbl/d)	Gas nominal capacity (mmcf/d)	Water depth (meters)	Fiscal regime	Main production source	Type
2022	Santos	Itapu	P-71	150,000	211,9	2,010	Transfer of Rights /Production Sharing	Pre-salt	FPSO
	Santos	Mero	Guanabara	180,000	423.8	1,930	Production Sharing	Pre-salt	FPSO
2021	Santos	Sépia	Carioca	180,000	211,9	2,200	Transfer of Rights/Concession	Pre-Salt	FPSO
2020	Santos	Atapu	Petrobras 70	150,000	211.9	2,288	Transfer of Rights/Concession	Pre-Salt	FPSO
	Santos	Berbigão	Petrobras 68	150,000	211.9	2,280	Transfer of Rights/Concession	Pre-Salt	FPSO
2019	Santos	Búzios	Petrobras 77	150,000	247	1,980	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Búzios	Petrobras 76	150,000	247	2,030	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Tupi	Petrobras 67	150,000	211.9	2,130	Concession	Pre-Salt	FPSO
2018	Campos	Tartaruga Verde	Cid. de Campos dos Goytacazes	150,000	117	765	Concession	Post-Salt	FPSO
	Santos	Tupi	Petrobras 69	150,000	211.9	2,170	Transfer of Rights/Concession	Pre-Salt	FPSO
	Santos	Búzios	Petrobras 74	150,000	247	1,950	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Búzios	Petrobras 75	150,000	247	2,015	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
2017	Santos	Tupi	Petrobras 66	150,000	211.9	2,150	Concession	Pre-Salt	FPSO
	Santos	Mero	Pioneiro de Libra	50,000	141.3	2,040	Production Sharing	Pre-Salt	FPSO
2016	Santos	Tupi	Cidade de Saquarema	150,000	211.9	2,120	Concession	Pre-Salt	FPSO
	Santos	Tupi	Cidade de Maricá	150,000	211.9	2,120	Concession	Pre-Salt	FPSO
2015	Santos	Tupi	Cidade de Itaguaí	150,000	282.5	2,240	Concession	Pre-Salt	FPSO
2014	Santos	Sapinhoá	Cidade de Ilhabela	150,000	211.9	2,140	Concession	Pre-Salt	FPSO
	Santos	Tupi	Cidade de Mangaratiba	150,000	282.5	2,220	Concession	Pre-Salt	FPSO
	Campos	Roncador	Petrobras 62	180,000	211.9	1,560	Concession	Post-Salt	FPSO
	Campos	Jubarte	Petrobras 58	180,000	211.9	1,400	Concession	Pre-Salt	FPSO
2013	Campos	Roncador	Petrobras 55	180,000	141.3	1,795	Concession	Post-Salt	SS
	Santos	Tupi	Cidade de Paraty	120,000	176.6	2,120	Concession	Pre-Salt	FPSO
	Santos	Sapinhoá	Cidade de São Paulo	50,000	76.6	2,140	Concession	Pre-Salt	FPSO
2012	Campos	Jubarte	Cidade de Anchieta	100,000	123.6	1,220	Concession	Pre-Salt	FPSO
2011	Campos	Marlim Sul	Petrobras 56	140,000	211.9	1,645	Concession	Post-Salt	SS
	Santos	Mexilhão	Mexilhão	20,000	529.7		Concession	Post-Salt	Fixed
2010	Campos	Jubarte	Petrobras 57	180,000	70.6	1,260	Concession	Post-Salt	FPSO
	Santos	Tupi	Cidade de Angra dos Reis	100,000	176.6	2,150	Concession	Pre-Salt	FPSO
	Santos	Uruguá	Reis	25,000	353.1	1,300	Concession	Post-Salt	FPSO
	Campos	/Tambaú Jubarte	Cidade de Santos Capixaba	110,000	113.0	1,473	Concession	Post-Salt	FPSO



MAIN SYSTEMS TO BE INSTALLED THROUGH 2027

Start up (year)	Basin	Field/Area	Production unit	Crude oil nominal capacity (bbl/d)	Gas nominal capacity (mmcf/d)	Water depth (meters)	Fiscal regime	Main production source	Type
Expected 2023	Santos	Búzios 5	Almirante Barroso	150,000	211.9	2,100	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Campos	Marlim 1	Anita Garibaldi	80,000	247.3	670	Concession	Post-Salt	FPSO
	Campos	Marlim 2	Anna Nery	70,000	141.3	927	Concession	Post-Salt	FPSO
Expected 2024	Santos	Mero 2	Sepetiba	180,000	423.8	2,050	Production Sharing	Pre-Salt	FPSO
	Campos	Parque das Baleias	Maria Quitéria	100,000	176.6	1,385	Concession	Pre-Salt	FPSO
	Santos	Búzios 7	Almirante Tamandaré	225,000	423.8	1,900	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Mero 3	Marechal Duque de Caxias	180,000	423.8	2,070	Production Sharing	Pre-Salt	FPSO
Expected 2025	Santos	Búzios 6	Petrobras 78	180,000	254.3	2,030	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Búzios 8	Petrobras 79	180,000	254.3	1,700	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Mero 4	Alexandre de Gusmão	180,000	423.8	1,890	Production Sharing	Pre-Salt	FPSO
Expected 2026	Santos	Búzios 9	Petrobras 80	225,000	423.8	2,100	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Santos	Búzios 10	Petrobras 82	225,000	423.8	1,895	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
Expected 2027	Campos	Albacora	To be defined	120,000	211.9	700	Concession	Pre-Salt	FPSO
	Santos	Búzios 11	Petrobras 83	225,000	423.8	2,100	Transfer of Rights/Production Sharing/Concession	Pre-Salt	FPSO
	Sergipe Águas Profundas	SEAP 1	To be defined	120,000	353.1	2,510	Concession	Post-Salt	FPSO
	Sergipe Águas Profundas	SEAP 2	To be defined	120,000	423.8	2,510	Concession	Post-Salt	FPSO
	Campos	BM-C-33	To be defined	126,000	565.0	2,750	Concession	Pre-Salt	FPSO



Decommissioning

Decommissioning of oil and gas exploration and production systems consists of activities associated with the permanent interruption of the operation of the facilities. It is a legal requirement that the decommissioning process is carried out when the life cycle of the production system ends, so that it is an integral part of the production cycle of the oil and gas industry.

Once the need for decommissioning is confirmed, we plan and execute the activities in accordance with current regulations, including environmental regulations, following strict safety standards and analyzing project alternatives based on multidisciplinary criteria (environmental, technical, security, social and economic), which allows us to select the decommissioning alternative that generates less impact. In this analysis, we also consider studies and guidelines on the best practices of the oil and gas industry worldwide.

The decommissioning process includes several activities, such as disposal of the platform and the subsea system and the plug and abandonment of wells, performed according to the decommissioning plan approved by regulatory bodies and in accordance with the applicable legal requirements.

In 2022, we obtained approval from Brazilian regulatory bodies to remove the FPSO Capixaba in the Jubarte field.

We removed the P-07 in the Bicudo field and dismantled and abandoned 13 wells.

Concerning well abandonments, we continued to deliver substantial results in 2022 that allowed us to consolidate a new performance landmark in deepwater campaigns, with a 23% reduction in durations and 53% in costs compared to 2018-2019 levels, a period prior to the implementation of a strategic program aimed at reducing abandonment time and cost.

In 2022, we also created an Executive Committee for Decommissioning to monitor the evolution of worldwide best practices and establish strategic guidelines to implement decommissioning projects.

Also, in 2022 we changed our strategy for the disposal of our platforms to be decommissioned and are implementing a green recycling policy in these units, aligned with best industry ESG practices, focusing on sustainability to ensure the proper recycling process consistent with the protection of the environment and human rights.

Critical Resources in Exploration and Production

We seek to procure, develop and retain all of the critical resources that are necessary to meet our production targets. Drilling rigs, special vessels, supply vessels and helicopters are important resources for our exploration and production operations and are centrally coordinated to assure both technical specifications and proper lead time.

Since 2008, we have grown from three rigs capable of drilling in waters with depth greater than 2,000 meters (6,560 feet) to 18 rigs with this capacity as of December 31, 2022. We will continue to evaluate our drilling and special vessel demands and intend to adjust our fleet size as needed.

**DRILLING UNITS IN USE BY EXPLORATION AND PRODUCTION AS OF DECEMBER 31, 2022**

(1)

	2022		2021		2020	
	Leased	Owned	Leased	Owned	Leased	Owned
Brazil	20	0	18	0	20	0
Onshore	1 ⁽²⁾	0	0	0	0	0
Offshore, by water depth (WD)	19	0	18	0	20	0
Jack-up rigs	0	0	0	0	0	0
Floating rigs	19	0	18	0	20	0
500 to 999 meters WD	1	0	1	0	0	0
1,000 to 1,999 meters WD	0	0	0	0	1	0
2,000 to 3,200 meters WD	18	0	17	0	19	0
Outside Brazil	0	0	0	0	0	0
Onshore	0	0	0	0	0	0
Offshore	0	0	0	0	0	0
Worldwide	20	0	18	0	20	0

1) In operated fields.

2) Do not consider onshore workover rigs, not used for drilling.

To achieve our production goals, we have also secured a number of specialized vessels (such as Pipe Laying Support Vessels or “PLSVs”) to connect wells to production systems. As of December 31, 2022, we had 17 PLSVs. Similarly to the rigs, we intend to adjust our fleet size as needed.

The supply of goods and transport of people is also important to achieve our exploration and production goals. By sea, we transport materials and chemical products. By air, we transport our most important assets: people. Both materials and people are transported on a daily basis so that the exploration and production of oil and gas is orchestrated in the most continuous way possible, maintaining the quality and level of services.

In 2022, we delivered more than 2.2 million tons of materials and transported over 800,000 passengers to our platforms all over the Brazilian coast. To accomplish these results, we also have a secure number of supply vessels (such as Platform Supply Vessels or “PSV”) and helicopters. As of December 31, 2022, we had 78 PSV and 67 helicopters and both our fleets were sufficient to meet our needs.



Mero Field

Libra Block and Mero Field

The Mero field is a world-class field located in the Santos Basin ultra-deepwaters (water depth 2,100 meters), 180 km from the coast of Rio de Janeiro State and inside Brazilian pre-salt province. It has a high productivity reservoir filled with a large volume of high-quality oil. It is a thick reservoir (oil columns reaches 420 meters), with high productivity and filled with a large volume of high-quality oil (29° API). In addition, the associated challenges for project development are also noteworthy, considering the high gas/oil ratio (420 std m³/std m³) and CO₂ content in the associated gas (44%), water depth (2,100 meters) and distance from the coast (180 km).

In 2013, the consortium we formed with Shell Brasil, TotalEnergies, CNODC and CNOOC Limited won the bid to explore and develop the Libra block for 35 years. The consortium also has the participation of the state-owned enterprise Pré-Sal Petróleo - PPSA, which operates as a contract manager. On November 30, 2017, we announced the submission of the Declaration of Commerciality regarding oil accumulations in the northwestern portion of the Libra block, subsequently named Mero.

On December 9, 2021, ANP approved Mero accumulation's Production Individualization Agreement ("AIP"). The AIP occurs when the reservoirs extend beyond the areas granted or contracted, as regulated by ANP. The agreement became effective on January 1, 2022.

Under the terms of the AIP, the Mero Joint Reservoir comprises two areas, namely (1) the Mero field area (as defined in the PSC from LIBRA-P1 consortium), representing 96.50% and (2) the adjacent area (Brazilian federal government, represented by PPSA), representing 3.50%.

The agreement establishes the stakes of each party and the rules of joint execution for the operations to develop and produce oil and natural gas in the joint reservoir. The stakes of each party in the Mero Joint Reservoir were then updated as follows: Petrobras with a 38.60% stake, Shell Brasil with a 19.30% stake, TotalEnergies with a 19.30% stake, CNODC with a 9.65% stake, CNOOC Limited with a 9.65% stake and Pré-sal Petróleo – PPSA, representing the Brazilian Government, with a 3.50% stake.

As a result of this process, in December 2021, the parties mentioned above negotiated the equalization between the already incurred expenses and the obtained revenues stemming from the produced volumes up to the effective date of the AIP.

Project development

The start of production (first oil) occurred in 2017, within the Early Production System ("EPS") campaign, using two wells (one producer and one injector) and the chartered unit FPSO Pioneiro de Libra, which has a capacity of 50 mbbbl/d of oil and four million m³/day of gas.

So far, two EPSs are already concluded, and both used the FPSO Pioneiro de Libra, which was anchored for two years in each location. The combined EPSs have already produced a cumulative production of almost 54 mmbbl of oil, with a peak of 52 mbbbl/d from one single well. Moreover, associated gas production accounted for over 3.6 billion m³ of gas, of which 12.1% were consumed for FPSO power generation, and approximately 86.7% were reinjected in the reservoir along with almost 1.3 million m³ of CO₂.

The production arrangement for the Mero field comprises the already operating FPSO Guanabara and the units FPSO Sepetiba, FPSO Marechal Duque de Caxias and FPSO Alexandre de Gusmão. Each FPSO (charted unit) will be able to process up to 180 mbbbl/d and 12 million m³ of gas daily.



The FPSO Guanabara started operating in April 2022. Per our Strategic Plan, FPSO Sepetiba production is expected to begin operating in 2023, FPSO Marechal Duque de Caxias in 2024 and FPSO Alexandre de Gusmão in 2025.

The current estimate for Mero field is a return of over three billion bbl of oil recovery until 2048, with an annual production peak of 600 mbb/d.

FPSO Guanabara Production

In April 2022, we started producing oil and natural gas in the Mero 1 field through the operations of the FPSO Guanabara, the first definitive production system installed in the Mero field, producing oil and natural gas from the Mero field — it 1 area.

The FPSO Guanabara unit was built and operated by Modec and it is located more than 150 km off the coast of the state of Rio de Janeiro in water depths that reach 1,930 meters.

The FPSO Guanabara unit is capable of processing up to 180 mbb/d and 12 million m³/d of gas, which represents 6% of the production operated by Petrobras.

The FPSO Guanabara unit is equipped with gas re-injection systems, in which the gas production with 45% CO₂ content, after self-consumption in the FPSO, is all re-injected into the reservoir to maintain pressure and improve oil recovery, in addition to reducing the release of CO₂ into the atmosphere.

From April to December 2022, eight months after operations start-up, FPSO Guanabara achieved the platform nominal capacity for oil production (180 mbb/d). Moreover, the unit has already produced a cumulative production of almost 20.8 mmbbl of oil, with a production of 1.3 billion m³ of gas, from which 13.8% were consumed for FPSO power generation, and 80.3% were reinjected in the reservoir, along with 444 million tons m³ of CO₂.

The FPSO capacity was reached with four producers and three injectors wells. Two producers and four injector wells are prepared to be connected and start operations, concluding this module's first phase of production development.

New technologies in Libra

HISEP™

HISEP™ is a subsea separation technology that separates, at the seabed, gas with high CO₂ content under high pressure, followed by direct reinjection of this separated stream to the reservoir using centrifugal pumps. HISEP™ debottlenecks the topsides gas processing plant and extends the oil production plateau by reducing the gas-oil Ratio ("GOR") of the oil that reaches the FPSO.

Hence, HISEP™ has the potential to accelerate oil production and increase the recovery factor. It has been developed in a collaborative and integrated environment congregating major oil companies, including the engagement of reputed and experienced market suppliers to deploy the solution and generate value for the Mero field and the oil and gas industry. Therefore, during the last three years, an extensive de-risking program was performed to increase the maturity level of the HISEP™ solution. The Mero field will be the first to implement HISEP™ technology for qualification; the bid process for the HISEP™ EPCI is currently underway.

CTV

Cargo Transfer Vessel ("CTV") is a new oil offloading technology that is undergoing a qualification process through extensive field trials in the Santos Basin. When qualified, this concept will make feasible the execution of oil transfer operations from the FPSO directly to conventional oil tankers with safety levels compatible with the operations with a Dynamic Positioning Shuttle Tanker ("DPST") used by us for offloading. By eliminating steps in the conventional logistic, the CTV solution enables a more straightforward and flexible logistics strategy in oil export scenarios. This will bring a high potential for cost reduction, lower greenhouse gas ("GHG") emissions, a shorter time



to reach the market, and positive impacts on the Health Safety Security Environment (“HSSE”) indicators.

PRM

Seismic Permanent Reservoir Monitoring (“PRM”) is a technology that will provide more profound knowledge about the distribution of fluids in the reservoir via data acquisition. In this way, it will also allow greater efficiency in oil production in the Mero field.

PRM in Mero has unprecedented features in Brazil, considering the water depth, a large application area (approximately 200 km²), and the high complexity for installation due to many subsea obstacles (projects infrastructure). It incorporates state-of-the-art 4D seismic monitoring technologies, in which seismic records obtained on different dates are used to monitor the behavior of reservoirs over time.

According to our Strategic Plan, the system will be installed in 2024. It comprises a network of optical fibers that will be connected to the FPSO Sepetiba and our offices. It will allow remote and instant access to the data generated by the monitoring system.

Production

In 2022, our total production of oil and gas, including NGL, was 2,684 mboed, of which 2,648 mboed were produced in Brazil, and 37 mboed were produced abroad, a 3% decrease compared to 2021. This production decline was due to divestment, decommissioning, and the natural decline of the production.

Our 2022 operating performance was partially leveraged by the ramp-up of new production systems in the Itapu and Mero fields.

Our production in the pre-salt layer reached 1,635 mbb/d in 2022, representing an increase of 1% in relation to our production in 2021. In 2022, the oil production in the pre-salt layer represented 76% of all oil production in Brazil, compared to 73% in 2021.

OIL AND GAS PRODUCTION

	2022	2021	2020	2022 vs 2021
Crude oil and natural gas – Brazil (mboed)	2,648	2,732	2,788	-3%
Onshore (mboed)	66	89	105	-26%
Shallow water (mboed)	7	9	32	-22%
Post-salt deep and ultra-deepwaters (mboed)	434	496	582	-13%
Pre-salt (mboed)	1,635	1,616	1,546	1%
Crude oil (mboed)⁽¹⁾	2,142	2,211	2,266	-3%
Natural gas (mboed)	505	521	522	-3%
Crude oil and natural gas – Abroad⁽²⁾ (mboed)	37	42	48	-14%
TOTAL	2,684	2,774	2,836	-3%

(1) Including NGL.

(2) Includes the proportional production of our equity method investees, based on our percentage interest in these entities.



Pre-salt oil production increased by 1%, reflecting the high efficiency and the ramp-up of new units. The pre-salt area comprises large accumulations of light oil of excellent quality and high commercial value. The post-salt oil production in deep and ultra-deepwaters decreased by 13% due to divestment, decommissioning and the natural decline of production.

Shallow waters oil production decreased by 22%, to seven mbbbl/d, due to divestment, decommissioning, and the natural decline of the production. Onshore oil production decreased by 26%, to 66 mbbbl/d, due to divestment, decommissioning, and the natural decline of the production.

We produced 84.6 million m³/d of gas in 2022. From that volume, we used 51.3 million m³/d in our production processes (reinjecting, flared, consumed, liquefied) and allocated 33.3 million m³/d for sale.

Achievement of 2022 Production Target

We achieved our production targets for 2022, established in the 2022-2026 Strategic Plan and revised in January 2022:

PRODUCTION TARGETS FOR 2022

Production	Performed (mboed)	Goal (million boed)
Oil and NGL (mmbbl/d)	2,154	2.1 ± 4%
Oil, NGL and commercial gas (mmboed)	2,361	2.3 ± 4%
Total production Oil and Gas (mmboed)	2,684	2.6 ± 4%

This result demonstrates our commitment to meeting our goals, which have been reached by maintaining the focus of our activities on deep and ultra-deepwater assets.

The revision of the production target in January 2022 reflected the effect of the result of the 2nd Round of Bids for the Transfer of Rights Surplus under the Production Sharing Regime. The result affected our shares in the Sêpia and Atapu fields. For 2022, we reduced the target for the total oil and gas production in the amount of 70 mboed, changing the range from 2.7 mmboed to 2.6 mmboed, with a variation of 4% up or down. Oil and gas production targets remained within the same ranges.

Lifting Cost

In 2022, our lifting cost (Brazil and our business outside Brazil), without government participation or leases, was US\$5.8 per boe, which represents a 16% increase from the 2021 cost of US\$5.0 per boe. Including leases, our lifting cost in 2022 was US\$7.4 per boe, which represents a 13% increase from the 2021 cost of US\$6.6 per boe.



Shared deposits between different fields

The participation of consortium members in any fields mentioned refers exclusively to the participation of such members in the contract related to such field. On certain occasions, some of these fields are subject to Production Individualization Agreements (“AIPs”), resulting in shared deposits between different fields. Under AIPs, costs, investments, and production volumes are shared between the parties thereto.

After ANP’s approval, the AIPs are disclosed to the market and published on our Investor Relations website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.

Below are the most relevant fields subject to AIPs to which we are party. This list is not exhaustive and other fields not mentioned below may also be subject to AIPs.

TUPI

The AIP of Tupi’s joint reservoir, located in the Santos Basin, was approved by ANP in March 2019.

The joint reservoir comprises Tupi’s reservoir and is shared between:

- BM-S-11 consortium contract (Tupi Field), concession operated by us (65%), in partnership with Shell (25%) and Galp (10%);
- Sul de Tupi, Transfer of Rights area, where we have 100% of the participating interest; and
- Tupi Leste, a Non-contracted area, which belongs to the Brazilian federal government, represented by Pré-Sal Petróleo (PPSA).
- Tupi’s AIP does not cover the so-called Iracema reservoir, which remains with the same interests of the BM-S-11 consortium.

The participating interest of each party in Tupi’s joint reservoir are as follows:

Partner	Participating Interest (%)
Petrobras (operator)	67.22
Shell	23.02
Galp	9.21
PPSA	0.55

MERO

The AIP of the Mero accumulation, located in the Santos Basin, was approved by ANP in December 2021.

The Mero joint reservoir comprises:



- Libra Production Sharing Contract: operated by us (40%) in partnership with Shell (20%), TotalEnergies (20%), CNPC (10%), CNOOC (10%) and PPSA; and
- Sul de Mero and Norte de Mero, non-contracted areas, which belong to the Brazilian federal government, represented by PPSA.

The participating interest of each party in the Mero joint reservoir are as follows:

Partner	Participating Interest (%)
Petrobras	38.60
Shell	19.30
TotalEnergies	19.30
CNODC	9.65
CNOOC	9.65
Pré-sal Petróleo - PPSA	3.50

ATAPU

The AIP of Atapu accumulations, located in the Santos Basin, was approved by ANP in September 2019, and an amendment was approved by ANP in April 2022 to include the Production Sharing Contract.

The Atapu joint reservoir comprises:

- Oeste de Atapu concession contract operated by us (42.5%), in partnership with Shell (25%), TotalEnergies (22.5%), and Galp (10%);
- Atapu (Transfer of Rights Surplus), operated by us (52.5%), in partnership with Shell (25%), and TotalEnergies (22.5%);
- Atapu (Transfer of Rights Agreement), operated by us, and where we hold 100% of the participating interest; and
- Norte de Atapu - Non-contracted area, which belongs to the Brazilian federal government, represented by PPSA.

The participating interest of each party in Atapu joint reservoir are as follows:

Partner	Participating Interest (%)
Petrobras (operator)	65.69
Shell	16.66
TotalEnergies	15.00
Galp	1.70
PPSA	0.95



SÉPIA

The AIP of Sépia accumulations, located in the Santos Basin, was approved by ANP in September 2019 and an amendment was approved by ANP in April 2022 to include the Production Sharing Contract.

The Sépia joint reservoir comprises:

- BM-S-24 (Sépia Leste), concession contract operated by us (80%), in partnership with Galp (20%); and
- Sépia (Transfer of Rights Surplus), operated by us (30%), in partnership with TotalEnergies (28%), Petronas (21%), and QP Brasil (21%); and
- Sépia (Transfer of Rights Agreement), operated by us (where we hold a 100% stake).

The participating interest of each party in the Sépia shared reservoir are as follows:

Partner	Participating Interest (%)
Petrobras (operator)	55.30
TotalEnergies	16.91
Petronas	12.69
QP Brasil	12.69
Galp	2.41

BÚZIOS AND TAMBUATÁ

In November 2019, we, in partnership with CNODC and CNOOC, obtained the rights to explore the surplus volumes of Búzios field.

The Production Sharing Regime in Búzios became effective in September 2021. In 2022, we transferred 5% of our interest in the Transfer of Rights Agreement Surplus, to CNOOC. This transaction was effective as of December 1, 2022. For more information on this transaction, see “Our Business - Exploration and Production - Production - Búzios field” in this annual report.

The participating interest of each party in the Búzios co-participated area (Transfer of Rights Agreement and Transfer of Rights Agreement Surplus) are:

Partner	Participating Interest (%)
Petrobras	88.9891
CNOOC	7.3406
CNODC	3.6703

Búzios has also a reservoir that communicates with Tambuatá field. The unitization agreement was submitted to the ANP and is pending approval.

The participating interest of each party in the Búzios joint reservoir are:

- 99.36% - Búzios field;
- 0.64% - Tambuatá field operated by us with a 100% interest.



TARTARUGA VERDE

The concession contract BM-C-36 has two producing reservoirs: the Tartaruga Verde reservoir, which is totally contained within the ring fence limits, and the Tartaruga Mestiça reservoir, which goes beyond the ring fence limits.

We fully acquired the area of the limits of the concession BM-C-36 in December 2018 through the block named Sudoeste de Tartaruga Verde (Production Sharing Regime). In December 2018, we declared the commerciality of the portion of the Tartaruga Mestiça shared reservoir that is off the limits of the concession BM-C-36, from then on named Tartaruga Verde Sudoeste.

The AIP of the Tartaruga Mestiça shared reservoir was signed between us and PPSA and has been in force since March 2018.

In January 2021, the ANP approved an amendment to the AIP, at which point the following percentages for the division of the deposit (participation interest) became effective:

- Tartaruga Mestiça (Concession Contract): 82.19%
- Tartaruga Verde Sudoeste (Production Sharing Contract): 17.81%

In December 2019, we assigned to Petronas 50% of our participating interest of the Tartaruga Verde Fields (BM-C-36) and Espadarte Module III. We also established a consortium with Petronas, pursuant to which we carry out operator activities in aforementioned operations. The Tartaruga Verde Sudoeste Field, under the Production Sharing Agreement, remained entirely with us.

The participating interest of each party in the reservoirs of Tartaruga Verde and Espadarte Module III are:

Partner	Participating Interest (%)
Petrobras	50%
Petronas	50%

The participating interest of each party in the reservoir of Tartaruga Mestiça shared reservoir:

Partner	Participating Interest (%)
Petrobras	58.905%
Petronas	41.095%

SAPINHOÁ

In 2000, we, YPF Brasil Ltda (YPF) and BG E&P Brasil LTDA (BG), entered into an agreement to create the BM-S-9 consortium, and the BM-S-9 concession contract was signed in September 2020. YPF and BG participating interests were later acquired by Repsol and Shell, respectively.

In September 2011, the consortium informed ANP that Sapinhoá field could extend to a non-contracted area.



The ANP approved the AIP of Sapinhoá Field shared deposit, located in the Santos Basin, in January 2016

In October 2017, the same consortium acquired the rights to produce in the extended area of Entorno de Sapinhoá (composed of Sudoeste de Sapinhoá, Noroeste de Sapinhoá, and Nordeste de Sapinhoá). The Production Sharing Contract related to such area was signed in January 2018.

In March 2018, the ANP approved an amendment of the AIP, with the following participating interests:

Partner	Participating Interest (%)
Petrobras	45.00
Shell	30.00
Repsol Sinopec	25.00

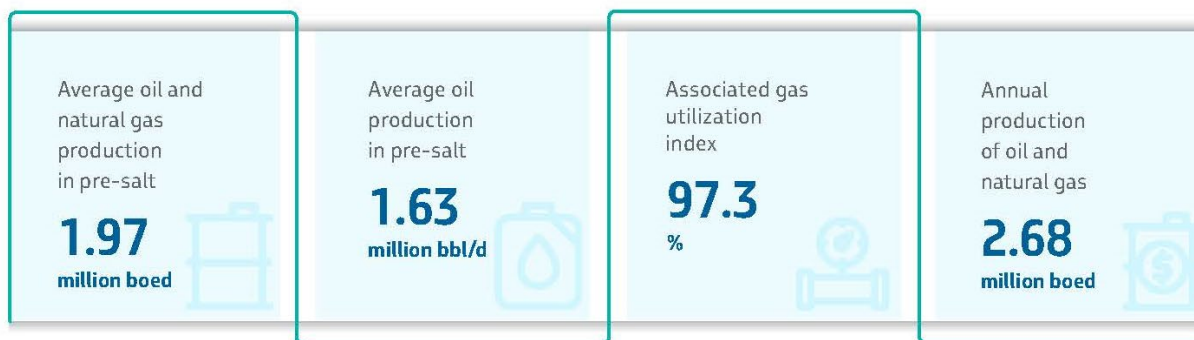


MAIN PRODUCTION FIELDS

Basin	Field	Main source	Production units				Consortium	API gravity	Sulphur content (% wt)	2022 oil production (mmbbl/d)
			Owned	Capacity (mmbbl/d)	Leased	Capacity (mmbbl/d)				
Santos	Tupi	Pre-salt	3	3 units with 150	6	1 unit with 100 1 unit with 120 4 units with 150	Petrobras (67.22%) Shell (23.02%) Petrogal (9.21%) PPSA (0.55%)	29.5 – 32.6	0.29 – 0.40	546
Santos	Búzios	Pre-salt	4	4 units with 150	—	—	Petrobras (89%) CNOOC (7.3%) CNODC (3.7%)	28.5 – 28.8	0.32 – 0.33	515
Campos	Jubarte	Pre-salt	2	2 units with 180	2	1 unit with 100 1 unit with 110	Petrobras (100%)	17.1 – 30.2	0.29 – 0.56	101
Campos	Roncador	Post-salt	4	3 units with 180 1 unit with 190	—	—	Petrobras (75%) Equinor (25%)	17.7 – 28	0.54 – 0.73	91
Campos	Marlim Sul	Post-salt	3	1 unit with 140 1 unit with 180 1 unit with 200	—	—	Petrobras (100%)	17.6 – 24.6	0.59 – 0.73	89
Santos	Sapinhoá	Pre-salt	—	—	2	2 units with 150	Petrobras (45%) Shell (30%) Repsol Sinopec (25%)	29.8	0.4	81
Santos	Atapu	Pre-salt	1	1 unit with 150	—	—	Petrobras (65.69%) Shell (16.66%) TotalEnergies (15%) Galp (1.7%) PPSA (0.95%)	27.7	0.4	68
Santos	Sépia	Pre-salt	---	---	1	1 unit with 180	Petrobras (55.3%) TotalEnergies (16.91%) Petronas (12.69%) QP Brasil (12.69%) Galp (2.41%)	27.4	0.45	68
Campos	Marlim Leste	Post-salt	1	1 unit with 180	1	1 unit with 100	Petrobras (100%)	23.4 – 28.5	0.50 – 0.52	57
Campos	Tartaruga Verde	Post-salt	—	—	1	1 unit with 150	Petrobras (50%) Petronas (50%)	27.5	0.76	34
Other pre and post-salt fields										419
Onshore										66
Shallow waters										7
TOTAL										2,142



2022 PRODUCTION



Búzios field

The Búzios field started production in April 2018 under the Transfer of Right Contract (ToR) and, on December 31, 2022, reached a total accumulated production of 837 mboe under the co-participation agreement.

The Búzios field is an asset with significant reserves, high productivity wells, light oil, low lifting costs and low emissions. It is economically resilient to a low oil price scenario.

In 2019, we acquired 90% of the exploration and production rights of the surplus volume of the ToR of the Búzios field, in a partnership with Brasil Petróleo e Gás Ltda. ("CNOOC") and CNOOC Petroleum Brasil Ltda. ("CNOOC"), each with 5%. This acquisition is consistent with our strategy of focusing our investments in world-class assets.

In March 2020, we entered into the Production Sharing Contract for the surplus of the ToR of the Búzios area, with CNOOC and CNOOC as private partners and Pré-Sal Petróleo S.A (PPSA) as its manager.

The co-participation agreement, which regulates the coexistence of the Transfer of Rights Agreement and Production Sharing Contract for the surplus of the ToR, was approved by ANP on August 12, 2021. As a consequence, we received a compensation of US\$2.9 billion from CNOOC and CNOOC. From September 1, 2021 to November 30, 2022, we had a 92.6594% participation interest in the Búzios/Tambuatã shared reservoir and CNOOC and CNOOC each have a 3.6703% interest.

In September 2021, CNOOC expressed its interest in exercising the option to purchase an additional share of 5% in the Production Sharing Contract of the ToR Agreement Surplus. This purchase option was already provided for in the contract signed with the partners in the bidding of the surplus volume to the Transfer of Rights Agreement of the Búzios field, held on November 6, 2019. The transaction was effective as of December 1, 2022, and participations interest in the Búzios/Tambuatã shared reservoir are:

Partner	Share (%)
Petrobras	88.9891
CNOOC	7.3406
CNOOC	3.6703



In November 2022, we received the amount of R\$10.3 billion, equivalent to US\$1,9 billion based on the PTAX exchange rate of November 24, 2022, related to the assignment of 5% of the CNOOC's participation in the Production Sharing Contract.

There are currently four units in operation in Búzios. A fifth platform, the FPSO Almirante Barroso, is already in its location and expected to start production in the second quarter of 2023. FPSO Almirante Barroso will be the first chartered unit in the Búzios Field, capable of processing 150,000 barrels of crude oil per day.

The FPSO Almirante Tamandaré, a chartered unit that will become the field's sixth production system, had its charter agreement signed in October 2021 and is expected to start production in 2024. In addition, P-78, P-79, P-80, P-82 and P-83, five platforms that we will own and for which construction contracts were signed in 2021 and 2022, are expected to start production in 2025, 2026 and 2027. In June 2022, the Búzios shared reservoir reached a monthly record of the 616 mbb/d production mark due to good operating results.

In January 2023, ANP approved the Búzios Development Plan submitted in 2021 by the consortium, and extended the Tambuatá concession until March 2055.

The average daily production from 2023 to 2027 is expected to be 700.6 mbb/d (our share), with operational expenditures around US\$8.0 billion in the period (our share), including leasing of vessels.

Until October 2022, we had oil shale mining operations in São Mateus do Sul, in the Paraná Basin, in Brazil, in which kerogen (solid organic matter) from these deposits was converted into synthetic oil and gas. This operation was carried out in an integrated facility and its final products were fuel gas, liquefied petroleum gas ("LPG"), shale naphtha and shale fuel oil. We sold this asset in November 2022 as part of our divestment project. The new operator, Forbes and Manhattan, took over the asset, but we continue to operate under a transition agreement that could last up to 15 months from the date of the sale.

For more information on our divestments, see "Portfolio Management" in this annual report.

For more information on our production of crude oil, natural gas, synthetic oil and synthetic gas by geographic area in 2022, 2021 and 2020, see Exhibit 15.3 to this annual report.

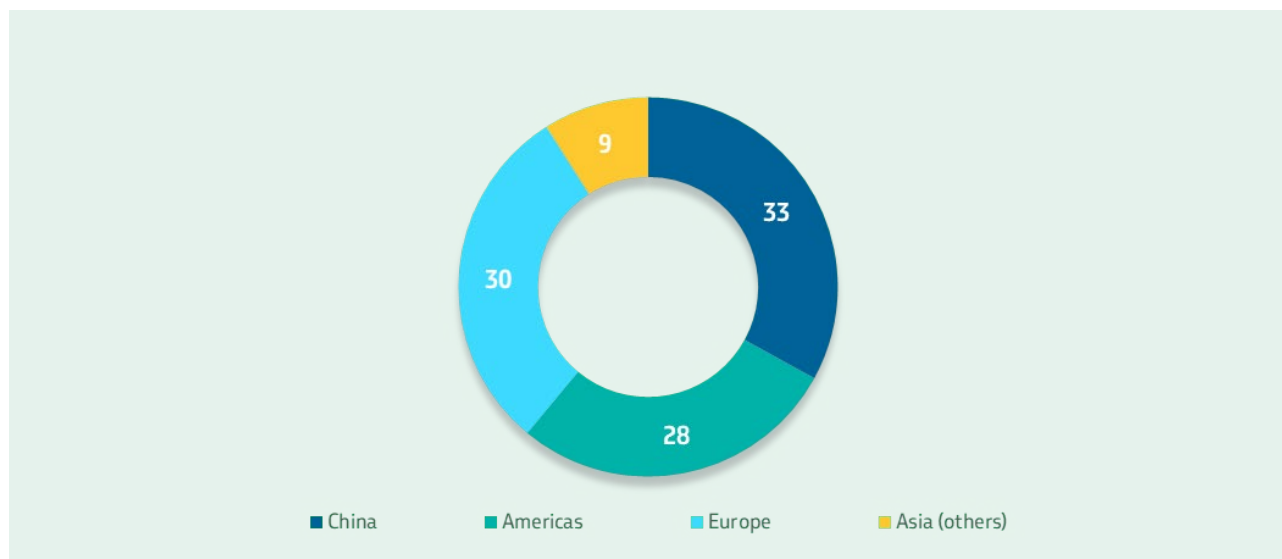


Customers and Competitors

One of our most representative trades in terms of volume and profitability is crude oil. We sell oil through long-term and spot-market contracts, and in 2022, the crude oil volume committed through long-term contracts with fixed quantity subject to final agreement on commercial terms was approximately 141 mbbbl/d.

Our overseas portfolio includes approximately 37 clients, such as refiners that process or have processed Brazilian oils regularly, distributed throughout China, the Americas, Europe, and other countries in Asia.

OIL CLIENTS (% vol)



Fuel oil is one of the most representative types of oil products in terms of volume in exports.

Since 2020 we have been exporting record quantities of fuel oil, essentially low sulfur, at positive crack spreads, meeting the IMO specification with a competitive edge in the global market.

In 2022, we have primarily exported low sulfur fuel oil to several destinations. In response to the conflict between Russia and Ukraine, we have also developed a new marketing approach for our high sulfur fuel oil concentrating the sales in the US Gulf Coast as a replacement for the Russian fuel oil that has been excluded from this market as a result of sanctions imposed on Russia.

Our fuel oil is also available in the major hubs in the market such as Singapore, Arab Gulf (AG), the Mediterranean and Northwest Europe, the west coast of Africa, Panama and the Caribbean. Our counterparties list consists of major companies, trading companies and barging companies. We have sold fuel oil to more than 40 different companies this year.

In the exploration and production industry, we deal with several competitors when we participate in bidding rounds conducted by the ANP.



Reserves



Preparation of reserves estimates

We apply SEC rules (Rule 4-10(a) of Regulation S-X and Subpart 229.1200 of Regulation S-K) for estimating and disclosing oil and natural gas reserve quantities included in this annual report. In accordance with rules, we estimate reserves by considering average prices calculated as the unweighted arithmetic average of the first-day-of-the-month price for each month within the 12-month period prior to the end of the reporting period. For the years ended in 2020 and 2021, reserves volumes of non-traditional reserves such as synthetic oil and gas are also included in this annual report in accordance with SEC regulation. In 2022, we no longer had these quantities due to the sale of Paran  Xisto S.A.

We estimate reserves based on forecasts of field production, which depends on an array of technical information, such as seismic surveys, well logs and tests, rock and fluid samples, and geoscience, engineering and economic data. All reserve estimates involve some degree of uncertainty. The uncertainty depends primarily on the amount of reliable geological and engineering data available at the time of the estimate and the interpretation of that data. Our estimates are thus made using the most reliable data and technology available at the time of the estimate, in accordance with the best practices in the oil and gas industry and SEC rules and regulations.

Thus, the reserve estimation process begins with an initial evaluation of our assets by geophysicists, geologists and engineers. Reserves coordinators and managers responsible for the assets reserves of each business unit in Brazil and the corporate reserves team provides guidance for reserves estimates in compliance with SEC requirements to the asset teams. General managers responsible for the assets reserves of our business units in Brazil and executive officers of companies outside Brazil where we have interests are responsible for regional reserves estimates in compliance with SEC requirements. The corporate reserves team is responsible for consolidating our reserves estimates, standardized measures of discounted net cash flows related to proved oil and gas reserves, and other information related to proved oil and gas reserves. Our reserves estimates are approved by our Board of Executive Officers, which then informs our Board of Directors about the approval. The technical person primarily responsible for overseeing our reserves' preparation is the corporate reserves team manager, who has a degree in engineering and 20 years of experience in the oil and gas industry.

DeGolyer and MacNaughton ("D&M") conducted a reserves evaluation of 97.4% of our net proved crude oil, condensate and natural gas reserves as of December 31, 2022 in Brazil. The amount of reserves reviewed by D&M corresponds to 96.9% of our total proved reserves company-wide on a net equivalent barrel basis. For disclosure describing the qualification of D&M's technical person primarily responsible for overseeing our reserves evaluation, see Exhibit 99.1 to this annual report.

For a description of the risks relating to our reserves and our reserve estimates, see "Risks" in this annual report.

Due to Brazilian regulation, we also estimate our oil and gas reserves pursuant to the ANP and the Society of Petroleum Engineers ("SPE") criteria. The differences between the reserves estimated according to the ANP/SPE definitions and those estimated according to SEC regulation are mainly due to different economic assumptions and the possibility of considering as reserves the volumes expected to be produced beyond the concession contract expiration date in fields in Brazil according to ANP reserves regulation.

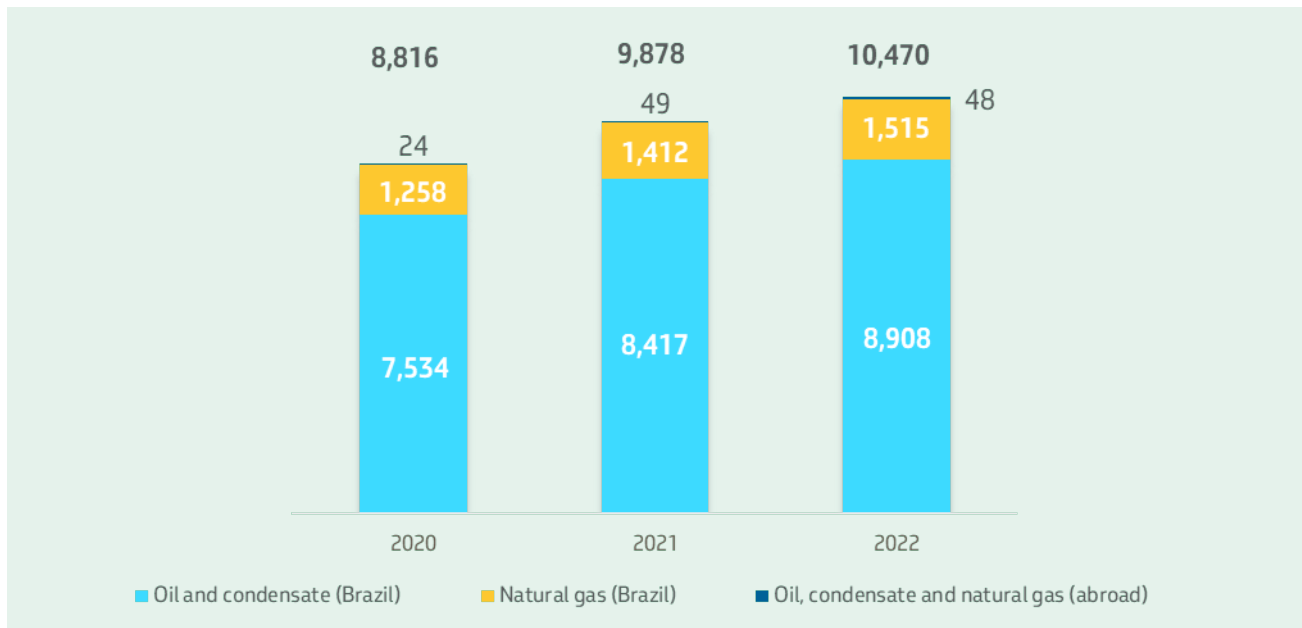


We discover new areas through exploratory activity. Such areas constitute our fields after the declaration of commerciality. We then prepare a development plan for each field. As projects achieve adequate maturity, proved reserves may be reported.

Our fields' proved reserves can be later increased with additional drilling, operational optimizations and improved recovery methods, such as water injection, among other activities.

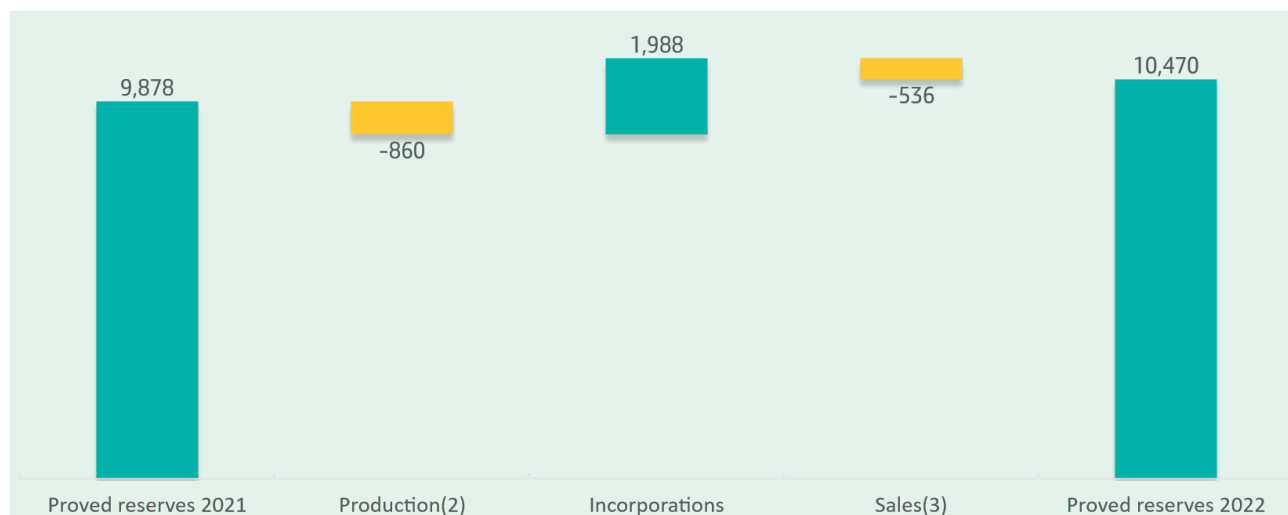
Our net proved oil, condensate and natural gas reserves as of December 31, 2022 were estimated at 10,470 million boe. This estimate includes our interest in our equity method investees, which represents 0.2% of our net reserves.

PROVED RESERVES ⁽¹⁾ (million boe)



(1) Apparent differences in the sum of the numbers are due to rounding.

Oil and gas reserves volumes change yearly. Quantities included in our previous year's reserves that are produced during the year are no longer reserves at year-end. Other factors, such as reservoir performance, revisions in oil prices, discoveries, extensions, purchases and sales of assets that occurred during the year, also influence year-end reserves quantities.

**PROVED RESERVES ⁽¹⁾** (million boe)

(1) Apparent differences in the sum of the numbers are due to rounding.

(2) The 860 million boe production volume is the net volume withdrawn from our proved reserves. It therefore excludes NGL, as we estimate our oil and gas reserves at a reference point located prior to the gas processing plants, except for the United States of America and Argentina. The production does not include injected gas volumes, production of EWTs in exploratory blocks and production in Bolivia, since Bolivian reserves are not included in our reserves due to restrictions determined by Bolivian Constitution.

(3) Includes the effects of the transfer of interests of 5% of the Production Sharing Contract of the Surplus Volume of the Transfer of Rights of the Búzios field and the write-offs related to the Co-Participation Agreements of the Atapu and Sepia fields.

In 2022, we incorporated 1,988 million boe of proved reserves, including:

- addition of 1,279 million boe due to new projects, mainly in the Búzios field and in other fields in the Santos and Campos Basins; and
- addition of 709 million boe arising from revisions, mainly due to good performance of reservoirs in the pre-salt layer of the Santos Basin and to the contract term extension of the Rio Urucu and Leste do Urucu fields. We did not have relevant changes related to the variation in the oil price.

The addition in our proved reserves were partially offset by the reduction of 536 million boe, due to the effects of the transfer of interests of 5% of the surplus volume of the Transfer of Rights of the Búzios field, of the write-offs related to the Co-Participation Agreements of the Atapu and Sepia fields and of sales of properties in mature fields.

2022 RESERVES INDEXES



Proved Undeveloped Reserves

As of December 31, 2022, our proved undeveloped reserves were estimated at 5,347 million boe, a net increase of 28% when compared to 2021 year-end.

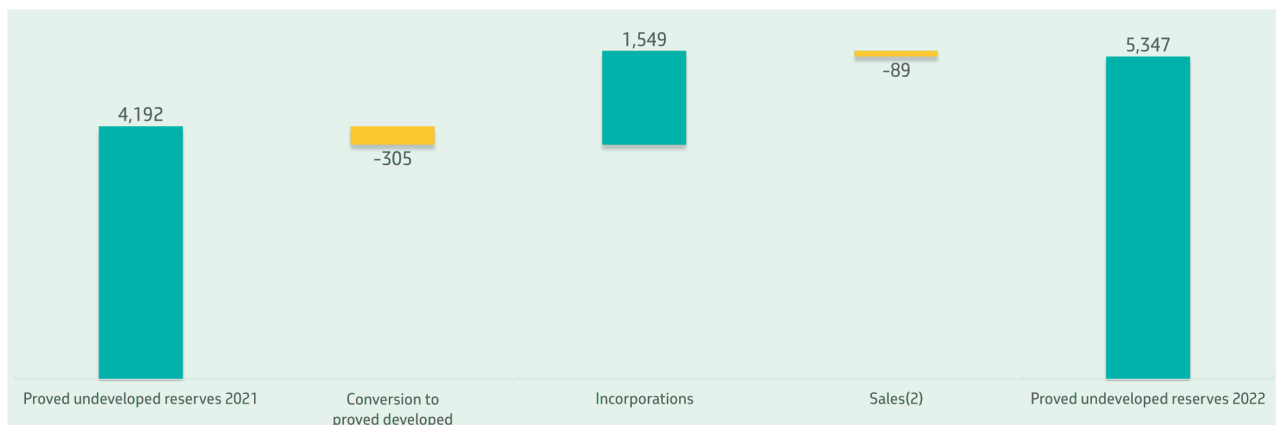
In 2022, we incorporated 1,549 million boe of proved undeveloped reserves, including:

- addition of 1,238 million boe due to new projects, mainly in the Búzios field and in other fields in the Santos and Campos Basins; and
- addition of 311 million boe arising from revisions, mainly due to good performance and increased production experience in reservoirs in the pre-salt layer of the Santos Basin.

The additions in our proved undeveloped reserves were partially offset by:

- the conversion of 305 million boe of proved undeveloped reserves to proved developed reserves, mainly as a result of the FPSO Guanabara platform start-up in the Santos Basin and offshore drilling and tieback operations; and
- the reduction of 89 million boe, due to the effects of the transfer of interests of 5% of the surplus volume of the Transfer of Rights of the Búzios field, of the write-offs related to the Co-Participation Agreements of the Atapu and Sepia fields and of sales of properties in mature fields.

CHANGES IN PROVED UNDEVELOPED RESERVES ⁽¹⁾ (million boe)



(1) Apparent differences in the sum of the numbers are due to rounding.

(2) Includes the effects of the write-offs related to the Co-Participation Agreements of Atapu and Sepia fields.

As of December 31, 2022, 25% (1,349 million boe) of our proved undeveloped reserves have remained undeveloped for five years or more, mainly due to the inherent complexity of ultra-deepwater development projects in giant fields, particularly in the Santos and Campos Basins, in which we are investing in the required infrastructure.

In 2022, we invested a total of US\$6.9 billion in development projects, of which 99% was invested in Brazil.

Most of our investments relate to long-term development projects, which are developed in phases due to the large volumes and extensions involved, the deep and ultra-deepwater infrastructure and the production resources complexity. In these cases, the full development of the reserves related to these investments may exceed five years.

For further information on our reserves, see the unaudited section “Supplementary Information on Oil and Gas Exploration and Production” in our audited consolidated financial statements.



Oil and Gas Additional Information

The following tables show (i) the number of gross and net productive oil and natural gas wells and (ii) total gross and net developed and undeveloped oil and natural gas acreage in which we had working interests as of December 31, 2022. A gross well or acre is a well or acre where we own a working interest, while the number of net wells or acres is the sum of fractional working interests in gross wells or acres. We do not have any material acreage expiring before 2025.

GROSS AND NET PRODUCTIVE WELLS

	As of December 31, 2022							
	Oil		Natural Gas		Synthetic Oil		Synthetic gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Consolidated subsidiaries								
Brazil	4,609	4,544	133	124	0	0	0	0
South America (outside of Brazil)	52	22	209	100	0	0	0	0
Total consolidated	4,661	4,566	342	224	0	0	0	0
Equity method investees								
South America (outside of Brazil)	0	0	0	0	0	0	0	0
North America	43	3.43	1	0.06	0	0	0	0
Total equity method investees	43	3.43	1	0.06	0	0	0	0
TOTAL GROSS AND NET PRODUCTIVE WELLS	4,704	4,569	343	224	0	0	0	0

GROSS AND NET DEVELOPED AND UNDEVELOPED ACREAGE (in acres)

	As of December 31, 2022			
	Developed acreage		Undeveloped acreage	
	Gross	Net	Gross	Net
Consolidated				
Brazil	3,881,109.5	3,413,346.7	795,015.4	672,729.1
South America (outside of Brazil)	3,264.0	1,096.7	1,470.0	493.9
Total consolidated	3,884,373.5	3,414,443.4	796,485.4	673,223.0
Equity method investees				
North America	30,764.0	2,791.9	121,030.0	12,367.0
Total equity method investees	30,764.0	2,791.9	121,030.0	12,367.0
TOTAL GROSS AND NET ACREAGE	3,915,137.5	3,417,235.3	917,515.4	685,590.0



For “net” figures, we used our working interest held on December 31, 2022. Gross and net developed and undeveloped acreage presented in this table does not include exploratory areas.

The following table sets forth the number of net productive and dry exploratory and development wells drilled in the last three years.

NET PRODUCTIVE AND DRY EXPLORATORY AND DEVELOPMENT WELLS

	2022	2021	2020
Net productive exploratory wells drilled			
Consolidated subsidiaries			
Brazil	1.9	3.4	4.6
South America (outside of Brazil)	0.78	0.32	0
Total consolidated subsidiaries	2.68	3.72	4.6
Equity method investees			
North America ⁽²⁾	—	—	—
Total productive exploratory wells drilled	2.68	3.72	4.6
Net dry exploratory wells drilled			
Consolidated subsidiaries			
Brazil	0.45	0.4	1.5
South America (outside of Brazil)	—	—	—
Total consolidated subsidiaries	0.45	0.4	1.5
Equity method investees			
North America ⁽²⁾	—	—	—
Total dry exploratory wells drilled	0.45	0.4	1.5
Total number of net exploratory wells drilled	3.13	4.12	6.1
Net productive development wells drilled			
Consolidated subsidiaries			
Brazil	41.66	26.23	79.0
South America (outside of Brazil)	3.02	4.7	0.336
Total consolidated subsidiaries	44.68	30.9	79.3
Equity method investees			
North America ⁽²⁾	0.0811	0.2042	0.306
Total productive development wells drilled	44.76	31.1	79.64
Net dry development wells drilled			
Consolidated subsidiaries			



	2022	2021	2020
Brazil	—	—	—
South America (outside of Brazil)	—	—	—
Total consolidated subsidiaries	—	—	—
Equity method investees			
North America ⁽²⁾	—	—	—
Total dry development wells drilled	—	—	—
TOTAL NUMBER OF NET DEVELOPMENT WELLS DRILLED	44.76	31.1	79.64

(1) Due to the joint venture formed by PAI and Murphy, information regarding proved reserves, acreage and wells in the United States are reported in the "equity method investees" section. For "net" figures, we used the working interest held as of December 31, 2022.

The following table summarizes the number of wells in the process of being drilled as of December 31, 2022.

NUMBER OF WELLS BEING DRILLED AS OF DECEMBER 31, 2022

	Gross	Net
Consolidated Subsidiaries		
Brazil	8.0	6.58
International		
South America (outside of Brazil)	3	1.1164
North America	1	0.023
TOTAL WELLS DRILLING	12	7.7194

The following table sets forth our average sales prices and average production costs by geographic area of production and by product type for the last three years.

AVERAGE SALES PRICES AND AVERAGE PRODUCTION COSTS (US\$)

	South America		Total
	Brazil	South America (outside of Brazil)	
2022			
Average sales prices			
Oil and NGL, per barrel	95.91	51.38	95.88
Natural gas, per thousand cubic feet ⁽¹⁾	11.54	4.27	11.24
Synthetic oil, per barrel	87.76	-	87.76



Synthetic gas, per thousand cubic feet	8.80	-	8.80
Average production costs, per barrel – total	5.68	6.33	5.68

2021**Average sales prices**

Oil and NGL, per barrel	67.48	34.43	67.45
Natural gas, per thousand cubic feet ⁽¹⁾	7.61	3.21	7.43
Synthetic oil, per barrel	57.46	-	57.46
Synthetic gas, per thousand cubic feet	5.20	-	5.20
Average production costs, per barrel – total	3.66	5.05	3.68

2020**Average sales prices**

Oil and NGL, per barrel	39.96	36.89	39.95
Natural gas, per thousand cubic feet ⁽¹⁾	5.63	3.65	5.47
Synthetic oil, per barrel	33.2	—	33.2
Synthetic gas, per thousand cubic feet	2.52	—	2.52
Average production costs, per barrel – total	4.11	4.35	4.11

(1) The volumes of natural gas used in the calculation of this table are the production volumes of natural gas available for sale and are also shown in the production table above. Natural gas amounts were converted from bbl to cubic feet in accordance with the following scale: one bbl = six cubic feet.

For more information about our capitalized exploration costs, see Note 26 to our audited consolidated financial statements and the unaudited supplementary information on oil and gas exploration and production contained therein.



Refining, Transportation and Marketing

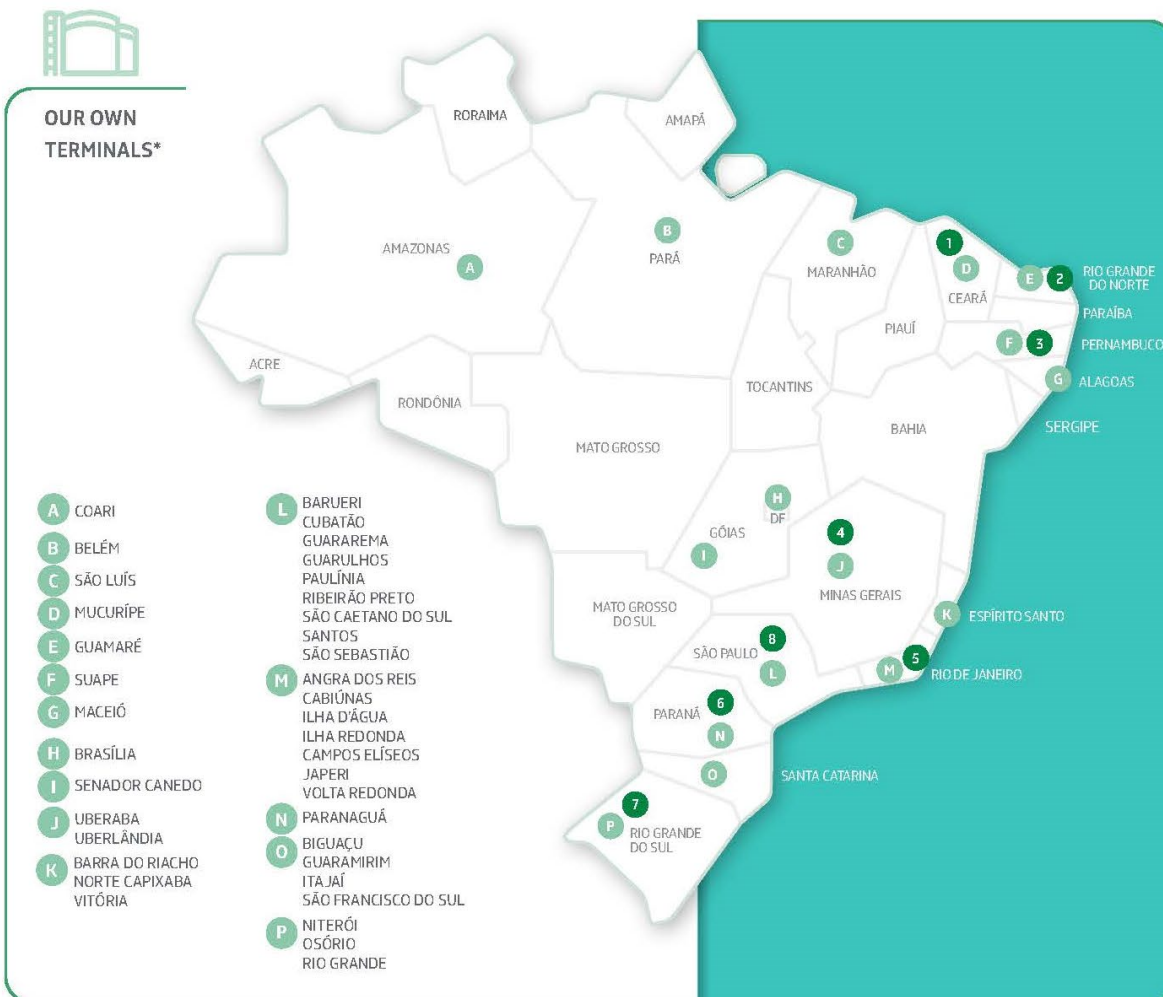
We processed 70% of all our oil production, which includes oil and LNG and excludes Natural Gasoline (“C5+”), in our refineries. In 2022, we produced 1,743 mbb/d of oil products, from the processing of Brazilian oil (90% of feedstock) and imported oil (10% of feedstock). We traded these oil products both in Brazil and abroad.

Furthermore, we operate in the petrochemical sector with interests in companies, as well as in the production of biofuels through our wholly owned subsidiary, Petrobras Biocombustível S.A. (“PBIO”).

Overview

We own and operate 11 refineries in Brazil, with a total net crude distillation capacity of 1,851 mbb/d, disregarding REMAN, whose sale was completed in November 2022. This represents 84% of all refining capacity in Brazil, according to the 2022 statistical yearbook published by the ANP. Until November 2022, we also owned and operated REMAN refinery with a capacity of 46 mbb/d. Most of our refineries are located near our crude oil pipelines, storage facilities, refined product pipelines, and major petrochemical facilities, easing access to crude oil supplies and end-users.

We also operate a large and complex infrastructure of pipelines and terminals, and a shipping fleet to transport oil products and crude oil to Brazilian and global markets. We operate 38 of our own terminals through our wholly-owned subsidiary Petrobras Transporte S.A. (“Transpetro”), and we have contracts for the use of some of the storage capacity of 19 third-party terminals.



Start Operation Crude Distillation Capacity API Gravity

* Operated by Tanspetro, a 100% Petrobras subsidiary. Tanspetro also operates the following third-party terminals: TEMADRE (Madre de Deus), Candeias, Jequié, Itabuna, TERG (Rio Grande - Braskem), TESC (Santa Clara - Braskem), Manaus and Aracaju. ** Guamaré Industrial Asset (former Potiguar Clara Camarão Refinery).



Our Refining, Transportation and Marketing also include activities such as (i) petrochemicals and (ii) production of biofuels.

In June 2019, we signed a commitment with CADE which consolidates our understanding on the execution of divestment of refining assets in Brazil. The purpose of the agreement is to provide competitive conditions, encouraging new economic agents to enter the downstream market, as well as suspending CADE's court administrative investigation related to the alleged abuse of our dominant position in the refining segment. The agreement considered the divestment of approximately 50% of our refining capacity as of the date of the agreement, which at such time comprised seven refining units (REMAN, LUBNOR, RNEST, RLAM, REGAP, REPAR and REFAP) and a shale industrialization unit (SIX).

As of December 31, 2022, we had already divested from the RLAM and REMAN refineries and the shale unit SIX.

In January 2022, we signed an agreement for the sale of our stake in the Potiguar Cluster, which includes, among its assets, the AIG (Former RPCC). Until the conditions precedent are met, and the transaction is closed, we will continue to operate the assets.

In May 2022, we signed an agreement with Grepar Participações Ltda, for the sale of our shares of a new company that will be formed by LUBNOR and its associated logistics. The transaction is subject to the satisfaction of conditions precedent, such as approval by the CADE. Until the conditions precedent are met and the transaction is closed, we will maintain the regular operations of the refinery and all associated assets.

In June 2022 we announced the start of a new divestment process for the REPAR, RNEST and REFAP refineries.

In November 2022, we ended REGAP's divestment bidding process, and the sale was not concluded since the terms of the presented proposal did not meet our economic and financial evaluation.

For more information on our agreement with CADE regarding our divestments in refining assets, see "Risks – Risk Factors – Operational Risks" and "Portfolio Management" in this annual report.

For more information on the progress of our divestments, see "Portfolio Management" in this annual report.



Main Assets

	2022	2021	2020
Transport and storage			
Pipelines (km)	7,768	7,719	7,719
Own	6,861	6,812	7,499
Third parties ⁽¹⁾	907	907	220
Vessel fleet (owned and chartered)	110	123	131
Own	26	26	30
Chartered	84	97	101
Terminals	65	59	61
Own	38	40	44
Third parties ⁽²⁾	27	19	17
Refining			
Refineries	11	12	13
Brazil	11	12	13
Abroad	-	-	-
Nominal installed capacity (mmbbl/d)	1,851	1,897	2,176
Brazil	1,851	1,897	2,176
Abroad	-	-	-

(1) Third party pipelines that have existing Transpetro transport contracts.

(2) Third party terminals that have existing contracts for the use of the storage service, including eight terminals operated by Transpetro.



RefTOP - World Class Refining program

In May 2021, we launched the RefTOP Program - World Class Refining – with the objective of being among the best oil refining companies in the world. The RefTOP Program consists of a set of initiatives that seek to improve reliability, productivity, operational and energy performance, comprising five refineries (REDUC, RECAP, REPLAN, REVAP and RPBC).

In 2022, eight of our 11 refineries (including REMAN) have reached Solomon's first quartile for North American Operational Availability. We have been focusing on analytics solutions, consistently promoting the integration of maintenance, inspection, engineering, and operation systems, allowing for more accurate diagnoses, less time for decision-making and reduction of equipment failures through the prediction of anomalous behavior. At REPLAN, we completed the connection to the high voltage electrical grid, improving the reliability of its electrical system.

We improved our Digital Twins models, based on Process Simulation Software, to account for all important process and energy variables, and economic aspects. The adherence of our refining operations to these models increased from 82% in 2020 to 91% in 2022, leading to higher margins.

At the five refineries of the Program (RPBC, RECAP, REPLAN, REVAP and REDUC), we implemented new projects and a series of OPEX opportunities to increase energy efficiency, which led to a consistent reduction in GHG emissions intensity, energy intensity, flaring emissions, and natural gas consumption. The GHG emissions intensity has fallen from 38.2 kgCO_{2e}/CWT in 2021 to 36.6 kgCO_{2e}/CWT in 2022, while energy intensity has decreased from 109.7 in 2021 to 105.4 in 2022. Our natural gas consumption has been consistently decreasing in all our refineries: the RefTOP Program contributed to reducing our consumption by 1 million m³/day or 6% in 2022 compared to the previous year while maintaining production levels. Our targets for refining are 36kgCO_{2e}/CWT and 89, respectively, for GHG emissions and energy intensity by 2025.

We expect to invest approximately US\$0.8 billion, included in the US\$9.2 billion of investments contemplated for Refining, Gas & Power in the Strategic Plan.

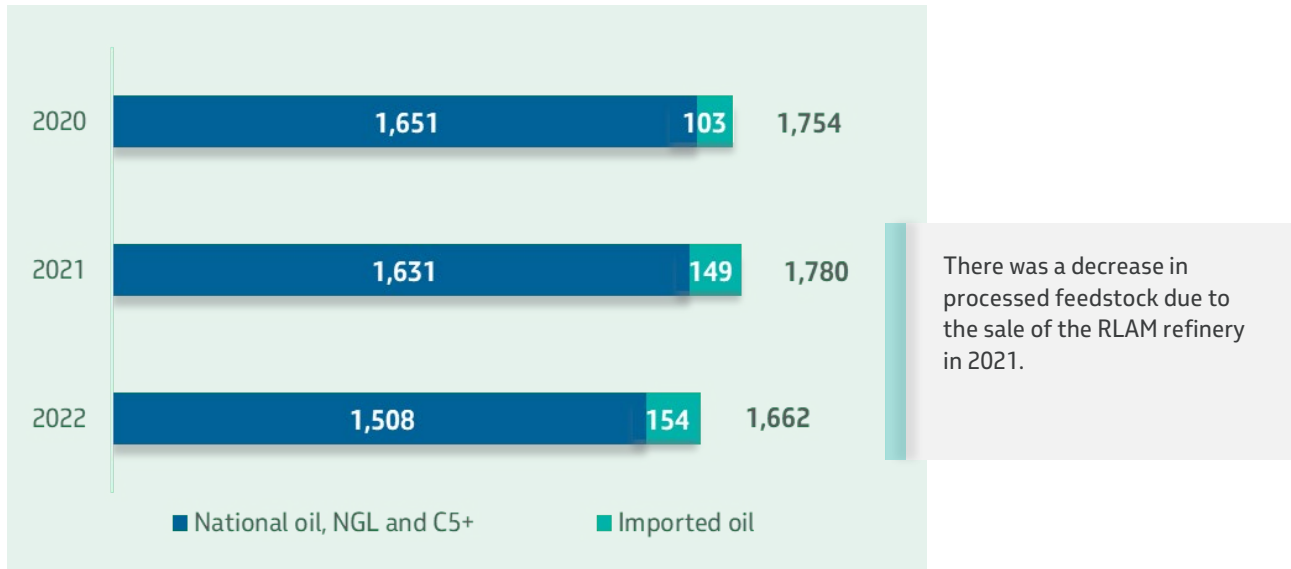
Refining

We serve our oil products clients in Brazil through a coordinated combination of oil processing, importing and exporting that according to our pricing policy seeks to optimize our margins, considering different opportunity costs of domestic and imported oil, oil products in the different markets, as well as the costs of related transport, storage and processing.

In 2022, we processed 1,662 mbbbl/d of oil in our 11 refineries and REMAN (until its sale in November 2022). The following graphs show the processed feedstock and the performance of our refineries.



PROCESSED FEEDSTOCK (mmbbl/d)



Over the past 13 years, we have made substantial investments in our existing refineries to increase our capacity to economically process heavier Brazilian crude oil, improve the quality of our oil products to meet stricter regulatory standards, modernize our refineries, and reduce the environmental impact of our refining operations.

One such investment is the implementation of a new diesel hydrotreatment unit at the Paulínia Refinery (“REPLAN”), currently in the process of contracting and assembling equipment and installations.

With this project, REPLAN will be able to produce 100% ultra-low sulfur diesel (ULSD or S-10) and increase the production of jet fuel, aiming to meet the specification and quantities demanded by the future market, in an economical way, with operational safety and lower impacts to the environment.

The new diesel hydrotreatment unit will have a production capacity of 63 mmbbl/d of S-10 and is scheduled to start operation in 2025, in line with the Strategic Plan.

The following table sets out the performance of our refineries.



PERFORMANCE OF REFINERIES

Refinery	Crude distillation capacity (mbl/d)	Nelson Complexity Index	Average throughput ⁽¹⁾ (mbl/d)			Operational availability (%)			Total Utilization rate ⁽⁴⁾ (%)		
	2022	2022	2022	2021	2020	2022	2021	2020	2022	2021	2020
LUBNOR	8	3.5	8	8	8	97.6	97.8	97.3	106.7	94.5	103.4
RECAP	57	6.8	58	54	39	97.0	96.4	96.8	102.9	95.5	68.5
REDUC	239	15.4	205	186	178	96.0	96.4	96.8	86.8	79.0	76.2
REFAP	201	6.0	155	145	129	92.9	95.8	97.6	82.0	75.5	67.3
REGAP	157	7.9	146	134	123	97.3	96.5	97.4	94.7	87.4	79.3
REMAN	46 ⁽²⁾	—	28 ⁽²⁾	30	27	98.0	98.0	97.9	67.3	66.2	59.3
REPAR	208	7.8	157	181	179	97.0	97.7	97.8	77.9	87.8	86.4
REPLAN	434	6.9	376	355	306	97.5	96.8	96.8	87.3	82.5	71.1
REVAP	252	8.6	227	227	216	96.9	96.8	97.1	91.6	92.1	87.0
RLAM	—	—	—	179 ⁽⁵⁾	239	—	95.1	94.1	—	72.1	88.8
RPBC	170	10.2	173	149	143	96.9	95.3	96.2	102.7	88.2	84.5
AIG (Former RPCC)	38	1.0	24	29	29	—	—	—	63.7	—	—
RNEST	88	10.7	61	63	93	84.9	92.2	96.8	83.0	78.9	115.3
Average crude oil throughput	—	—	1,619	1,740	1,709	—	—	—	—	—	—
Average NGL throughput	—	—	43	40	45	—	—	—	—	—	—
Average throughput	—	—	1,662	1,780	1,754	—	—	—	—	—	—
Crude Distillation capacity	1,851 ⁽³⁾	—	—	—	—	—	—	—	—	—	—

(1) Includes oil and NGL processing (fresh feedstock).

(2) Average until November 2022.

(3) As of December 31, 2022 (does not include RLAM/REMAN).

(4) Total utilization rate includes the entire load in the distillation units, consisting of oil, C5 + and reprocessing (of oil and other products).

(5) Average until November 2021



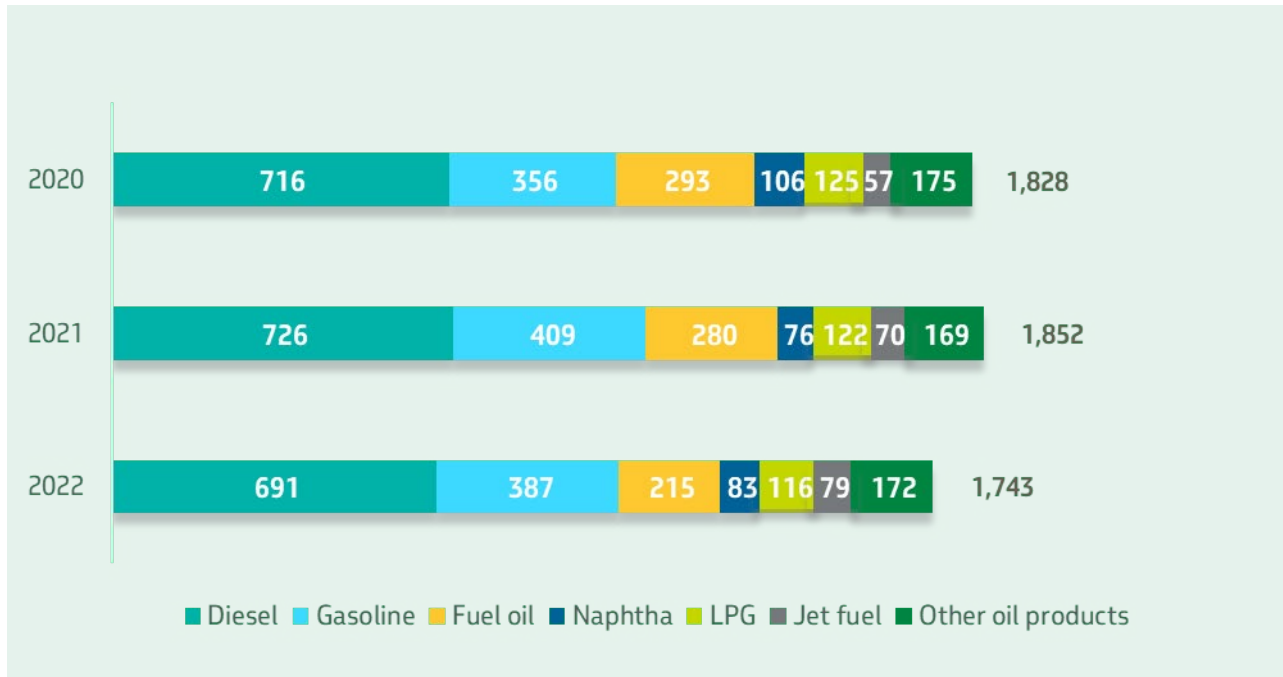
MAIN PRODUCTS, MARKETS AND STORAGE CAPACITY OF OUR REFINERIES

Refinery	Main products	Main markets in Brazil	Storage capacity (mbbl)	
			Crude oil	Oil products
LUBNOR	Asphalt (48%); Fuel Oil (35%); Lubricants (11%); Diesel (6%)	Lubricant Oil – sold to distributors and marketed nationwide 0.3 0.6 Asphalts – states in Northern and Northeastern Brazil and Minas Gerais	0.3	0.4
RECAP	Diesel (42%); Gasoline (30%); LPG (8%)	Part of the São Paulo metro region and petrochemical plants	0.6	1.7
REDUC	Diesel (25%); Gasoline (14%); Fuel Oil (20%); LPG (8%); Jet Fuel (7%); Naphtha (11%)	Rio de Janeiro, São Paulo, Espírito Santo, Minas Gerais, Bahia, Ceará, Paraná, Rio Grande do Sul	5.9	11.0
REFAP	Diesel (49%); Gasoline (22%); Naphtha (9%); LPG (7%)	Rio Grande do Sul, part of Santa Catarina and Paraná, in addition to other states by means of coastal shipping	3.1	5.7
REGAP	Diesel (45%); Gasoline (26%); Jet Fuel (6%); LPG (8%)	Currently supplies the state of Minas Gerais and, occasionally, the state of Espírito Santo. It can also expand its reach to the Rio de Janeiro market	2.0	5.4
REMAN ⁽¹⁾	Gasoline (34%); Diesel (24%); Jet Fuel (8%); Fuel Oil (23%)	Amazonas, Acre, Roraima, Rondônia, Amapá and Pará	0.8	1.7
REPAR	Diesel (44%); Gasoline (30%); LPG (9%)	Paraná, Santa Catarina, Southern São Paulo and Mato Grosso do Sul	3.3	5.8
REPLAN	Diesel (44%); Gasoline (25%); LPG (7%); Jet Fuel (4%)	Countryside of the state of São Paulo, Mato Grosso, Mato Grosso do Sul, Rondônia and Acre, Southern Minas Gerais and the so-called “Triângulo Mineiro”, Goiás, Brasília, and Tocantins	5.6	11.4
REVAP	Diesel (29%); Gasoline (19%); Naphtha (12%); Jet Fuel (11%); Fuel Oil (15%)	Paraíba Valley, the northern coast of the state of São Paulo, southern Minas Gerais, the São Paulo metro region, Midwestern Brazil and Southern Rio de Janeiro. It supplies 80% of the demand for jet fuel in the São Paulo state market and 100% of the Guarulhos International Airport	4.8	10.5
RPBC	Diesel (48%); Gasoline (28%); Fuel Oil (10%); LPG (5%)	Most products are intended for São Paulo’s capital. A portion is also shipped to Santos and to the Northern, Northeastern, and Southern Brazilian regions	2.6	7.1
AIG (Former RPCC)	Fuel Oil (81%); Diesel (8%); Jet Fuel (11%)	Rio Grande do Norte and southern Ceará	0.12	0.12
RNEST	Diesel (53%); Naphtha (9%); Coke (6%); Fuel Oil (30%)	North and Northeast of Brazil	— ⁽²⁾	5.6

(1) REMAN was divested on November 30, 2022.

(2) Crude oil is supplied directly to RNEST’s tank farms of 4.2 mbbl, with no external crude oil storage.

With respect to oil products, we produced 1,743 mbbl/d of oil products in 2022, as shown in the following graphic:

**OIL PRODUCTS PRODUCTION** (mmbbl/d)

In 2022 there was a decrease in the production of oil products due to the divestment of RLAM in November 2021, affecting mainly diesel, gasoline, and LPG. The utilization factor of the refining system increased when compared to 2021.

Despite the 4.9% reduction in the total diesel production, in 2022, our refineries broke an internal production record of S-10 Diesel low-sulfur diesel producing 22.4 million m³ of the product, a 5% higher volume than in 2021, when production reached 21.2 million m³.

The S-10 Diesel records follow the evolution of heavy-duty and utility vehicle engines powered by diesel, which are responsible for most of the goods circulated in Brazil. There are two types of road diesel in Brazil, the S-500 and the S-10, with the former being used by vehicles manufactured prior to 2012.

In 2022, there was an increase in jet kerosene production following the market recovery after the impact on sales caused by the Covid-19 pandemic.

Naphtha production increased in 2022, in contrast to the decrease in gasoline production.

Ongoing undertakings

Located in southeastern Brazil (Itaboraí, in the state of Rio de Janeiro), the GASLUB Cluster comprises the GASLUB Itaboraí UPGNs and other underlying utilities. In 2021, several systems, mainly in utilities, have been authorized to work and be tested for operation. In 2022, the Route 3 gas pipeline was successfully completed, and the utility systems have progressed to an advanced stage of testing and pre-operation, with 87% completion. We terminated the agreement with the contractor responsible for the construction of the natural gas processing plant, which led to a delay in the works. Now the unit start-up is expected in 2024. Studies concerning new project alternatives for the GASLUB Cluster are in progress. These include integration with the refinery operating in REDUC to produce basic lubricants G-II and high-quality fuels and the construction of a natural gas thermoelectric power plant. In these studies, conceptual projects were started and are ongoing.



With respect to the expansion of production capacity of ultra-low sulfur diesel (ULSD or S-10), in addition to the new hydrotreatment unit at the REPLAN, with an additional production capacity of 63 mbbbl/d of ULSD, we also have an ongoing investment at the REDUC. This investment is focused on modifications to an existing diesel hydrotreating unit (U-2700) in order to improve the S-10 production in 28 mbbbl/d, meeting market specifications and environmental requirements. This project is currently in its execution phase, expected to start in 2023. A very similar investment is planned for the REVAP, with modifications on an existing diesel hydrotreating unit (U-272D) in order to improve the S-10 production in 41 mbbbl/d. This project is currently developing basic engineering and is expected to start in 2025.

Our Strategic Plan has included additional investments in RNEST, GASLUB (operational integration of REDUC and GASLUB, which will increase S-10 production by 76 mbbbl/d) and studies to evaluate a new modification in hydrotreating unit at the REGAP and two new hydrotreating units (REPAR, REFAP). See “Strategic Plan” in this annual report.

Logistics

Oil and oil products logistics connect the oil production systems to refineries and markets seeking to maximize the value of oil refining operations and the commercialization of oil and oil products in Brazil and abroad through an integrated system of logistics planning, sales, and operations and assets, as depicted below.



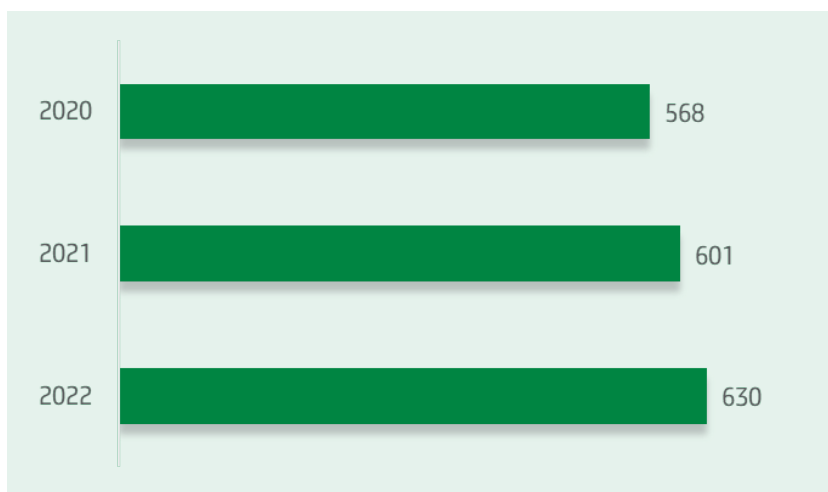
We directly manage some assets of this system, while we contract others with our wholly owned subsidiary Transpetro.

Transpetro is a logistics company that performs operations for storing and handling oil and its derivatives, ethanol, gas, and biofuels for the supply of Brazilian industries, thermoelectric plants and oil refineries, including import and export activities.



The terminals and pipelines operation is an important link in our supply chain. The oil is transported from the production fields to Transpetro terminals by pipeline or ship. From there, it is transported to refineries or for export. After refining, the oil products are drained through pipelines to the terminals to be delivered to fuel distribution companies, which supply the Brazilian and global markets. This operation covers a 7,768 km pipeline network and 46 terminals, of which 25 are marine and are 21 onshore. Transpetro operates terminals owned by Petrobras or third parties, with a total nominal storage capacity of 10.75 million m³. In 2022, Transpetro handled 630.3 million m³ of oil, oil products and biofuels, totaling 5,984 operations with tankers and oil barges.

THROUGHPUT OF TERMINALS AND PIPELINES (million m³)



In 2022, there was an increase in the movement of products by the modals operated by Transpetro compared to 2021. This increase reflects Brazil's 2.52 % growth in total fuel demand in 2022, brought about by the economic recovery, the resumption of commercial flights, the increase in agribusiness, and the federal (PIS/Cofins and Cide) and state (ICMS) tax changes.

Our refineries in Brazil had a high level of production of derivatives, with FUT (utilization factor) reaching 97% in June 2022. These refineries also had a higher level of imports, which positively impacted the volumes handled in our pipelines and terminals.

We are constantly looking for excellence in the integrity of our assets and operational efficiency.

In 2022, the main Pipeline Integrity Indicator ("ICID") reached, for the second consecutive year, the target established in the Transpetro Strategic Initiatives of 99.2%, with the ICID result of 99.6%. The Consolidated Terminal Integrity Indicator ("ICIT") had its average raised from 95.1% in 2021 to 98.9% in 2022. This represents a significant increase in safety at our facilities and the prospect of extending the operating life of our assets.

In addition, we have created a Ship Integrity Management Program that aims to bring to Transpetro's fleet the levels of excellence already achieved in pipelines and terminals. In addition, seeking to improve operational efficiency and safety, we conduct actions aimed at promoting increased productivity, such as the use of wearable devices for inspection and maintenance activities, and the evaluation of technologies to reduce human exposure in diving activities that improve safety in our operations, such as ongoing tests for the use of mini ROVs (Remotely Operated Vehicles) in visual inspection activities of underwater structures.



Fuel theft in onshore pipelines

2022 was marked by the integration between Petrobras and Transpetro in the fight against pipeline fuel theft, also known as illegal tapping. This partnership resulted in actions that ensured our commitment to life, the environment, and operational safety.

In 2022, we strengthened the relationship with Brazil's public security forces, tightened ties with neighboring communities in our pipeline bands by expanding awareness and social projects and invested in technological tools improvement, aiming at greater effectiveness in avoiding illegal tapping.

These actions enabled, over the last year, a 43% reduction in the number of cases compared to the previous year, a drop from 102 occurrences in 2021 to 58 occurrences in 2022. We also reduce the number of occurrences in urban areas, minimizing risks to the population. Another achievement was the reduction of around 50% of the stolen volume.

Finally, the accomplishments denoted by the results confirmed the reduction of risk associated with illegal tapping.

TERMINALS

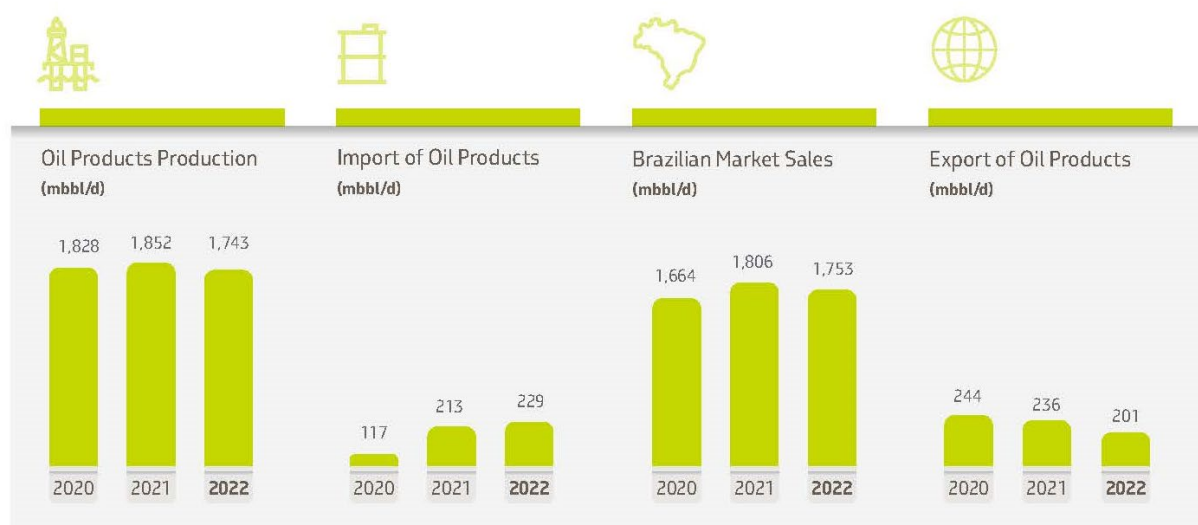
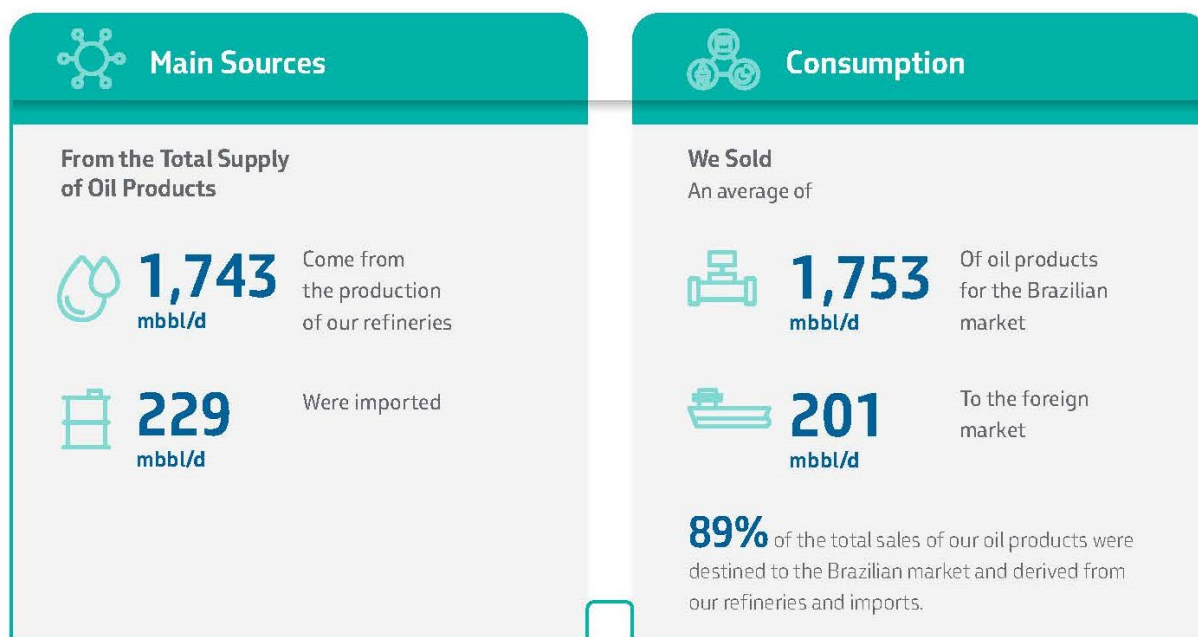
Location	Terminal	Type	Nominal capacity (m ³)
Alagoas	Maceió	Marine	58,266
Amazonas	Coari	Marine	86,147
Ceará	Mucuripe	Marine	N/A ⁽¹⁾
Espírito Santo	Barra do Riacho	Marine	107,834
	Norte Capixaba	Marine	85,205
	Vitória	Marine	10,710
Distrito Federal	Brasília	Onshore	72,308
Goiás	Senador Canedo	Onshore	126,573
Maranhão	São Luís	Marine	70,925
Minas Gerais	Uberaba	Onshore	54,812
	Uberlândia	Onshore	45,812
Pará	Belém	Marine	48,187
Pernambuco	Suape	Marine	108,560
Paraná	Paranaguá	Marine	204,567
Rio de Janeiro	Ilha d' Água	Marine	179,173
	Angra dos Reis	Marine	1,011,487
	Campos Elíseos	Onshore	547,284
	Ilha Redonda	Marine	78,484
	Japeri	Onshore	37,650
	Volta Redonda	Onshore	25,502
	Cabiúnas	Onshore	483,134
Rio Grande do Norte	Guamaré	Marine	258,309
Rio Grande do Sul	Niterói	Marine	21,189
	Rio Grande	Marine	101,422
	Osório	Marine	842,394
Santa Catarina	Biguaçu	Onshore	36,214
	Itajaí	Onshore	56,482
	Guaramirim	Onshore	18,644
São Paulo	São Francisco do Sul	Marine	473,166
	Santos	Marine	388,873
	São Sebastião	Marine	2,057,493



	Barueri	Onshore	206,461
	Cubatão	Onshore	161,102
	Guararema	Onshore	1,026,935
	Guarulhos	Onshore	164,181
	Paulínia	Onshore	274,608
	Ribeirão Preto	Onshore	50,886
	São Caetano do Sul	Onshore	227,308
TOTAL	38	-	9,808,287

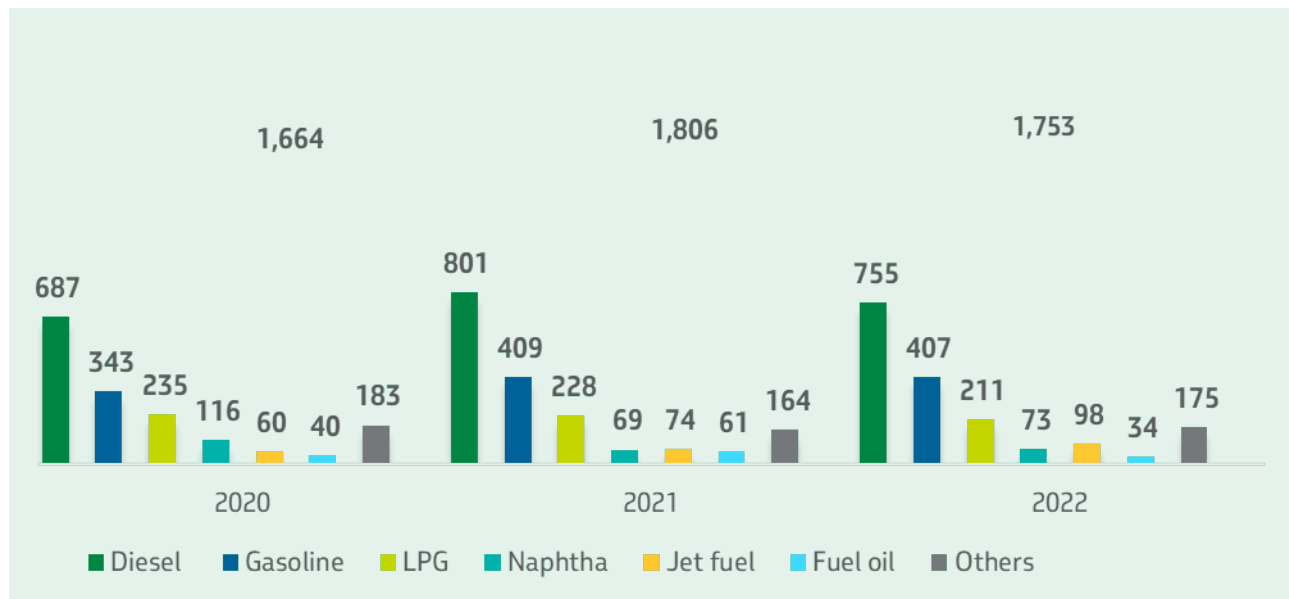
1) The terminal only pumps product. There is no product tank on this site.

Marketing





SALES VOLUMES OF OIL PRODUCTS TO BRAZILIAN MARKET, PER PRODUCT AND TOTAL IN THE YEAR (mmbbl/d)



Diesel



Diesel is a medium petroleum distillate used as fuel in vehicles with compression-ignites internal combustion engines (diesel cycle engines). It is used mostly for cargo and passenger's road transport (80%) and in the agriculture sector (10%). All diesel sold to end users in Brazil must be blended with biodiesel. In March 2021, the mandatory level of biodiesel in the fuel increased from 12% to 13%. However, due to the lack of raw materials for the manufacture of renewable fuel and rising prices, the National Energy Policy Council ("CNPE") reduced that percentage to 10% from May to August, raised it to 12% in September and October, and reduced it again to 10% by November and December 2021. The CNPE decided to maintain the 10% biodiesel content in diesel for 2022 and has announced that the 10% content will be maintained until March 2023.

The decrease in diesel oil sales in 2022 was mainly associated with the divestment from the RLAM refinery concluded on November 30, 2021.

In the fourth quarter of 2022 we reached a record for low-sulfur S-10 diesel sales with low-sulfur S-10 sales representing 60.3% of the total diesel sales.

The record share of S-10 Diesel as it relates to total diesel sales reflects the commercial and operational actions that we have implemented in order to meet the Brazilian domestic demand for the product with lower sulfur content, replacing the S-500 Diesel.



Gasoline



Gasoline is a light petroleum distillate used in vehicles with spark-ignites internal combustion engines (Otto cycle engines). Refineries in Brazil produce a distillate called “gasoline A,” which must be blended with 27% of anhydrous ethanol (current mandate) at distributors sites and then sold to end users as “gasoline C” at gas stations. Its main competitors are hydrated ethanol (sold directly by producers to distributors, who resell it on gas stations) and CNG (sold by gas distributors directly to gas stations). In 2022, the “gasoline A” sold by us represented around 41% of the total Brazilian Cycle-Otto market.

The main factor for the consistency in sales stability is the competitiveness of the gasoline prices against hydrous ethanol prices, despite the divestment of the RLAM refinery.

LPG



The liquefied petroleum gas (LPG) is a light distillate composed by propane and butane. It is used as fuel for heating appliances such as cooking equipment, rural heating and water boilers, among others. In Brazil, around 70% of LPG is sold by distributors bottled in cylinders of up to 13 kg and primarily used for residential cooking and its demand is directly driven by population growth and real income growth. On the other hand, consumption is inversely correlated with local temperatures and the efficiency rate of cooking equipment. The remaining LPG demand 30% comes mainly from industrial and services sectors, whose demand is driven by economic growth.

The drop in LPG sales in 2022 was mainly associated with the divestment of the RLAM refinery.

Jet Fuel



Jet-fuel is a medium petroleum distillate used as aviation fuel in aircrafts powered by gas-turbine engines.

It is used by all commercial aviation companies (passengers and cargo transportation), which represents 90% of total Brazilian demand. Regarding commercial aviation, prior to the Covid-19 pandemic, domestic flights comprised up to 60% of Brazilian jet-fuel demand, and the remaining 40% of jet-fuel demand came from international flights. Jet-fuel demand is strongly correlated with GDP growth, as it directly affects the demand for travel – business and leisure.

The main factor behind the rise of sales in 2022, despite the divestment of the RLAM refinery, was the recovery of the aviation post-Covid-19, especially in the domestic segment.



Fuel Oil



Fuel oil is a residual fraction of the petroleum distillation. It is used in industrial (mostly non-ferrous metallurgy companies) and electricity generation sectors (thermoelectric plants). The demand for fuel oil for industrial consumption depends mostly on GDP growth and on the natural gas availability (its main competing product).

The fuel oil thermoelectric plants participate marginally in the country's energy supply, entering into operation only when the water level in reservoirs are very low. In 2022, industrial use of fuel oil represented around 99% of demand, while the use in power generation represented only 1%.

In 2022, the main factor for the significant sales shrinkage were the divestment of the RLAM refinery and, most of all, the fact that there were sales for thermoelectric generation only in January.

Naphtha



Naphtha is a light petroleum distillate that is mainly used as raw material for petrochemical sector. This product is sold to three existing petrochemical plants in Brazil, which produce commodity chemicals such as ethylene, propylene, butadiene and aromatics (benzene, toluene, xylenes).

The rise in naphtha sales in 2022 was mainly associated with the additional sales of naphtha to Braskem.

Besides oil and oil products, we also trade natural gas, nitrogen fertilizers, renewables and other products.

BRAZILIAN SALES VOLUMES AND EXPORTS (mmbbl/d)

	2022	2021	2020
Total oil products	1,753	1,806	1,663
Ethanol, nitrogen fertilizers, renewables and other products	205	28	8
Natural gas	305	352	292
Total Brazilian market	2,263	2,186	1,963
Exports ⁽¹⁾	714	811	957
TOTAL BRAZILIAN MARKET AND EXPORTS	2,977	2,997	2,920

(1) Mainly includes crude oil and oil products.



Oil products prices

Crude oil is a commodity, the value of which depends on its quality, usually based on its API gravity. Traditionally, lighter crude oils have greater added value than heavier ones, given that they can generate higher value products. Recently, however, heavy crudes have shown a strong market value due to the possibility of high margin production when these crudes are processed in refineries with more complex hardware. In addition, oils with similar yields and physical properties have a greater market value if they have lower sulfur content. Different refineries assign different values to the same crude oil, depending on their conversion capacity and the value of the products they intend to produce to supply their specific markets. Refineries can process a variety of crude oils, which brings competition among different grades.

Crude oils are globally traded and their prices are usually referenced on international quotations, such as WTI, Brent or Dubai. Depending on factors such as quality, offer, demand, size lot, trading conditions and logistics costs to make a crude oil cargo available at a certain delivery point, a premium or a discount can be negotiated between buyer and seller, and added to the reference quotation.

Refined oil products are commodities and their prices in different regions of the global market are driven by the local balance between supply and demand, crude oil prices and crack spread. Crack spread refers to the overall pricing difference between a barrel of crude and the oil products refined from it. It is an industry-specific type of gross processing margin. "Crack" is a term used in the oil industry that represents the ability of a crude to produce different products such as gases like propane and butane; light distillates like naphtha and gasoline; middle distillates like kerosene, gasoils and diesel fuels; and heavy distillates like heavy fuel oil and asphalt. Typically, a crack is defined in terms of one specific product versus one specific crude. For example, the diesel crack on Brent indicates how much the price of the individual product is contributing to the refining profitability.

The price of a barrel of crude oil and the various prices of the products refined from it are not always in perfect synchronization. Depending on seasonality and global inventories, among other factors, the supply and demand for any particular oil product may result in pricing changes that can impact the profit margins on a barrel of crude oil for the refiner.

As oil products are traded globally and can be transported between markets, prices around the world tend to fluctuate subject to local conditions.

Our current positioning on pricing in Brazil takes into account domestic market conditions and seeks to align the price of oil products with international prices while avoiding the immediate transfer of volatility of international quotations and the exchange rate caused by conjunctural issues.

Specifically, diesel oil, gasoline, LPG, jet fuel, fuel oil and other minor product prices are defined taking into account the balance with international prices and the level of market share.

In 2022, we adjusted our fuel prices according to the international market as global oil prices changed and settled at new levels. In July 2022, our Board of Directors approved the Guideline for Price Formation in the Domestic Market (Guideline) in line with its objective of continuously improving our governance. The Guideline reiterates the Executive Board's competence in executing pricing policies, preserving and prioritizing our financial result and seeking to maximize its value creation. Furthermore, the Guideline incorporates an additional layer of supervision of the execution of the pricing policies by the Board of Directors and the Fiscal Council, based on the Executive Board's quarterly report, formalizing an already existing practice.



Diesel and Gasoline

Diesel and gasoline prices in the Brazilian market are defined taking into account the balance with the international prices and the level of market share.

According to our pricing policy, price readjustments of diesel and gasoline are carried out without defined frequency, according to market conditions and external environment analysis, enabling us to compete more efficiently and flexibly.

During 2022, we announced adjustments to selling prices at refineries, resulting in a price decrease of 0.5% for gasoline and an increase of 34.4% for diesel, when comparing prices in place on December 31, 2022 with those effective as of December 31, 2021.

LPG

LPG prices in the Brazilian market are defined taking into account the balance with the international prices and the level of market share, in the residential and industrial/commercial LPG segments. According to our pricing policy, price adjustments are made without defined periodicity, according to market conditions and analysis of internal and external environments.

During 2022, we announced adjustments to selling prices at refineries, resulting in price decreases of 16.2% for LPG, when comparing prices in place on December 31, 2022 with those effective as of December 31, 2021.

Imports, Exports, and International Sales

Our import and export of crude and oil products are driven by economic factors involving our domestic refining, the Brazilian demand levels and international prices. Most of the crude oil we produce in Brazil is classified as medium API gravity. We import some light crude oil to balance the slate for our refineries, and export mainly medium crude oil from our production in Brazil. In addition, we continue to import oil products to fulfill our contracts in order to balance any shortfall between production from our Brazilian refineries and the market demand for each product.

In 2022, net exports decreased by 123 mbb/d, reaching 321 mbb/d. This decrease resulted mainly from lower oil and fuel oil exports.

**EXPORTS AND IMPORTS OF CRUDE OIL AND OIL PRODUCTS** (mmbbl/d)

	2022	2021	2020
Exports			
Crude oil	513	575	713
Fuel oil	181	197	194
Other oil products	20	39	50
Total exports	714	811	957
Imports			
Crude oil	164	154	97
Diesel	118	118	18
Gasoline	25	20	10
Other oil products	86	75	89
Total imports	393	367	214

Our crude oil, oil products and LNG trading activities aim to meet our internal demands or potential businesses opportunities identified by our commercial teams, seeking to optimize the buying and selling operations in the Brazilian and global markets, as well as offshore operations.

The international trading teams are based in the major global commercial hubs of oil and oil products, such as Houston, Singapore and Rotterdam and are comprised of crude oil and product traders, shipping and support operators.

For more information on our oil and oil products clients, see “Exploration and Production – Customers and Competitors” and “Refining, Transportation and Marketing – Customers and Competitors” in this annual report.

Distribution

We sell our oil products to several distribution companies in Brazil.

In July 2021, we completed the sale of our entire remaining stake in Petrobras Distribuidora, started in 2019, exiting the distribution sector in Brazil. Following the sale, Petrobras Distribuidora changed its name to Vibra Energia S.A. (“Vibra”).

Even after completing the sale of our shareholding in Vibra, we remain the owner of the main brands used by it, including those that identify service stations, fuel, loyalty program, aviation segments and certification program, among others.

A 10-year trademark license agreement is in place and grants Vibra a non-exclusive, paid, temporary license on certain trademarks we own, including but not limited to “Petrobras,” “Petrobras Podium,” “Petrobras Premmia,” “De Olho no Combustível,” “BR Aviation” and “Petrobras Grid.” The trademark license agreement was renegotiated in 2019 and amended in June 2021 to incorporate changes necessary for both companies. The contract expires in June 2029 and is renewable for an additional 10-year period, subject to agreement between the parties.



Under the terms of this agreement, the license is granted exclusively to the service station and aviation segments, for which Vibra shall exclusively use the brands licensed by us. Meanwhile, during the term of the trademark license agreement, we undertake to refrain from operating in the service stations sector across the Brazilian territory. The definition of a "service station" under this agreement is any facility where oil and gas products and services and/or services related to any other energy sources (renewable or otherwise) intended to power automotive vehicles and watercrafts are offered to the Business-to-Consumer (or B2C) public, including convenience stores.

We also participate in the retail sector in other South American countries, as follows:

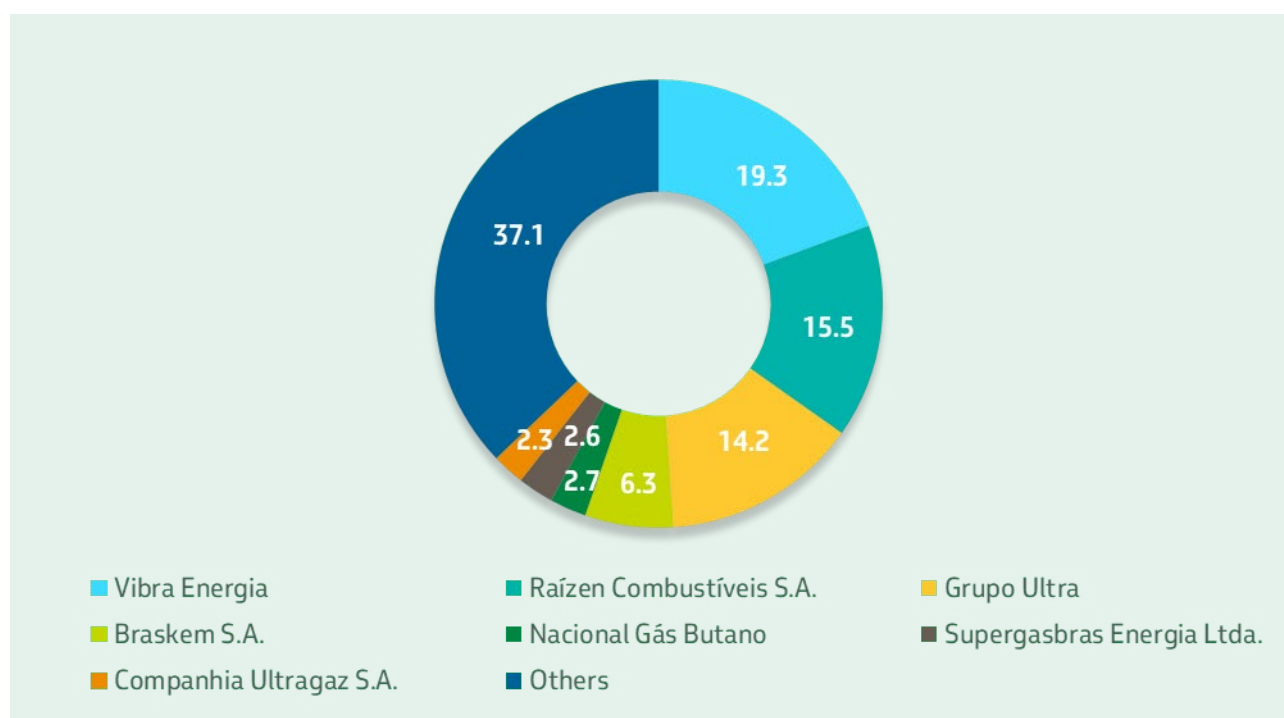
- **Colombia:** Our operations through Petrobras Colombia Combustibles S.A. (PECOCO) include 125 service stations and a lubricant plant with a production capacity of 54,000 m³/year. PECOCO is in Petrobras divestment portfolio.
- **Chile:** Following the sale of our distribution operations in Chile, which was concluded in January 2017, we entered into a brand licensing agreement in that country, for the initial term of eight years. To operate our acquired assets in Chile, Southern Cross created Esmax, a company that operates as our licensee in the fuel distribution segment; and
- **Paraguay:** Following the sale of our distribution operations in Paraguay, which was concluded in March 2019, we entered into a brand licensing agreement in Paraguay. Our operations were sold to Paraguay Energy, a subsidiary of Copetrol Group and the sale agreement also included the licensing for the exclusive use of our brands by Nextar (the successor of Petrobras Paraguay Operaciones y Logística SRL) in service stations in Paraguay, for the initial term of five years.

For more information of the divestment process, see "Portfolio Management" in this annual report.

Customers and Competitors

We interact with approximately 470 clients in Brazil, in regard to liquid oil products, seven of which account for 63% of the total volume sold.

LIQUID OIL PRODUCTS CLIENTS (% vol)





The sale of oil products to distribution companies is done by contracts executed in accordance with ANP regulations.

We offer a virtual commercial platform, called *Canal Cliente* to Brazilian market companies. The platform works 24 hours a day, seven days a week. Through this online platform, clients can place orders for products, schedule withdrawals and track the entire business process up to the payment phase.

According to information provided by the ANP, we have a dominant participation in the Brazilian market for refining. We own and operate 11 refineries in Brazil.

In June 2019, we signed a commitment with CADE which consolidates the understanding between the parties on the execution of the divestment of refining assets and SIX in Brazil. From the signing date in June 2019 through January 2023, we have divested from RLAM, REMAN, and SIX.

For more information on our agreement with CADE regarding our divestments in refining assets, see “Risks – Risk Factors – Operational Risks” and “Portfolio Management” in this annual report.

With respect to the trading of oil products in the Brazilian market, we face competition from importers, formulators, other domestic producers and petrochemical plants. In 2022, our participation in diesel and gasoline markets decreased compared to the previous year, mainly due to the divestment of the RLAM refinery.



Other Activities

Petrochemicals

We engage in the petrochemical sector through the following companies:

OUR SHAREHOLDING IN PETROCHEMICAL COMPANIES IN BRAZIL AND THEIR MAIN PRODUCTS

Company/Main products	Location	Nominal capacity (mmt/y)	Our shareholding	Other shareholding
Braskem				
Ethylene	Brazil	5.00	36.15%	Novonor (38.32%);
Polyethylene	Brazil	3.06		Others (25.53%)
	Mexico	1.05		
Polypropylene	Brazil	1.85		
	USA	2.02		
	Germany	0.63		
METANOR S.A./COPENOR S.A. (2)				
Formaldehyde	Brazil	0.09	34.34%	Dexxos Participações (45.47%);
Hexamine		0.01		Others (19.99%)
FCC Fábrica Carioca de Catalisadores S.A.				
Catalysts	Brazil	0.04	50.00%	Albemarle (50.00%)
Additives		0.01		
PETROCOQUE S.A.				
Calcined petroleum coke	Brazil	0.55	50.00%	Universal Empreendimentos e Participações Ltda (50.00%)

(2) Copenor S.A. is a subsidiary of Metanor S.A.

With respect to divestments, in July 2022 we announced the sale of our entire stake in DETEN Química S.A. ("DETEN"). This stake represented 27.88% of DETEN shares and was sold to Cepsa Química S.A, which indirectly held 69.78% stake in DETEN. In December 2022, we announced the beginning of the binding phase of the sale of all of our shares in Metanor. For more information see "Portfolio Management" in this annual report.

In December 2021, we approved the model for the sale of up to 100% of our preferred shares in Braskem S.A. ("Braskem"), by means of secondary public offering(s) of shares (follow-on), together with Novonor S.A. - In Judicial Recovery and NSP Investimentos S.A. - In Judicial Recovery (both referred to as Novonor).

In January 2022, we decided with Novonor to start and subsequently to cancel the public offering for secondary distribution of shares, due to the instability of the conditions in the capital markets, where levels of demand and price were not appropriate for proceeding with the transaction.



Shale Industrialization

Until October 2022, we operated shale processing through our shale industrialization unit (“SIX”), an operating unit with an installed capacity of 5,880 t/d, located in São Mateus do Sul, Brazil. We have developed a technology that covers all stages of the manufacturing process. The products obtained from shale processing are fuel oil, naphtha, fuel gas, liquefied gas and sulfur.

In line with our risk management policy associated with the management of contingencies and with the strategy of creating value through the negotiation of disputed amounts, we and the ANP reached an agreement at the end of 2021 to end all legal proceedings and administrative costs related to the collection of royalties and administrative fines arising from oil shale mining carried out by us at SIX.

The agreement covers both the conclusion of administrative and judicial disputes and the signing of a concession agreement, that aims to set the terms of our concession of shale exploration and mineral rights related to SIX activities.

Under the terms of the agreement, we undertook to pay US\$116 million related to the collection of royalties and the ANP ended all administrative and judicial disputes and authorized the execution of a concession agreement to regulate shale research and mining. The ANP agreed to adopt a royalty rate of 5% from the date of the concession agreement (for 27 years, renewable for another 27-year term) and to no longer claim from us any royalties collected by us relating to the SIX, as well as any fines and/or amortizations and/or additions prior to signing the agreement.

The agreement to conclude the disputes was signed in July 2022, along with the concession agreement. In September 2022, the concession agreement was assigned to Paraná Xisto, our subsidiary formed to enable the sale of this asset. In November 2022, the sale of the asset was concluded.

In November 2021, we signed an agreement with Forbes & Manhattan Resources Inc. for the sale of SIX.

For more information on our agreement with CADE regarding our divestments in refining assets, see “Risks – Risk Factors – Operational Risks” and “Portfolio Management” in this annual report.

For more information on the progress of our divestments, see “Portfolio Management” in this annual report.



Biofuels



BioRefino

In 2020, we launched the BioRefino 2030 Program which aimed to transform our refining processes into a more sustainable industry, in line with a low-carbon based economy. In 2022, our projects for the generation of new, modern and sustainable fuels, such as renewable diesel and biojet were expanded and gained an even higher priority starting a new phase of the BioRefino Program (formerly named BioRefino 2030). An example of such expansion is the additional presence of co-processing in REDUC and an expansion at REPAR.

Diesel with a renewable content (Diesel-R) is an advanced biofuel, produced from coprocessing conventional diesel with vegetable oils using our proprietary HBIO™ technology. The renewable part of resulting fuel (Hydrotreated Vegetable Oil or "HVO") presents the same structure as conventional diesel fuel and reduces the emission of greenhouse gases compared to mineral diesel oil. Coprocessed diesel with a renewable content, as well as pure HVO, are free from contaminants and does not cause any damage to engines, effectively increasing vehicle life and reducing transportation costs. Commercial sales of our production are focused on clients with ESG goals. CNPE (National Energy Policy Council) is evaluating the inclusion of advanced biofuels on national biodiesel mandate.

BioQAv (also known as Sustainable Aviation fuel or BioJet fuel) will be used worldwide to reduce the emissions of greenhouse gases in the aviation sector. This was determined by the International Civil Aviation Organization and will be mandatory in Brazil in 2027. The production process for BioQAv, through hydrogenation uses the same raw materials required for the production of HVO, which is also formed as a coproduct of the same process.

We also operate in the production of biodiesel through our wholly owned subsidiary PBIO, which manages our activities for the production, logistics and marketing of these products.

There is a mandatory blend of biodiesel in all diesel sold in Brazil. In 2021, CNPE fixed a 13% blend on and after March 2021, with gradual scheduled increases of 1% per year, until it reaches a mandated 15% in 2023. However, in November 2021 the CNPE published Resolution No. 25/2021, which changed the previous percentage of blend by establishing a mandatory blend of 10% for 2022. Later, in November 2022, the CNPE published Resolution No 12/2022 maintaining the blend of 10% until March 2023. According to the original plan announced by the CNPE, the blend is expected to increase to 15% after March 2023, subject to change by the CNPE.

PBIO has three biodiesel plants for its own operations. However, the Quixadá biodiesel plant has been inoperative since November 2016. Our biodiesel production capacity in the other two plants in operation is 8.63 mbb/d. In 2022, we supplied 3.3% of Brazil's biodiesel demand, according to the ANP.

Main Assets

	2022	2021	2020
Biofuels			
Biodiesel production units - PBIO	3 ⁽¹⁾	3 ⁽¹⁾	3 ⁽¹⁾
Biodiesel production capacity (mdbl/d) - PBIO	10.5 ⁽¹⁾	10.5 ⁽¹⁾	10.5 ⁽¹⁾
Biodiesel production units – BSBios	N/A ⁽²⁾	N/A ⁽²⁾	2
Biodiesel production capacity (mdbl/d) - BSBios	N/A ⁽²⁾	N/A ⁽²⁾	14.3 ⁽³⁾

(1) Includes the capacity of Quixadá biodiesel plant, which has been inoperative since November 2016.

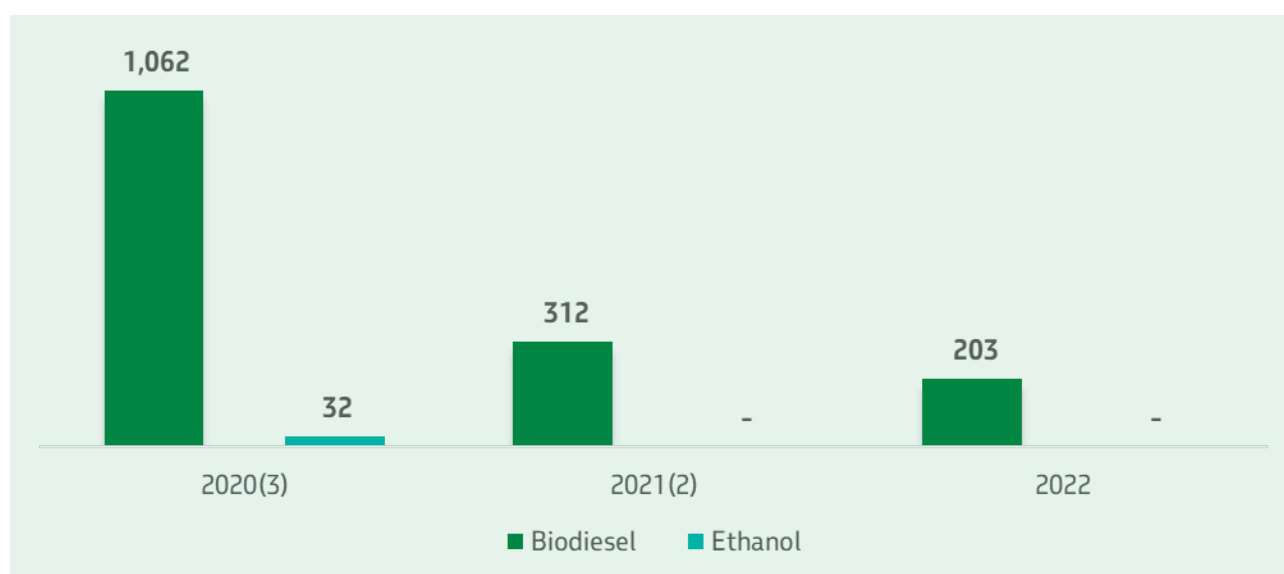
(2) In February 2021, the sale of PBIO's entire stake in BSBios to RPBio was concluded.

(3) Includes total production capacity in two plants in which we have 50% interest.

With respect to divestments, we are in the process of divesting our stake in PBIO. In September 2020, we announced the beginning of the binding phase of the sale of all of our shares in this wholly owned subsidiary. The sale process is still in the binding phase.

For more information on our divestments, see "Portfolio Management" in this annual report.

According to our Strategic Plan, we pursue sustainable results, and one of the means to achieve them is the production of biofuels. Historically, we have produced ethanol and biodiesel. Currently, special efforts are concentrated on producing renewable diesel and Bio jet fuel.

BIOFUELS PRODUCTION ⁽¹⁾ (thousand m³)

(1) Includes 100% of the volume of our equity method investees (net production of PBIO in biodiesel, considering PBIO share in the investee, was 64.5% in 2020, 75.4% in 2021, and 100% in 2022).

(2) Biodiesel production figure for 2021 is updated as of February 9, 2020, the date on which we sold our share in BSBios.

(3) Ethanol production figures from 2020 are as of July 10, 2020, the date in which we sold our share in Bambuí, our investee in this segment.



Gas and Power

Overview

We process gas produced in our oil fields in our natural gas processing units (“UPGNs”) that have the capacity to treat 103.6 million m³/d of natural gas in Brazil. We market this natural gas, along with gas imported from Bolivia and LNG acquired in the global market, to several consumers and to the thermoelectric plants.

We also operate in the generation and sale of electric energy through thermal power plants fired by natural gas and diesel oil.



Main Assets

	2022	2021	2020
Natural gas			
Gas pipelines in Brazil (km)	2,643	2,643 ⁽²⁾	4,686 ⁽¹⁾
Processing Units ⁽³⁾	15	17	17
Brazil ⁽³⁾	12	14	14
Bolivia	3	3	3
Processing capacity (million m³/day)	143 ⁽⁴⁾	149	149
Brazil	99	105	105
Bolivia	44	44	44
Regasification terminals	3 ⁽⁵⁾	3	3
Regasification capacity (million m ³ /day)	47	47	47
Power			
Number of thermal power plants	14	14 ⁽⁴⁾⁽⁶⁾	20
Installed capacity (thousand MW)	5.3	5.4	6.1

(1) In July 2020, we entered into a share purchase and sale agreement for our remaining 10% interest in TAG, which has 4,504 km of pipelines.

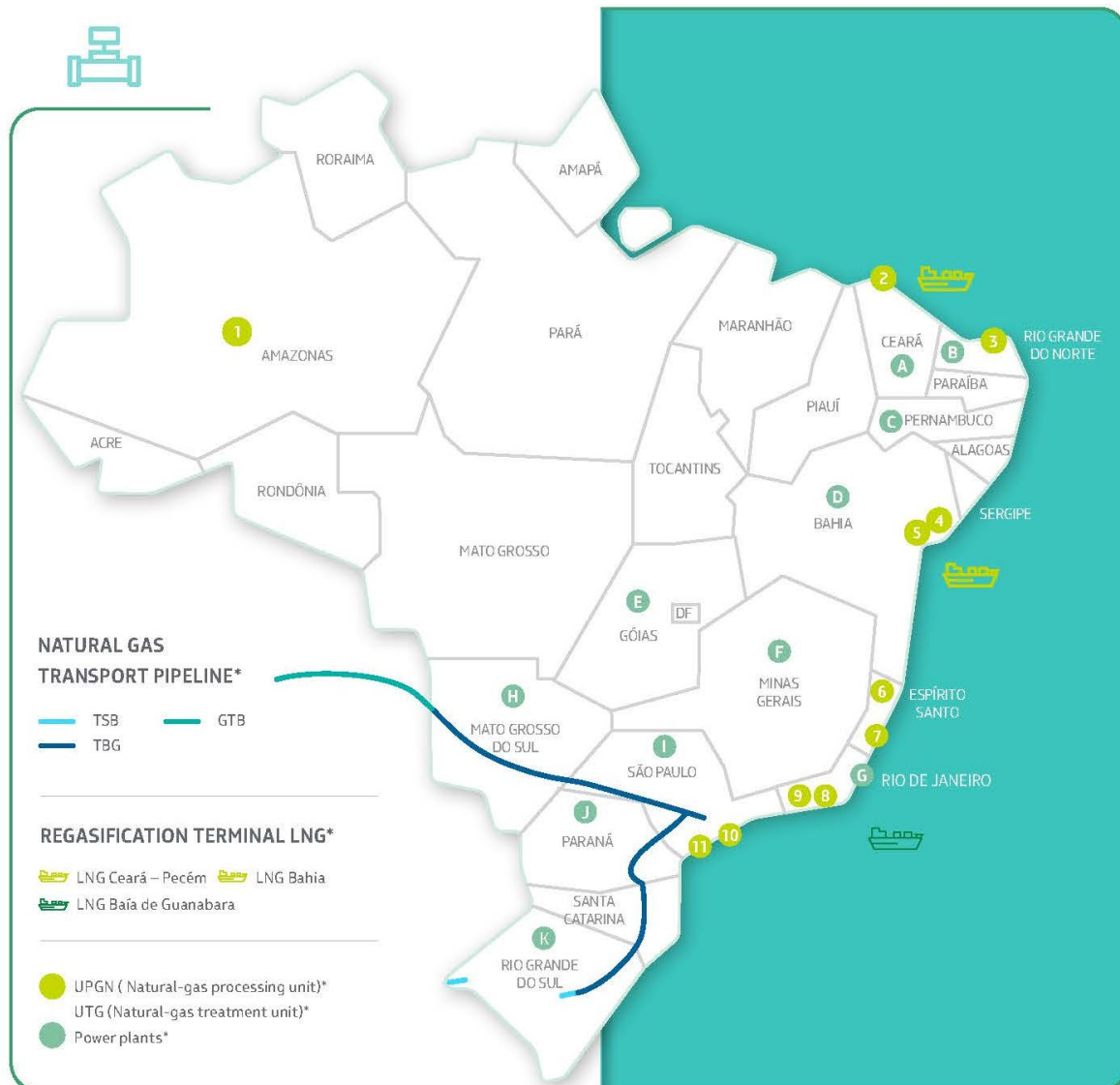
(2) In April 2021, we concluded the sale of our remaining 10% interest in Nova Transportadora do Sudeste S.A. (NTS), which has 2,043 km of pipelines.

(3) Starting in 2022 we opted to present the number of Processing Units as the number of clusters, instead of industrial units, as previously reported. This has led to changes in number of units in 2021 and 2020.

(4) In November 2021, we concluded the sale of our participation in Breitener Energética S.A, which has two thermoelectric plants: Jaraqui and Tambaqui. In December 2021, we concluded the sale of three thermal power plants: Bahia 1, Muricy and Arembepe.

(5) The terminal (TR-BA) is leased to Excelerate Energy Comercializadora de Gás Natural Ltda until 12/31/2023.

(6) In 2021, the count included Alto do Rodrigues which is a solar generation unit.



1 UPGN Urucu	7 UTGSUL (Sul Capixaba)	A TERMOCEARÁ	G BAIAXADA FLUMINENSE SEROPÉDICA TERMORIO TERMOMACAÉ
2 UPGN Lubnor	8 UTGCAB (Cabiúnas)	B VALE DO AÇU	H TRÊS LAGOAS
3 UPGN Guimarães	9 UPGN REDUC	ALTO DO RODRIGUES	I CUBATÃO NOVA PIRATININGA PIRATININGA
4 UPGN Catu	10 UTGCA (Caraguatatuba)	C SUAPE II TERMOCABO	J ARAUCÁRIA
5 EVF Manati	11 UPGN RPBC	D TERMOBAHIA TERMOCAMAÇARI**	K CANOAS
6 UTGC (Cacimbas)		E GOIÂNIA II	
		F IBIRITÉ JUIZ DE FORA	

Thermoelectric Photovoltaic

* Assets as of December 31, 2022.

** Termocamaçari power plant is leased to Proquigel Química S.A. until August 2030.



Natural Gas

Our Gas and Power segment comprises gas processing, transportation, LNG regasification (Ceará, Bahia and Rio de Janeiro states), gas-fired, oil-fuelled and flex fuel power generation.

The Gas and Power segment strategy is to:

- Act competitively in the trading of its own gas and withdraw completely from gas distribution and transport.
- Optimize the thermoelectric portfolio focusing on self-consumption and trading of its own gas.

Processing of Natural Gas

Natural gas from our exploration and production activities needs to be processed in processing units, to be transformed into marketable products. These products serve as fuel and raw material for different uses, such as vehicular, industrial and residential uses, as well as uses in the fertilizer industry and thermoelectric power generation.

Our UPGNs are located in the states of Amazonas, Ceará, Rio Grande do Norte, Bahia, Espírito Santo, Rio de Janeiro and São Paulo in Brazil as well as in Bolivia, where we have the capacity to process natural gas in its gaseous and condensed forms.

In December 2022, we concluded the sale of our stake in the Carmópolis Cluster, which includes, among its assets, the Atalaia UPGN. In February 2022 we concluded the sale of our stake in Alagoas Cluster, which includes, among its assets, the Pilar UPGN.

PROCESSING CAPACITY AND PRODUCTION OF OUR UPGNS IN BRAZIL

Location	2022					2021			2020		
	2022 Processing capacity	Unprocessed natural gas	Processed natural gas	LPG	Unprocessed natural gas	Processed natural gas	LPG	Unprocessed natural gas	Processed natural gas	LPG	
	(million m ³ /d)	(million m ³ /d)	(million m ³ /d)	(thousand t/d)	(million m ³ /d)	(million m ³ /d)	(thousand t/d)	(million m ³ /d)	(million m ³ /d)	(thousand t/d)	
UTGCAB	Rio de Janeiro	24.6	21.06	14.11	0.82	21.65	15.55	0.86	22.58	17.54	0.98
UTGCA	São Paulo	20.0	13.27	12.62	0.97	11.17	10.64	0.72	12.43	11.84	0.62
UTGC	Espírito Santo	18.1	2.04	1.83	0.24	3.29	2.97	0.44	3.98	3.50	0.59
UTGSUL	Espírito Santo	2.5	0.11	0.09	-	0.31	0.26	-	0.48	0.46	-
UPGN REDUC	Rio de Janeiro	2.2	1.12	0.49	0.04	1.19	0.90	0.02	1.05	0.93	0.05
UPGN RPBC	São Paulo	2.2	0	0	0	-	-	-	0.08	-	-
UPGN LUBNOR	Ceará	0.35	0	0	0	-	-	-	-	-	-
UPGN URUCU	Amazonas	12.20	11.79	11.08	0.95	11.85	11.09	1.00	11.61	10.81	1.08
UPGN GUAMARÉ	Rio Grande do Norte	5.70	0.77	0.70	0.12	0.53	0.47	0.09	0.69	0.63	0.1
UPGN PILAR ⁽¹⁾	Alagoas	1.80	0.10	0.10	0.005	1.03	0.98	0.05	1.24	1.20	0.07
UPGN ATALAIA ⁽²⁾	Sergipe	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.20	0.02



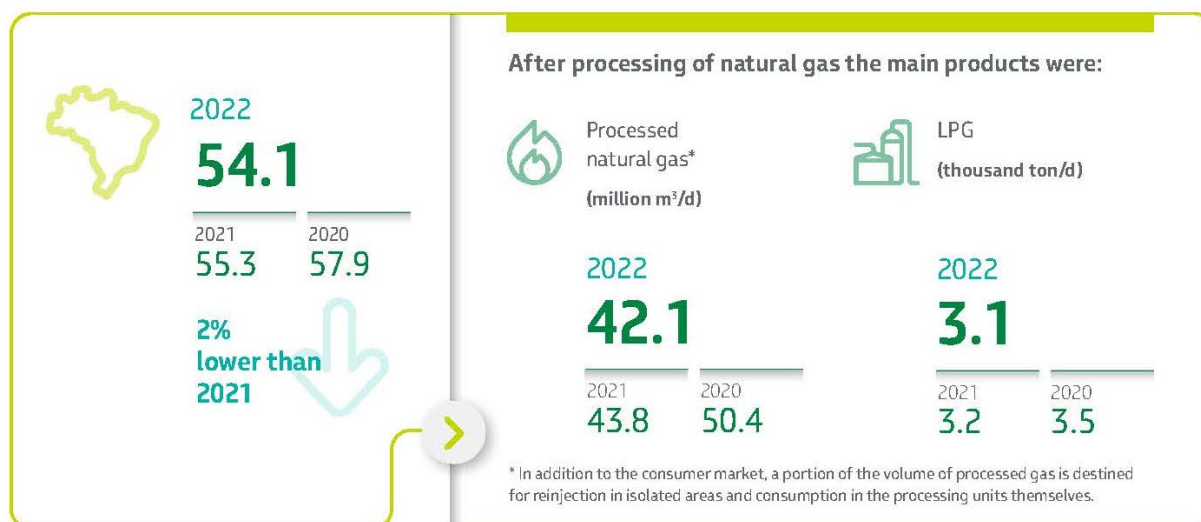
UPGN CATU	Bahia	2.00	1.35	1.12	0.00	1.16	0.95	0.00	1.22	1.06	-
UPGN CANDEIAS	Bahia	2.90	-	-	-	-	-	-	-	-	-
EVF MANATI	Bahia	6.00	2.47	-	-	3.12	-	-	2.32	2.20	-
TOTAL		103.55	54.08	42.14	3.15	55.30	43.81	3.18	57.89	50.37	3.51

(1) We concluded the sale of UPGN Pilar in February 2022.

(2) The UPGN Atalaia was mothballed in May 2022. We concluded the sale of this unit in December 2022.



Average total volume of natural gas processed in our units (million m³/d)



In addition to the natural gas produced in Brazil, we also received natural gas from Bolivia through pipeline and liquefied natural gas, imported from other countries on special ships and regasified at terminals in Brazil.

The total average volume of natural gas processed and operated by Petrobras in Bolivia was:

(million m³/d)





Logistics

We use a pipeline system to transport natural gas from processing plants, regasification terminals and the border with Bolivia, to the local distributors, free consumers, as well as for the internal consumption of our units. Brazil has an integrated pipeline system centered around two main interlinked pipeline networks, a gas pipeline connection with Bolivia and an isolated pipeline in the northern region of Brazil (all together spanning over 9,190 km).

OUR SHARE IN GAS TRANSPORTATION COMPANIES IN BRAZIL

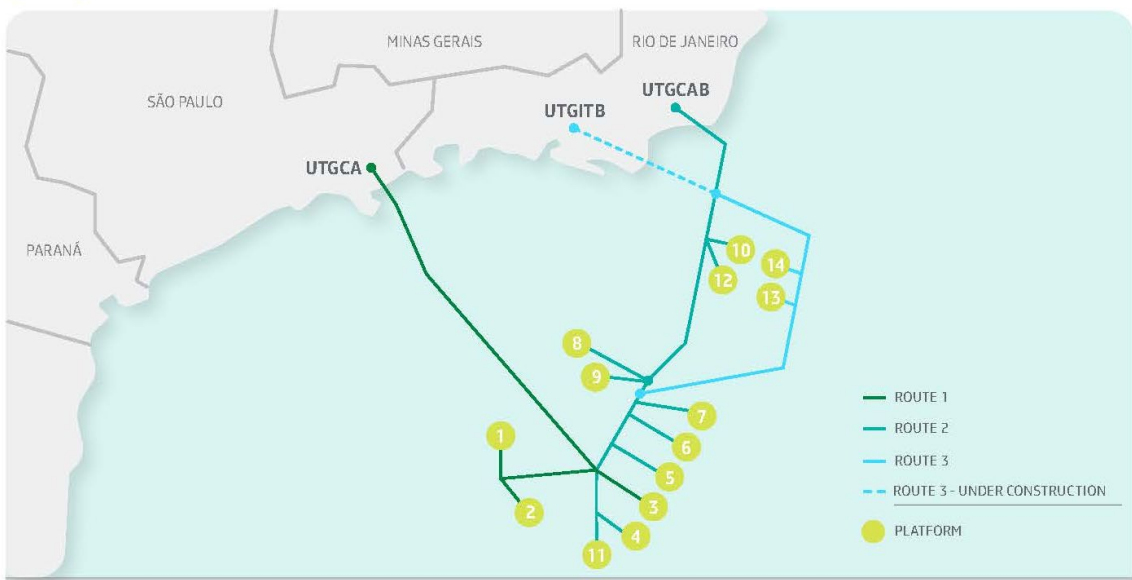
Company	Gas pipeline extension (km)	Our shareholding	Other shareholders
Transportadora Brasileira Gasoduto Bolívia Brasil S.A. ("TBG")	2,593	51%	BBPP Holdings Ltda. (29%) YPFB Transporte do Brasil Holding Ltda. (19.88%) Corumbá Holding S.À.R.L. (0.12%)
Transportadora Sulbrasileira de Gás S.A. ("TSB")	50	25%	Ipiranga Produtos de Petróleo S.A. (25%), Repsol Exploração Brasil (25%) and Total Gas and Power Brazil (25%)
TOTAL	2,643	—	—

TBG and TSB are still in the binding phase of divestment, as announced in 2021.

For more information on our divestments, see "Portfolio Management" in this annual report.

In addition, outside Brazil we hold an 11% stake in Gás Transboliviano S.A. ("GTB"), which is responsible for the Bolivian side of the Bolivia-Brazil gas pipeline, measuring 557 km.

Gas from Pre-Salt



ROUTE 1 AND GASMEX Extension 359 Km Capacity 10 mmm³/d Capacity GASMEX 20 mmm³/d	ROUTE 2 Extension 423 Km Capacity 20 mmm³/d	ROUTE 3 Extension 355 Km Capacity 18 mmm³/d (under construction)
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UNITS AND MAIN FIELDS - FLOWING GAS

1 CIDADE DE ILHABELA SAPINHÓÁ 2 CIDADE DE SÃO PAULO PILOTO SAPINHÓÁ 3 CIDADE DE ANGRA DOS REIS TUPI	4 P-66 TUPI 5 FPSO CIDADE DE SAQUAREMA TUPI 6 FPSO CIDADE DE MARICÁ TUPI 7 FPSO CIDADE DE PARATY TUPI 8 FPSO CIDADE DE ITAGUAÍ TUPI 9 FPSO CIDADE DE MANGARATIBA TUPI 10 P-74 BÚZIOS 11 P-69 TUPI 12 P-76 BÚZIOS	13 P-75 BÚZIOS 14 P-77 BÚZIOS
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In order to derive natural gas from our production of the Santos Basin pre-salt pole, in addition to using part of the existing infrastructure, we invested in the construction of subsea pipelines (routes) integrated with the processing units, which seek to optimize the use of natural gas.

We have invested in the following flow routes:

ROUTE 1 AND GASMEX: The 359 km pipeline consists of two stretches: Route 1, which is the stretch connecting the Tupi Platform to the Mexilhão Platform, with capacity to flow up to 10 million m³/d, and GASMEX, which is the stretch connecting the Mexilhão platform to the Monteiro Lobato Gas Treatment Unit (“UTGCA”), in the city of Caraguatatuba in the state of São Paulo, with capacity to flow up to 20 million m³/d of gas produced in the Santos Basin pre-salt. We own 65% of Route 1, Shell owns 25% and Petrogal owns the remaining 10%.



ROUTE 2: The 423 km pipeline links the Santos Basin pre-salt to the Cabiúnas Gas Treatment Unit (“UTGCAB”) processing asset, in the city of Macaé in the state of Rio de Janeiro. It had an initial authorized capacity to flow up to 13 million m³/d, which then increased to 16 million m³/d. In July 2019, ANP authorized the pipeline to operate with 20 million m³/d. We own 65% of Route 2 Tupi-Cernambi, Shell owns 25% and Petrogal owns the remaining 10%. We own 55% of Route 2 Cernambi-TECAB, Shell owns 25%, Petrogal owns 10%, and Repsol owns the remaining 10%.

ROUTE 3: This 355 km gas pipeline connects the Santos Basin pre-salt to the Itaboraí Gas Treatment Unit (“UTGITB”) processing asset, in the city of Itaboraí in the state of Rio de Janeiro, with a capacity of up to 18 million m³/d. 307 km of the pipeline is offshore, and the other 48 km is onshore. The natural gas processing plant will have two units with a total processing capacity of 21 million m³/d of natural gas, increasing the supply of natural gas, LPG, and Natural Gasoline (C5+) to the market. The construction of the Route 3 gas pipeline was successfully completed. However, it is not yet in operation, as it is awaiting the conclusion of the processing plant to allow the flow of gas foreseen by that route, which is scheduled to begin operations in 2024. We own 100% of Route 3.

Recently installed and upcoming units in the Santos Basin pre-salt will be progressively connected to Route 2 (P-68) and to Route 3 (P-67, P-70, P-71, FPSO Carioca, FPSO Almirante Barroso, P-78 and P-79). All projects will be able to flow through any of the three flow routes when the system is fully implemented.

Marketing and Sales

The total volume of natural gas we delivered in 2022 was 58.0 million m³/d. The volume of our natural gas consumption by industrial, gas-fired electric power generation, commercial and retail customers in 2022 was 57.2 million m³/d, representing a decrease of approximately 32.3% compared to 2021. This decrease is mainly attributable to lower thermoelectric dispatch and the opening of the natural gas market, which reduced our non-thermoelectric demand.

In 2022, the consumption of natural gas by our refineries was 11.1 million m³/d, representing a decrease compared to 2021.

Below we present our sources and consumption in 2022:



Sources*

TOTAL SUPPLY NATURAL GAS

35.2
(million m³/d)
originated from Brazilian production

17.1
(million m³/d)
Imported from Bolivia

5.7
(million m³/d)
LNG imports were subject to regasification at the LNG terminals in Pecém (CE), at Baía de Guanabara (RJ) and in Bahia (BA)

Consumption

WE SUPPLY
(million m³/d)
The average of

34.8
to the gas distributors for supplying the non-thermoelectric market

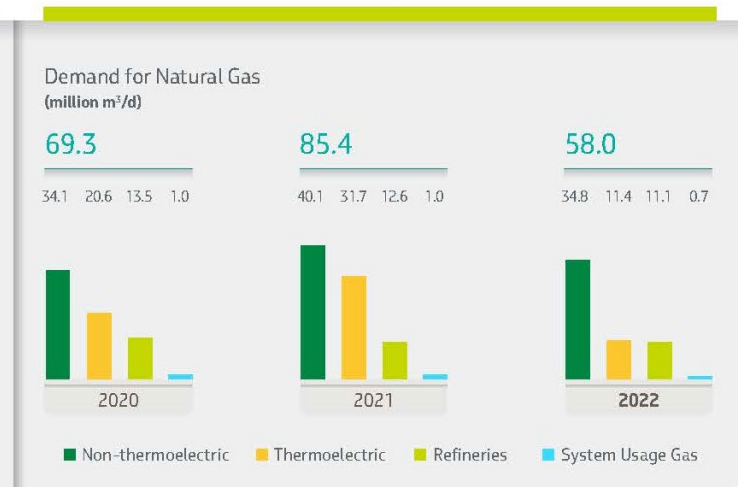
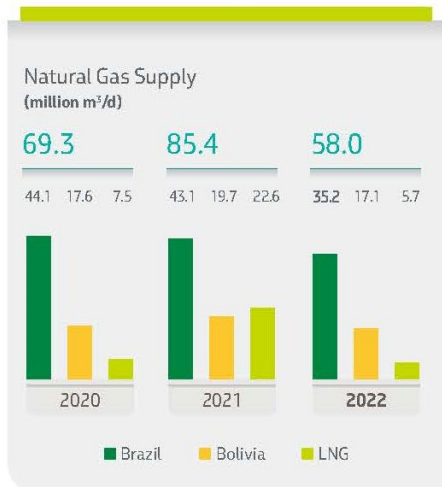
11.4
to the thermoelectric market (includes our units and third-party units)

11.1
to our refinery units

0.7
was consumed by the natural gas transporters hired by us for the provision of transport service

WE SELL

Through **46** agreements with **37** clients both for the thermoelectric segment, as for the non-thermal segment, including distribution companies, cogeneration units and five free consumers



* Apparent differences in the sum of the numbers are due to rounding.

Opening the gas market and GAS+ Program

In July 2019, we signed an agreement with CADE, which consolidates the understandings between the parties on the promotion of competition in the natural gas industry in Brazil. This agreement includes the sale of shareholdings in gas transportation and distribution companies and, among other matters, increases the flexibility for third parties to have access to our processing plants and release capacity in certain gas transportation contracts to which we are part. The purpose of the agreement is to preserve and protect the competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to enter this market, as well as suspending administrative procedures established by CADE court to investigate our natural gas business.

As part of the actions concluded in 2022 for the opening of the gas market, we highlight:



- closing of the sale of our remaining 49% stake in Gaspetro;
- signing of Petrobras' flexibility reduction agreement with NTS, which allows for the access of other agents to their transportation system;
- Integrated Processing System ("SIP") entered into commercial operation;
- signing of the Integrated Processing System ("SIP") and Integrated Outflow System ("SIE") agreements with CNOOC.

In 2023 we also had the processing agreements with Shell Energy Brasil Gás and Petrogal Brasil Comercializadora entering into commercial operation.

For more information on our agreement with CADE, see "Risks – Risk Factors – Operational Risks" and "Portfolio Management" in this annual report.

In 2020 we started the **GAS+ Program**, which aims to increase our competitiveness in the natural gas segment within Brazil's current market opening conditions.

GAS+ has two broad fronts: the Commercial Front and High-Performance Asset Front.

The Commercial Front aims to prepare us to act competitively in the New Gas Market, a program created by the Brazilian federal government to monitor the implementation of actions required for the entry of new agents into the natural gas market. This front focus offers the best customer relationship experience and developing and delivering products with commercial conditions adherent to the open market to achieve the established market share and profitability goals. It includes initiatives such as the launch of new commercial products, new forms of customer relationships, and digital tools (such as digital contracts and sales through automated platforms), as well as actions in the field of regulation and new business models (such as negotiated access to outbound infrastructure and gas processing in our gas treatment units).

The High-Performance Asset Front aims to tailor, expand and deploy gas and power assets seeking state of the art in reliability and efficiency, offering high-quality products in harmony with the environment and society, and ensuring long-term business sustainability, including the adoption of digital tools capable of optimizing asset operations.

Throughout 2022, several GAS+ initiatives were implemented. The development of these initiatives is monitored periodically, at different levels of management, following the established project management structure. The main achievements for 2022 are highlighted below.

Associated with the Commercial Front:

- Development of customized processes and products;
- Expansion of the customer portfolio in the natural gas open market environment, including the conclusion of contracts with the Mataripe Refineries (2024-2028) and Manaus (2022-2030);
- Negotiations for the purchase and sale of natural gas with partners;
- Development of processes and tools suitable for the new market (Marketing Planning / Transportation Contracting) in order to optimize transport contracts in public calls;
- Alignment of scheduling procedures between the gas and power sectors;
- Alignment of regulatory procedures for review of the CVU (Variable Cost per Unit, in Portuguese) of merchant UTEs;
- Positioning in the LNG market and portfolio management;
- Prospecting for new opportunities in power auctions; and
- Progress in implementing the new Customer Relationship Management platform (Evoluir Project).

**Associated with the High-Performance Assets Front:**

- Completion of the upgrade in the gas turbine of the Termorio plant;
- Progress in the predictive monitoring project of large machines, including the implementation of the pilot project of Advanced Diagnosis and Performance;
- Progress in the modernization project in the start-up system of thermal power plants;
- Progress in adaptation projects to ensure the availability of the thermoelectric portfolio, including supplementary burning system, filter houses, and control systems;
- Implementation of digital tools for operational support, such as trip detectors and personal digital assistants – PDAs, our Conf Online system, in four additional assets;
- Progress in the construction project of UTG Itaboraí, including analysis of documentation and tests in utility systems;
- Advancement in the project of UTE GASLUB, including the completion of conceptual projects of the Air Cooler Condenser and Wet Cooling Tower, as well as basic project contracts and environmental studies; and
- Advancement in the BM-C-33 offshore project, with the completion of the basic onshore scope project and the approval of the agreement with Equinor.

Natural gas sales contracts and long-term gas purchase and transportation commitments

We sell our gas primarily to local gas distribution companies, free consumers and gas-powered plants, generally based on standard take-or-pay, medium-term supply contracts. Free consumers are consumers that, if eligible, can freely negotiate their natural gas purchases from multiple suppliers instead of buying directly from a single distribution company. The price formulas under these contracts are mostly aligned with Brent oil prices, LNG price markers (Henry Hub and Japan Korea Marker) and the U.S. dollar. They were negotiated under the new gas law.

Throughout 2022, we entered into new commitments to supply natural gas, totaling a commitment for 2023 around 31.9 million m³/day with local distribution companies (including about 7.5 million m³/day still under legal injunctions – CEG, CEG-RIO and SERGÁS) and 2.2 million m³/day with free consumers.

When we began construction of the Bolivia-Brazil pipeline (“GASBOL”) in 1996, we entered into a long-term Gas Supply Agreement (“GSA”), with the Bolivian state-owned company Yacimientos Petrolíferos Fiscales Bolivianos (“YPFB”), to purchase certain minimum volumes of natural gas, which were based on an average delivery or pay of 30 mmm³/day, at prices linked to the global fuel oil price. The supply of gas under the GSA began on July 1, 1999 and, to date, due to withdraws already made, changes in the delivery or pay, and take or pay commitments described below, we anticipate possible termination of the agreement by 2028.

In compliance with our commitment entered into with CADE in July 2019, in which we agreed to contribute to the opening of the Brazilian gas market, stimulating competition by encouraging the entry of new agents, in March 2020, we and YPFB signed Amendment No. 8 to the GSA, reducing the contracted volumes from 30 million m³/day to 20 million m³/day.

In April 2022, considering that Bolivian production would not be sufficient to supply both the Argentine and Brazilian markets in winter, YPFB disclosed a commitment to sell additional volumes of natural gas to Argentina at a higher price. In addition, YPFB announced that as of May 2022 it would unilaterally reduce natural gas deliveries by four million m³/day.



We initiated negotiations with YPFB seeking a commercial solution as well as the application of contractual remedies for delivery failures. As a result of the negotiations, we entered into Amendment No. 11 to the GSA with YPFB in August 2022, adjusting the committed contracted volumes from a fixed amount to a seasonal commitment for both delivery and take-or-pay conditions, as well as including a second delivery point for natural gas supply to the Cuiabá Thermoelectric Plant in the state of Mato Grosso. Considering the contractual balance as of December 31, 2022, these adjustments also implied the potential extension of the contract until mid-2028, if take-or-pay conditions are met, or early 2026, if delivery or pay withdraw volumes are taken into account. For more information on our agreement with CADE, see “Legal and Tax – Regulation – Business Regulation” and “Portfolio Management” in this annual report.

Regarding transport contracts, we have signed agreements with (i) GTB, which operates the transmission network in Bolivia, connecting Bolivian gas production to the Brazilian border, and (ii) TBG, TAG, and NTS, which operate the Brazilian transmission network. The contracts have different durations, some of which are long-term. Since 2019, the market opening process has started with public auctions for contracting capacity in TBG's transport network. This process continued with the Flexibility Reduction Agreements signed with TAG in 2021 and NTS in 2022, allowing access to other Brazilian transport system shippers.

The table below shows the potential effect of the contractual commitments under the above agreements for the five-year period from 2023 through 2027.



FUTURE COMMITMENTS UNDER NATURAL GAS SALES CONTRACTS

	2023	2024	2025	2026	2027
To non thermoelectric clients					
Related parties (mmm ³ /d) ^{(1) (2) (3)}	0.00	0.00	0.00	0.00	0.00
Third parties (mmm ³ /d) ^{(2) (3)}	26.4	7.6	7.0	0.0	0.0
To gas-fired power plants					
Related parties (mmm ³ /d) ^{(1) (2) (3)}	7.14	4.21	2.69	2.76	3.63
Third parties (mmm ³ /d) ^{(2) (3)}	3.05	1.93	1.51	0.71	0.00
Total (mmm³/d) ^{(1) (2) (3)}	36.63	13.77	11.18	3.46	3.63
Estimated amounts to be invoiced (US\$ million) ⁽³⁾⁽⁴⁾	7,382.00	2,633.62	2,150.95	968.59	495.09
Purchase Commitments					
Purchase commitments to YPFB					
Volume obligation (mmm ³ /d) ⁽⁵⁾	11.05	12.95	5.60	2.51	1.80
Volume obligation (mmcf/d) ⁽⁵⁾	390.38	457.33	197.76	88.80	63.65
Brent Crude Oil projection (US\$) ⁽⁶⁾	85.00	80.00	75.00	70.00	65.00
Estimated payments (US\$ million) ⁽⁷⁾	1,494.85	1,130.99	804.63	482.27	252.42
Transportation Commitments					
Ship-or-pay contract with GTB					
Volume commitment (mmm ³ /d)	6.00	6.00	6.00	6.00	6.00
Volume commitment (mmcf/d)	211.89	211.89	211.89	211.89	211.89
Estimated payments (US\$ million) ⁽⁸⁾	0.40	0.40	0.40	0.40	0.40
Ship-or-pay contract with TBG ⁽¹⁰⁾⁽¹¹⁾					
Volume commitment (mmm ³ /d) ⁽⁹⁾	14.71	12.90	12.72	11.27	11.20
Volume commitment (mmcf/d)	519.59	455.63	449.24	398.07	395.52
Estimated payments (US\$ million) ⁽⁸⁾	26.38	15.95	14.95	6.64	6.31
Ship-or-pay contract with NTS					
Volume commitment (mmm ³ /d)	158.21	158.21	158.21	114.40	114.40
Volume commitment (mmcf/d)	5,586.96	5,586.96	5,586.96	4,040.00	4,040.00
Estimated payments (US\$ million) ^{(8) (12)}	1,404.32	1,409.94	1,409.94	1,025.64	1,044.35
Ship-or-pay contract with TAG					
Volume commitment (mmm ³ /d)	73.58	73.58	73.58	52.00	52.00
Volume commitment (mmcf/d)	2,598.4	2,598.4	2,598.4	1,836.19	1,836.19
Estimated payments (US\$ million) ⁽⁸⁾⁽¹³⁾	1,612.25	1,618.70	1,618.70	1,239.29	1,261.90

(1) For purposes of this table, "related parties" include all local gas distribution companies and power generation plants in which we have an equity interest and "third parties" refer to those in which we do not have equity interest.

(2) Estimated volumes are based on our Strategic Plan.

(3) Estimates are based on outside sales and do not include internal consumption or transfers.

(4) Prices may be adjusted in the future, according to formula defined in contract, and actual amounts may vary.

(5) Withdraw estimate based on the daily average of present take-or-pay volume commitment. Regardless of the withdraw, 23.95% of contracted volume is expected to be supplied by Petrobras Bolivia

(6) Brent Crude Oil price forecast based on our Strategic Plan.

(7) Estimated payments are calculated using gas prices expected for each year based on our Brent Crude Oil price forecast. Gas prices may be adjusted in the future based on contract clauses and amounts of natural gas purchased by us may vary annually.

(8) Amounts calculated based on current prices defined in natural gas transport contracts.

(9) The volumes may increase as a result of public calls for contracting capacity.

(10) The ship-or-pay contract shown with TBG is eliminated in our audited consolidated financial statements, since such contract is considered intercompany transactions.

(11) The sum of legacy contracts (TCO and CPAC) was considered with the new entry and exit contracts, object of public calls.

(12) The estimated payments from Petrobras to NTS will be monthly reduced in order to reflect the payments made by other companies to NTS in the gas transportation contracts signed as result of the agreement of reduction of flexibility signed between Petrobras and NTS in September 2022.

(13) The estimated payments from Petrobras to TAG will be reduced monthly in order to reflect the payments made by other companies to TAG in the gas transportation contracts signed as result of the agreement of reduction of flexibility signed between Petrobras and TAG in December 2021.



Distribution

Distributors provide gas through their distribution networks to commercial consumers, residences, industries, vehicles and thermoelectric plants.

We held a 51% interest in Gaspetro, a holding company that consolidated our equity interests in 18 of the 27 state natural gas distributors. Mitsui holds the remaining 49% interest. Following our commitment with CADE, in July 2021, we signed the sale of our interest in Gaspetro to Compass Gás e Energia S.A. The conclusion of the sale occurred in July 2022. This sale marked our exit of the gas distribution sector in Brazil.

For more information on our divestment process, see “Portfolio Management” in this annual report.

In 2022, of the total of 34.10 million m³/d of gas sold to distributors, 15% was distributed through distributors, which participation was partially held by Gaspetro until July 2022, when we concluded the sale of the company.

Power

Brazilian electricity needs are mainly met by hydroelectric power plants and other sources of energy (wind, solar, coal, nuclear, fuel oil, diesel oil, natural gas used in thermoelectrics, and others). The Free Marketing Environment (“ACL”) and the Regulated Marketing Environment (“ACR”) are involved in the regulation of the electric energy market in Brazil.

Hydroelectric power plants are dependent on the annual level of rainfall. When rainfall is abundant, Brazilian hydroelectric power plants generate more electricity. As a result, under these circumstances, there is less demand for power generation by thermoelectric power plants.

We generate and sell electric power from a generator complex consisting of 14 thermoelectric power plants that we own or lease, operating under the authorization regime as an independent power producer. They are powered by natural gas or diesel, with a total installed capacity of 5,313 MW. These plants are designed to supplement power from the hydroelectric power plants.

In 2022, the total electricity generated in Brazil, according to the ONS, was 74.76 GWavg. Our thermoelectric power plants contributed 859 MWavg (3,419 MWavg in 2021 and 1,756 MWavg in 2020). This decrease in total generated electricity was due to better rainfall conditions compared to the previous year, resulting in increased storage level of reservoirs.

In addition, we hold participation in other projects of power generation. This adds up to 215 MW to our electricity generation capacity.

SALES AND GENERATION OF ELECTRICITY ⁽¹⁾

	2022	2021	2020
Electricity sales (ACL) – average MW ⁽²⁾	1,099	1,150	837
Electricity sales (ACR) – average MW	2,053	2,439	2,404
Electricity generation – average MW	859	3,419	1,756

(1) The generation value in the table above includes only the plants where we manage the operation.

(2) Includes electricity sales from the Gas and Power segment to other operating segments, service and other revenues from electricity companies.



Electricity sales and commitments for future generation capacity

Under Brazil's power pricing regime, a thermoelectric power plant is only allowed to sell electricity that is certified by the MME and that corresponds to a fraction of its installed capacity. The certificate is granted to ensure a constant sale of commercial capacity over the course of years to each power plant, given its role within Brazil's system to supplement hydroelectricity power during periods of unfavorable rainfall. The amount of certified capacity for each power plant is determined by its expected capacity to generate energy over time.

The total capacity certified by the MME ("*garantia física*") may be sold through long-term contracts in auctions to power distribution companies (standby availability), and through bilateral contracts executed with free customers and used to meet the energy needs of our own facilities.

In exchange for selling this certified capacity, the thermoelectric power plants must produce energy whenever requested by ONS. In addition to a capacity payment, thermoelectric power plants also receive a reimbursement for variable costs (declared to MME to calculate commercial certified capacity) incurred whenever they are requested to generate electricity.

In 2022, the commercial capacity certified by MME for all thermoelectric power plants we control was 3,206 MWavg. Our total generating capacity was 5,313 MWavg. Of the total 4,079 MWavg of commercial capacity available for sale in 2022, approximately 50% was sold as standby availability in public auctions in the regulated market (compared to 58% in 2021) and approximately 27% was committed under bilateral contracts and self-production, i.e. sales to related parties, (compared to 27% in 2021).

Under the terms of standby availability contracts, we receive a fixed amount whether or not we generate any power. Additionally, whenever we have to deliver energy under these contracts, we receive an additional payment for the energy delivered that is set on the auction date and is revised monthly or annually, based on inflation-adjusted international fuel price indexes.

The table below shows the evolution of our installed thermoelectric power plants' capacity, our purchases in the free market and the associated certificated commercial capacity.

INSTALLED POWER CAPACITY AND UTILIZATION

	2022	2021	2020
Installed capacity (MW)	5,313	5,490	6,131
Certified commercial capacity (MWavg)	3,206	3,461	3,524
Purchases in the free market (MWavg)	873	787	693
Commercial capacity available (Lastro) (MWavg)	4,079	4,248	4,193

The table below shows the allocation of our sales volume between our customers and our revenues for each of the past three years:



ELECTRICITY SOLD

	2022	2021	2020
Total sale commitments (MWavg)	3,152	3,605	3,242
Bilateral contracts	771	778	496
Internal consumption	328	372	342
Public auctions to distribution companies	2,053	2,455	2,404
Generation volume (MWavg)	859	3,419	1,756
Revenues (US\$ million)⁽¹⁾	1,870	3,710	1,855

(1) Includes electricity sales revenues from the Power segment to other operating segments, service and other revenues from electricity companies.

Our power assets and their respective locations are listed in the table below.

OUR POWER ASSETS ⁽¹⁾ (MW)

	Type ⁽²⁾	Region	Power Plant	Fuel ⁽²⁾	Installed Capacity	Shareholding or PIE	Petrobras Capacity	Partners
Assets under Petrobras Management (own, lease or controlled)	1	Southeast/Midwest	Ibirité	NG	235	100%	235	-
	2		Baixada Fluminense	NG	530	100%	530	-
	3		Seropédica	NG/DO	360	100%	360	-
	4		Cubatão	NG	249.9	100%	249.9	-
	5		Nova Piratininga	NG	386	100%	386	-
	6		Piratininga	NG	190	100%	190	-
	7		Termorio	NG	989.2	100%	989.2	-
	8		Juiz de Fora	NG/ET	87	100%	87	-
	9		Três Lagoas	NG	386	100%	386	-
	10		Termomacaé	NG	922.6	100%	922.6	-
	11	South	Canoas	DO/NG	248.6	100%	248.6	-
	12	Northeast	Termobahia	NG	186	100%	186	-
	13		Vale do Açu	NG	323	100%	323	-
	14		Termoceará	NG/DO	220	100%	220	-
Petrobras Management					5,313	100%	5,313	



Type ⁽²⁾	Region	Power Plant	Fuel ⁽²⁾	Installed Capacity	Shareholding or PIE	Petrobras Capacity	Partners
15	PV	Northeast	Solar Alto do Rodrigues	1	100%	1	-
Subtotal Petrobras Management				5,314		5,314	

Type ⁽²⁾	Region	Power Plant	Fuel ⁽²⁾	Installed Capacity	Shareholding or PIE	Petrobras Capacity	Partners	
Petrobras Shareholdings	1	Southeast/Midwest	Goiânia II	DO	140.3	30%	42	Enegen Participações S.A.: 70%; Petrobras: 30%
	2		Araucária	NG	484	18.80%	91	Copel: 20.3%; Copel GeT: 60.9%; Petrobras: 18.8%
	3	Northeast	Suape II	FO	381	20%	76	Savana SPE Incorporação Ltda.: 80%, Petrobras: 20%
	4		Termocabo	FO	50	12%	6	Brasympe Energia S.A.: 60% (Petrobras has 20% of shareholding at Brasympe); EBRASIL S.A.: 24%; SZF Participações Ltda.: 14%; OZ&M Incorporação Participação Ltda.: 2%
Subtotal Petrobras Shareholdings				1,055		215		
TOTAL				6,369		5,529		

- (1) The Termocamaçari plant, powered by natural gas and with an installed capacity of 120MW, is leased to Proquigel Química S.A. until August 2030.
- (2) NG—Natural Gas; FO—Fuel Oil; DO—Diesel Oil; ET—Ethanol; PIE—Independent Power Producer; UTE—Thermoelectric Power Plant; PCH—Small Hydroelectric Plant; PV—Photovoltaic.

Contracts of our thermoelectric power plant in the Regulated Marketing Environment (or “ACR”) and their respective contracted power and contract expiration date are listed in the table below.



OUR CONTRACTS IN THE REGULATED MARKETING ENVIRONMENT

Region	Power plant	Contracted power (MWavg)	Contract expiration date
Southeast /Midwest	Baixada Fluminense	416.4	2033
	Seropédica	278.0	2023
	Cubatão	141.0	2024
		98.3	2025 to 2039
		64.2	2026 to 2040
	Termorio	704.0	2022 (352MW), 2024 (352MW)
	Três Lagoas	127.0	2023
	Ibirité	45.6	2022
Termomacaé	200.0	2025	
Northeast	Termoceará	141.0	2023 (64MW) e 2024 (77MW)

Contracts of capacity reserve of our thermoelectric power plants and contract length are listed in the table below.

OUR CONTRACTS OF CAPACITY RESERVE

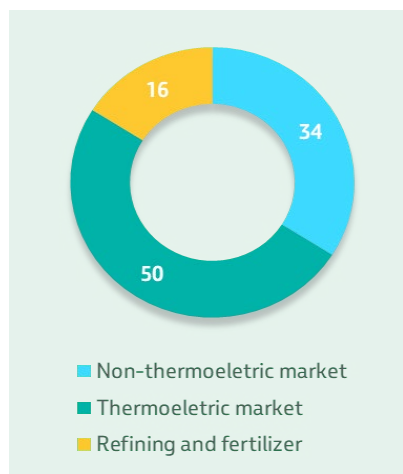
Region	Power plant	Contracted available power (MWavg)	Contract length
Southeast/Midwest	Termorio	922.35	July 2026 to June 2041
	Ibirité	197.87	July 2026 to June 2041
	Termomacaé	782.78	July 2026 to June 2041

We also have some investments in renewable power generation sources in Brazil. We own a solar power plant, Alto do Rodrigues Photovoltaic Unit with one MW of solar capacity.

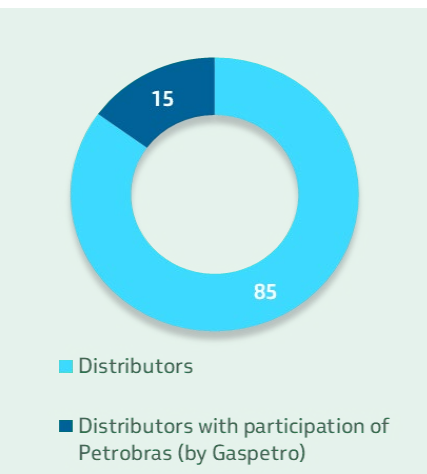
Customers and Competitors

Natural gas is marketed to 37 clients, most of which are distributors. The entire demand for natural gas includes our non-thermoelectric, thermoelectric, refining and fertilizer markets, as well as the consumption by natural-gas carriers contracted by us for the provision of transportation services.

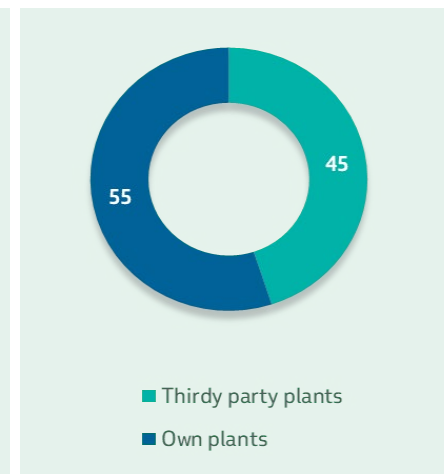
GAS CLIENTS (% vol)



NON-THERMOELECTRIC MARKET ⁽¹⁾ (% vol)



THERMOELECTRIC MARKET (% vol)



(1) The chart of the non-thermal market includes our participation until July 2022, when we concluded the sale of Gaspetro and ended our participation in this market.

In the commercialization of natural gas, we act as importers and domestic producers who can directly sell our product to distributors, free consumers, or thermoelectric plants. 2022 marked an increase in competition, with new contracts between producers and clients, as expected due to the regulation which improved the regulatory framework of the natural gas sector and established guidelines for the open market.

The transportation of natural gas also consists of a monopoly of the Brazilian federal government and may be exercised upon concession or authorization by companies incorporated under Brazilian law, with headquarters and administration in the country. We sold our interest in TAG, in July 2020, and NTS, in April 2021, and are negotiating the sale of our interest in TBG.

We operated in the natural gas distribution segment until July 2022, through indirect participation in state-owned distribution companies. In July 2022, we sold our interest in Gaspetro, the holding company that own participations in state distribution companies.

Throughout 2022, we were successful in negotiating a solution to some of the disputes initiated in 2021 to maintain natural gas supply conditions with local distribution companies, ending the disputes with Companhia de Gás do Ceará (“CEGÁS”), with Companhia de Gás de Santa Catarina (“SCGÁS”) and with Companhia de Gás do Espírito Santo (“ESGAS”). For certain other disputes, we have filed appeals in court and filed arbitration requests, but we are still negotiating a solution with certain other local distribution companies.

In the second half of 2022, local distribution companies launched public calls for the purchase of natural gas starting in 2023. We offered such distribution companies products with terms of five and nine years, indexed to Brent, with supply starting in January 2024. Among these public calls, by the end of 2022, we signed new contracts with SCGÁS, Companhia de Gás de Minas Gerais (“GASMIG”), Companhia Paranaense de Gás (“COMPAGAS”), and Companhia de Gás do Estado do Rio Grande do Sul (“SULGÁS”).



In the power segment, we operate in generation and sale. In generation, we compete with third-party thermoelectric plants, as well as other generators with other energy sources (hydro, wind, solar). In terms of commercialization, we compete with other energy marketers and operate in the regulated market (power distributors) and free market (marketers and free consumers/large consumers). We have 114 clients and suppliers, of which 34 are distributors, 20 are marketing companies, seven are generating companies and 53 are free consumers. All contracts are registered at the Electricity Trading Chamber, a sector agent responsible for the settlement and accounting of these contracts.

Fertilizers

We have three fertilizer plants in Brazil, one located in the state of Bahia ("FAFEN-BA"), one in the state of Sergipe ("FAFEN-SE"), and one through our subsidiary located in Paran , Araucaria Nitrogenados S.A. ("ANSA"). Their main products are ammonia and urea. Together these plants have an installed capacity of 1.852 million t/year of urea, 1.406 million t/y of ammonia, 319,000 t/y of ammonium sulfate and 800,000 t/y of ARLA-32. We also have an unfinished Nitrogen Fertilizer Unit (UFN-III) in Mato Grosso do Sul. The construction of UFN-III began in September 2011, but was halted in December 2014, with about 81% of the physical construction completed.

We continue to pursue our strategy of leaving the fertilizer market and focusing on assets that generate greater financial return and are more adherent to our business. To this end, since August 2020, after being mothballed in 2019, our plants located in Bahia and Sergipe have been operating under a lease agreement with Proquigel Qu mica S.A. ("Proquigel Qu mica"), a company of the Unigel Group for an initial term of 10 years, which may be extended for an additional 10 years.

In January 2020 ANSA was mothballed, and since September 2020 we have worked on the divestment process. In December 2022, we announced the cancellation of the competitive process for the sale of all our shares in ANSA and that we will evaluate its next steps related to the divestment of ANSA.

Additionally, since 2020 we have continued the divestment process of UFN-III. In April 2022, we announced the cancellation of the UFN-III sale process after the prospective buyer's proposed business plan was rejected due to their failure to obtain certain government approvals necessary for the transaction to proceed. In May 2022, we resumed the divestment process bid. In January 2023, we announced the termination of the competitive process for the sale, and will evaluate next steps in alignment with our Strategic Plan.



Portfolio Management

Our active portfolio management encompasses (i) investment processes through our own projects or partnerships with other companies and (ii) divestment processes, both aiming at improving our operational efficiency, risk reduction, return on capital, and generating value for our businesses. Currently, our active portfolio management process comprises the sale, acquisition and partnership of various participations stakes in some of our subsidiaries, affiliates, and assets to strategic or financial investors or by means of public offerings.

Our actively managed portfolio contains more than 50 assets at different stages of the process. Our active portfolio management contributes to improve capital allocation and consequently create value for the shareholder.

In line with the TCU, guidelines and current legislation, the following stages of our divestment projects are disclosed to the public:





From January 1, 2022 through March 29, 2023, we completed, among others, the following divestitures.

Signing date	Closing date	Main transactions	Transaction nominal value ⁽¹⁾ (US\$ billion)
07/05/2021	02/04/2022	Sale of our entire stake held in seven onshore and shallow water fields located in the state of Alagoas, jointly called Polo Alagoas	0.300
12/17/2020	05/10/2022	Sale of our entire stake held in 14 onshore exploration and production concessions, located in the state of Bahia, jointly known as the Recôncavo Complex	0.250
04/28/2022	07/05/2022	Sale of our entire stake (27.88%) held in Deten Química S.A. (Deten)	0.117 ²
07/28/2021	07/11/2022	Sale of our stake (51%) held in Petrobras Gas S.A. ("Gaspetro")	0.394 ²
01/29/2021	08/03/2022	Sale of our entire stake in the Peroá and Cangoá shallow water fields and in the BM-ES-21 deepwater concession, jointly known as Peroá Complex	0.055
08/14/2020	08/05/2022	Sale of our entire stake in the onshore field of Fazenda Belém and Icapuí, located in the state of Ceará	0.035
11/11/2021	11/04/2022	Sale of Shale Industrialization Unit (SIX) in Paraná	0.033
08/25/2021	11/30/2022	Sale of refining and associated logistics assets of Isaac Sabbá Refinery ("REMAN") in Amazonas	0.190
12/23/2021	12/20/2022	Sale of our entire stake held in 11 onshore fields located in the Sergipe-Alagoas Basin, jointly known as the Carmópolis Cluster	1.100
07/12/2021	12/22/2022	Sale of our entire stake held in the Papa-Terra field, located in deepwaters of the Campos Basin	0.106
04/28/2022	01/26/2023	Sale of our entire stake held in the Albacora Leste field, located in deepwaters in the Campos Basin	2.201
TOTAL			4.780

(1) Includes agreed amounts at the signing of the transaction.

(2) These transactions were denominated in R\$. Thus, for purposes of this table, the amounts were converted using the exchange rate ("PTAX") of the signing date of the relevant transaction.

From January 1, 2022 through March 29, 2023, we have signed agreements for transactions that are currently pending closing. Completion of such transactions is subject to compliance with certain contractual and legal conditions precedent.



Signing date	Main transactions	Transaction nominal value ⁽¹⁾ (US\$ billion)
07/09/2020	Sale of our entire stake in the offshore field of Pescada, Arabaiana and Dentão, located in the state of Rio Grande do Norte	0.002
01/31/2022	Sale of our entire stake held in 26 onshore and shallow waters fields and also the entire stake held in Clara Camarão located in the Potiguar Basin, jointly known as the Potiguar Cluster	1.385
02/23/2022	Sale of our entire stake held in four onshore fields located in the Espírito Santo Basin, jointly known as the Norte Capixaba Cluster	0.544
05/25/2022	Sale of Lubricants and Oil Products of the Northeast (LUBNOR) in Ceará	34
06/24/2022	Sale of our entire stake held in two sets of maritime concessions in the post-salt layer deepwaters, known as the Golfinho Complex and the Camarupim Complex, located in the Espírito Santo Basin	75
TOTAL		2.040

(1) Agreed amounts at the signing of each transaction, subject to adjustment at closing.

(2) These transactions were denominated in R\$. Thus, for purposes of this table, the amounts were converted using the exchange rate (PTAX) of the signing date of the relevant transaction.



Agreements with CADE

In 2019, we signed two agreements with CADE, which consolidated agreements between the parties related to (i) the execution of divestment of refining assets and (ii) promoting competition in the natural gas industry in Brazil. In 2021, we signed three amendments to these agreements, changing the signing deadlines for the divestment of some assets. In 2022 we signed an amendment to change the signing and closing deadlines for the divestment of some assets.

Refining agreement

With the execution of the refining agreement, among other related commitments, we are committed to divesting approximately 50% of our refining capacity as of the date of the agreement, which represents the complete sale of seven refineries (REPAR, REFAP, RLAM, RNEST, REGAP, LUBNOR, REMAN) and a shale industrialization unit (SIX) with their associated logistics.

The agreement also provides that, of the following subgroups (i), (ii), and (iii) below, the companies listed may not be acquired by the same buyer or by companies of the same economic group as the companies listed in each subgroup are considered competitors with one another: (i) RLAM and RNEST; (ii) REPAR and REFAP; and (iii) REGAP and RLAM. An external agent that we hire, according to specifications established by mutual agreement, oversees the schedule and compliance with the commitments assumed with CADE.

Even though we had terminated the divestment process for REPAR, RNEST and REFAP in 2021, we resumed the divestment process in June 2022.

In June 2022, we announced the sale of LUBNOR to Grepar Participações Ltda. The transaction is subject to compliance with conditions precedent, such as approval by CADE.



In November 2022, we concluded the sale of SIX to Forbes & Manhattan Resources Inc, as all the conditions precedent were satisfied, including the royalties agreement. We still operate the unit for a transition period of up to 15 months. In November 2022, we also closed the sale of REMAN to Ream Participações S.A. and announced the termination of REGAP's divestment process.

We are negotiating new terms with CADE for the refineries that have yet to be sold.

Natural gas agreement

The natural gas agreement includes the sale of our stake participation in transportation companies:

- 10% stake in NTS;
- 10% stake in TAG;
- 51% stake in TBG; and
- Of our indirect participation in gas distribution companies, either by selling our 51% stake in Gaspetro or by selling indirect participation in distribution companies.

In our transportation systems, we have worked to specify the maximum injection and withdrawal volumes at each receiving point and delivery area for further adjustments to the current transportation service contracts so that transportation companies, under the supervision of ANP, can offer the remaining capacity to the market, thus enabling other companies to use the remainder of the transportation network. Furthermore, we are committed to other actions, such as: (i) negotiating access to outflow and processing assets, (ii) refraining from purchasing new gas volumes from partners/third parties, except in certain situations provided for in the agreement, and (iii) leasing the regasification terminal in the state of Bahia.

In 2021, we made progress on several fronts, including leasing a regasification terminal in the state of Bahia and signing a contract for using a natural gas processing plant in UPGN Guamaré. In 2022, we signed a flexibility agreement with NTS, which allows for the access of other agents to their transportation system.

Regarding the commitment to negotiate access to our evacuation pipelines and processing plants, we started the commercial operation with Potiguar E&P in Guamaré on January 1, 2022. On the same date, Shell, Petrogal, Equinor, Petroreconcavo, Origem, and Repsol Sinopec, started the commercial operation of the "swap agreements". In May 2022, we also signed swap contracts with 3R for the gas from the Recôncavo and Rio Ventura Basins. These agreements are an interim solution developed to grant access to these companies to some of our evacuation pipelines and processing facilities. In contrast, negotiations, access agreements, or preconditions of other agreements are being completed. Under these swap contracts, we purchase the rich gas from the producer, evacuate and/or process it, and subsequently, we sell back the processed gas to the same company, allowing them access the Brazilian natural gas market directly.

The agreement's purpose is to preserve and protect competitive conditions, open the Brazilian natural gas market, encourage new agents to enter this market and suspend administrative procedures established by CADE to investigate our natural gas business.

In addition, we have in our portfolio other projects in their structuring phase, and believe in a strategy for our portfolio management that focuses on core assets, in order to improve our capital allocation, enable capital cost reduction, and ultimately increase value creation for us and our shares.

We have disclosed the teasers, non-binding and binding phases related to the following assets that are currently part of our divestment portfolio.



Phase	Summary scope of main transactions ⁽¹⁾
Teaser or Non-binding	Sale of our entire stake held in Petrobras Operaciones S.A. (POSA) in Argentina
	Sale of onshore fiber optic network in Brazil
	Sale of refining and associated logistics assets in Brazil: Refinaria Abreu e Lima (RNEST) in Pernambuco, Refinaria Presidente Getúlio Vargas (REPAR) in Paraná and in Refinaria Alberto Pasqualini (REFAP) in Rio Grande do Sul
	Sale of our entire stake (18.8%) held in UEG Araucária (UEGA)
Binding	Sale of our entire stake (20%) held in MP Gulf of Mexico LLC. (MPPG) located in Texas, USA, owner of offshore oil fields in the Gulf of Mexico
	Sale of mining rights for research and mining of potassium salts located in the Amazonas Basin
	Sale of the entire stake (34,54%) held in Metanor
	Sale of part of our stake held (40%) in the BM-POT-17 exploratory concessions, where the Discovery Assessment Plan for the Pitu well is being developed, and the POT-M-762_R15 concession (POT-M-762 block), located in deepwaters in the Potiguar Basin - Equatorial Margin - in Rio Grande do Norte
	Sale of our entire stake held in the Uruguá and Tambaú fields, located in deepwaters in the Santos Basin, state of Rio de Janeiro, jointly called Polo Uruguá-Tambaú
	Full sale of our equity interest (51%) in Transportadora Brasileira Gasoduto Bolívia-Brasil ("TBG")
	Full sale of equity interest (25%) in Transportadora Sulbrasileira de Gás S.A. ("TSB")
	Sale of our entire stake held in 28 onshore fields located in the Recôncavo and Tucano Basins, jointly known as the Bahia Terra Cluster
	Sale of our entire stake held in Petrobras Colombia Combustibles ("PECOCO")
	Sale of our entire stake held in 11 production fields located in shallow waters in the Campos Basin, jointly known as the Garoupa Complex
	Sale of our entire stake (100%) held in the Petrobras Biocombustíveis S.A. ("PBIO"), including the biodiesel plants.
	Sale of our entire stake held in five electricity generation companies: Brasympe Energia S.A. ("Brasympe") and Energética Suape II S.A. ("Suape II")
	Sale of our entire stake held in the Manati field, a shallow water marine production concession located in the Camamu Basin, in the state of Bahia
Sale of our entire stake held in the Atum, Curimã, Espada and Xaréu fields, located in shallow waters in the Mundaú sub-Basin, state of Ceará, jointly called Polo Ceará	

(1) Information updated as of March 29, 2023.

As announced to the market on March 1, 2023, we received an official letter from the MME requesting the suspension of the sales of assets for 90 (ninety) days, due to the reassessment of the National Energy Policy currently underway and the establishment of a new composition of the National Energy Policy Council (CNPE), respecting the Company's governance rules, commitments made to government entities and without putting Petrobras' interests at risk. Our Board of Directors will analyze the ongoing processes, from the standpoint of civil law and within the rules of governance, as well as any commitments already made, their punitive clauses and their consequences, so that the governance bodies assess potential legal and economic risks arising, subject to the rules of secrecy and other applicable governing rules.

On March 17, 2023, our Executive Board has forwarded for the appreciation of our Board of Directors the following proposal in response to the MME letter for their review. Such proposed response states that: *"we carried out a preliminary study on the divestment processes in progress and, so far, we have not found grounds for which the projects for which contracts have already been signed (signing) should be suspended. The processes in which no contracts have been signed will continue to be analyzed."*



In light of further communications received from MME on March 29, 2023, our new Executive Board will reconsider whether any divestitures will be made. As of March 29, 2023, our Board of Directors has not approved the cancellation of any ongoing projects for which contracts are in effect as of the date hereof.

Material facts regarding this matter will continue to be disclosed to the market. For more information, see “Risk Factors – 6.b) Changes in the competitive environment of the Brazilian oil and gas market may intensify the requirements for our performance levels to remain in line with the best companies in the sector. The need to adapt to an increasingly competitive and more complex environment may compromise our ability to implement our current Strategic Plan or any subsequent plans adopted.



External Business Environment

We are subject to external variables that can impact the performance of our business and the way we plan for the future. We describe key variables in 2022 below.

Global Economy

In 2022, the global economy was marked by the conflict between Russia and Ukraine, and its immediate developments, such as the sanctions on Russia set in place by the U.S. and the European Union. These events built on a perspective of a fragile recovery of the global economy, after the Covid-19 pandemic of 2020 and 2021, among waves of new variants of the disease and of the disruption of global supply chains.

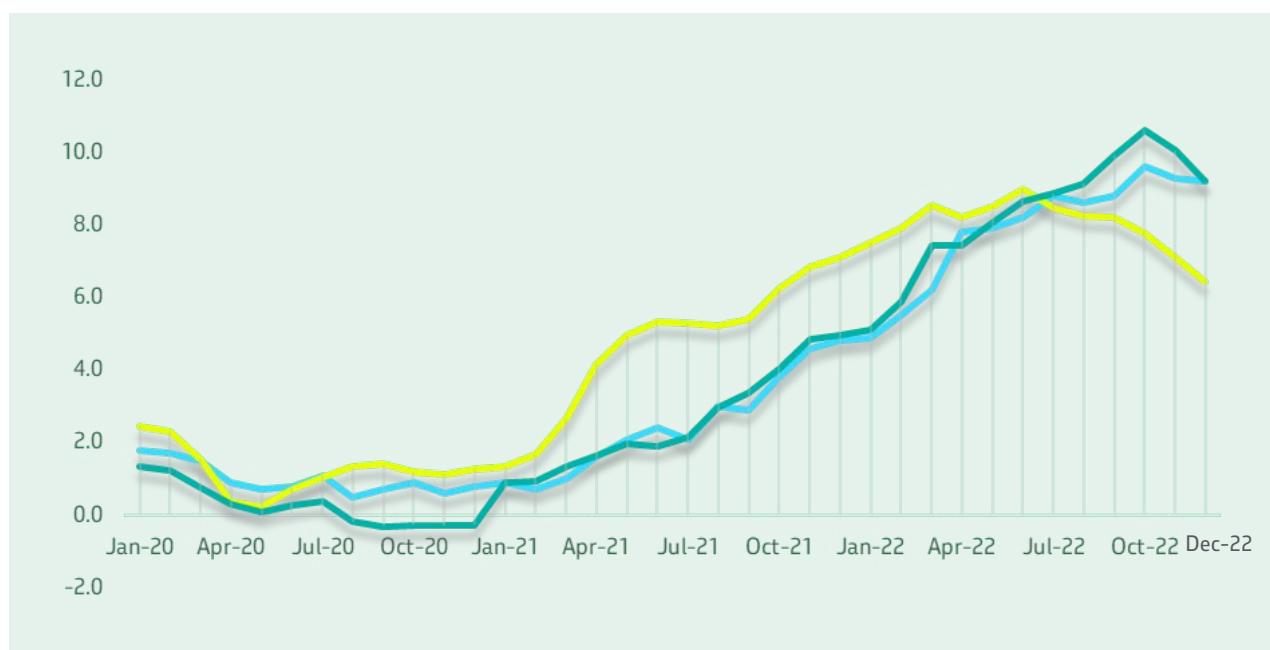
In February 2022, Russian invaded Ukraine, with the motivation of promoting the independence of the separatist regions of Donetsk and Luhansk. The immediate U.S. response was to apply a series of sanctions on Russia, including: (i) freezing of the country’s assets abroad; (ii) excluding banks and financial services providers from the international financial system and (iii) limiting the activities of Russian companies.

The conflict had an immediate impact on the global economy as a result of its impact on the energy market due to Russia's relevance. Russia is a major player in this market, producing 9.72 mmbbl/d, according to the International Energy Agency (IEA), as well as being one of the world’s leading exporters. The destination of most of these energy exports is Europe, which has therefore been the most affected region due to its dependence on gas. According to IEA data, between 2015 and 2020, Russian natural gas accounted for 40% of the total consumption in Europe.

The uncertainties and disruptions relating to the supply of one of the world’s largest energy producers resulted in a steep increase in the prices of these products. The price of Brent oil, which began the year at 77.0 US\$/bbl, reached 137.6 US\$/bbl in March. The benchmark price of JKM LNG, which on January 1, was at 28.8 US\$/MMBtu reached 84.8 US\$/MMBtu in March. In addition, other metals and agricultural commodities were also impacted early in the war, although most of them have already fallen from their highs.

These changes have put pressure on inflation in various regions of the world, mainly in the U.S. and Europe.

GLOBAL INFLATION – U.S., EUROPEAN UNION AND UNITED KINGDOM (Var% a.a)



Source: BLS, ONS and Eurostat



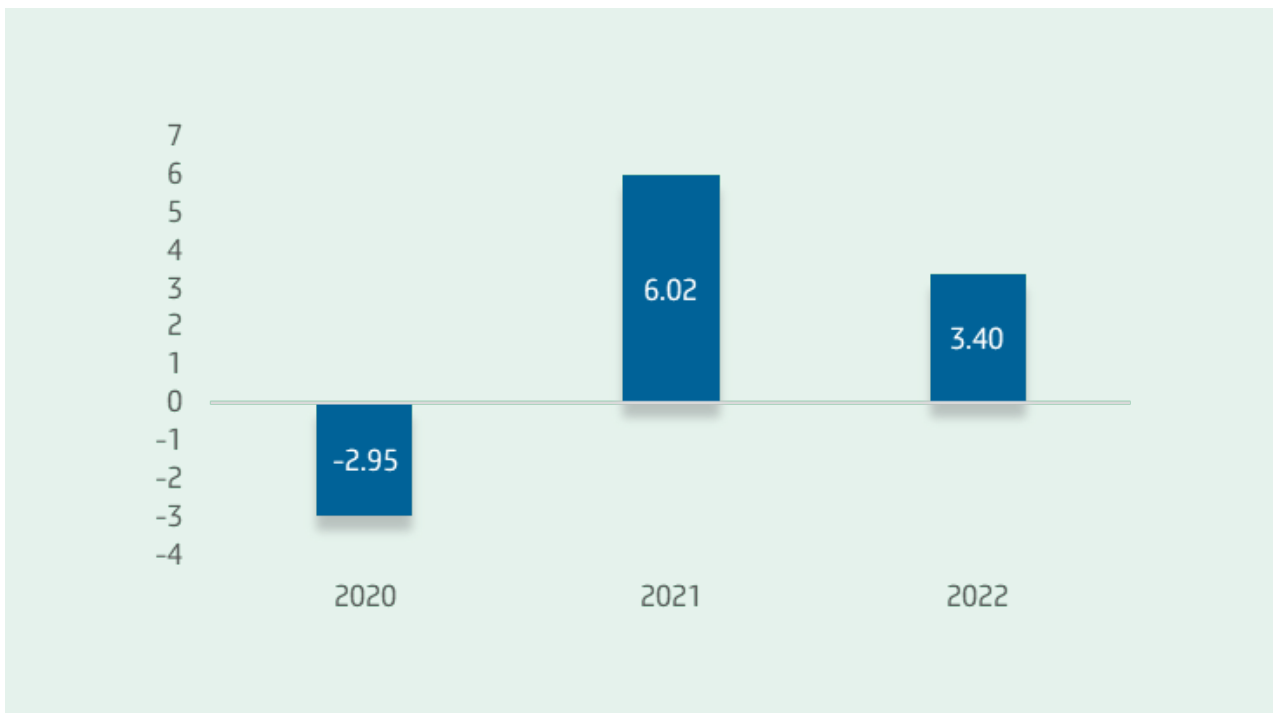
The increase in prices altered the dynamics of global macroeconomy and reduced household purchasing power. According to IEA data, 70 million people who had recently obtained access to electric power will no longer be able to afford these resources due the increase in prices.

Trying to control the rise in inflation and to reduce the impact for consumers, several countries have already announced and implemented measures and subsidies to consumer energy prices. Measures span from direct income transfers to low-income families to the control of consumer prices, tax cuts and taxation of profits of energy companies.

Additionally, global interest rates have increased, what is also expected to continue through 2023. The increase of international interest rates is expected to reduce global demand. This outlook is even more delicate since the Chinese recovery, among the zero-Covid-19 policy and multiple lockdowns implemented in the country, is still fragile.

According to the IMF, the global economy is expected to grow 3.4% in 2022 and to be reduced to 2.9% in 2023, due to impacts of the Russia-Ukraine war, inflation, and the tightening of monetary policy.

GLOBAL GDP (% a.a)



Source: WEO, FMI

Global Oil & Gas Market

The year 2022 started with a higher Brent price due to signs of a tighter market due to the recovery in consumption and the difficulties of OPEC+ countries in sustaining their planned production increases. Higher natural gas prices since mid-2021 have also put pressure on demand for other energy sources, such as oil, supporting the price increase.

The first quarter of 2022 was marked, however, by the invasion of Ukraine by the Russian army in February. This affected the world's macroeconomic environment, with the implementation of several U.S. and EU sanctions against Russia. The increased risks of supply disruptions in one of the main oil producing countries, in an already tight market, caused Brent prices to reach US\$138/bbl on March 8, the highest level since July 2008.



Rising tensions in producing countries, uncertainties over the return of the Iranian nuclear deal and disruptions at an oil export terminal in the Black Sea contributed to higher and more volatile prices in the period. In late March, the U.S. announcement of the release of about 180 mmbbl from its Strategic Petroleum Reserve in the following months helped to lower prices. However, the average Brent price for the period was 66% higher in comparison to the first quarter of 2021.

BRENT – DAILY CRUDE OIL PRICE (US\$/bbl)



Source: Bloomberg, 2022

Oil prices for the second quarter of 2022 started at lower levels in response to an additional 60 mmbbl release from the strategic stocks coordinated by the International Energy Agency (IEA) and the adoption of new lockdowns in China as part of the country’s Covid Zero strategy.

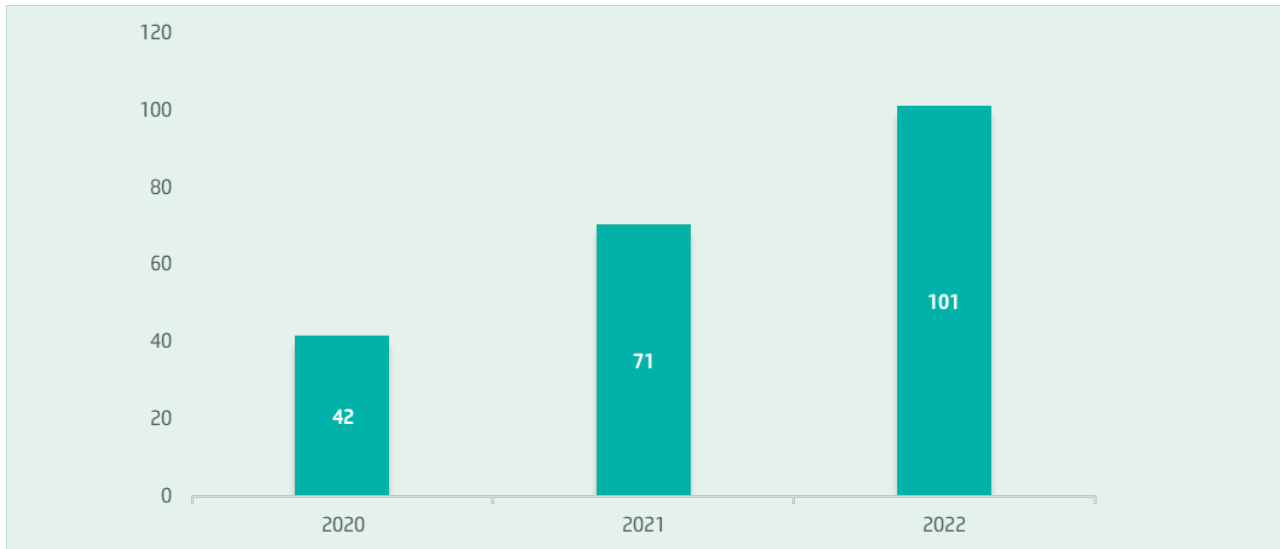
However, in May, Brent prices began to increase again influenced by the EU’s agreement to ban seaborne Russian crude and oil products by the end of the year. The announcement of the reopening of cities in China and restrictions on Libyan production also put upward pressure on prices in this period.

In June, OPEC+ announced an increase in its planned monthly production from 432 to 648 mmbbl/d for July and August. The decision came as positive news to consuming countries, but also raised alarms about OPEC+’s spare capacity. By August, Brent prices had reached 120 US\$/bbl.

During the third quarter of 2022 the Brent price showed a downward trend, reaching a minimum of 85 US\$/bbl. The movement was influenced by concerns about the possibility of a global recession. Weaker demand in China due to new lockdowns, and lower than expected gasoline demand during the U.S. driving season also contributed to lower prices.

On the supply side, an additional 100 mmbbl/d increase in the OPEC+ production target for September, a lower-than-expected drop in Russian production and the continued release of US Strategic Petroleum Reserves program also impacted prices.

In October, OPEC+ reassessed the market and announced a reduction of two mmbbl/d in the group’s production quotas for November and December 2022. The approaching start of sanctions on Russia’s oil and gas sector and uncertainties over a price cap policy for Russian oil also put pressure on prices, which recovered to 102 US\$/bbl in the first week of November. However, concerns over rising Covid-19 cases in China and mild temperatures in the Northern Hemisphere continue to put downward pressure on prices, which closed in November 2022 at 87 US\$/bbl.

**BRENT – ANNUAL CRUDE OIL PRICE (US\$/bbl)**

Source: Bloomberg, 2021

The Russia-Ukraine conflict, which has reduced Russian gas exports, has exerted intense pressure on the LNG market, affecting gas prices not only in Europe, but throughout the world. Gas flows to Europe were significantly reduced following the Russian decision to only accept payment for its gas in Rubles, followed by the ban of Gazprom, the Russian state-controlled gas company, on transporting gas via Poland through the Yamal gas pipeline, and, lastly, by the frequent interruptions of the Nordstream gas pipeline (the largest in Europe) to carry out corrective maintenance. In September 2022, Russia announced that the flow through Nordstream would be interrupted until sanctions against Russia were lifted. This escalated in October, when the possibility of restarting the flow became even more remote with the occurrence of explosions that caused physical damage to the structure of the pipeline and will require a long time of repair in full.

With the Russian supply disruptions, Europe sought to replenish its stocks before the winter, and its purchases of LNG increased by 65% in the first eight months of 2022 relative to the previous year (IEA). Therefore, the prices of natural gas in Europe and in the LNG spot market in Asia reached record highs in the third quarter of 2022.

The higher prices resulted in demand destruction, especially in the industrial sector, a shift to fuels such as coal and oil for power generation, and energy cuts in some importing regions. Gas consumption in Europe fell more than 10% in the first eight months of 2022 compared to the same period of 2021 (IEA). In the Asia-Pacific region, the demand for LNG fell 7% (IEA) over the same period due to the high prices, the mild winter, and the zero Covid-19 policy adopted in China.

Henry Hub prices in the U.S. also abruptly increased with a growing demand for LNG exports and the low response from North American offer to soaring prices. Growth in LNG exports through August 2022 was dominated by the United States (growth of 14% relative to the previous year) and represented more than half of the net global increase in LNG production.



Brazilian Economy

According to the Brazilian Institute for Geography and Statistics (“IBGE”), the Brazilian economy grew by 2.9% in 2022. The rate was above the expected growth at the beginning of the year, which was around 0.3%. The services sector was the most surprising, expanding by more than 4%. This segment was the hardest hit by the Covid-19 pandemic in 2020. In 2021, there was a significant recovery in this sector (5.2%), reaching a level of production higher than the pre-pandemic level, leading analysts to predict that 2022 would no longer be a year of robust growth.

However, the Covid-19 pandemic has boosted certain economic service activities, such as “information services” and “transport, storage and mail.” These two activities have shown an average growth rate of more than 9% over the past two years. “Information services” continues to be driven by the digital transformation of economic activities, which needed to rely on information technology to continue to operate throughout the Covid-19 pandemic. The performance of “transportation, storage and mail” is largely supported by the expansion of e-commerce as well as the logistics sector. These in turn also provide feedback to the growth of “information services” as they are major users of digital technologies.

Regarding inflation, 2022 was marked by a slowdown in the pace of price increases. There are two main reasons for this shift. At the international level, there was a slowdown in logistical problems in the flows of global supply chains, with a reduction in freight costs and a drop in the price of inputs and raw materials, which ensured a retraction in the IGP-DI (which corresponds to the Wholesale Price Index), which decreased from a 12-month accumulated rate of 17.7% at the end of 2021 to 5,03% at the end of 2022. At the Brazilian domestic level, tax exemptions on some consumer prices, including fuels and energy, caused a drop in prices for final consumers.

As a result, after ending 2021 with consumer inflation measured by the IPCA (Consumer Prices Index) of 10%, in 2022 the price expansion of prices was 5.78%.

Despite the slowdown, inflation ended the year above the target, which led the Central Bank to increase the basic interest rate (“SELIC”) to 13.75% in August, a rate maintained until the end of 2022.

Finally, the trajectory of the Brazilian exchange rate registered high volatility throughout 2022. After an intense appreciation at the beginning of the year, which led to a drop in the average nominal rate from R\$/US\$5.55 in January to R\$/US\$4.75, there was again a strong devaluation, taking the Brazilian currency to an exchange rate of approximately R\$/ US\$5.30. The average exchange rate in 2022 was R\$5.17/US\$, representing an appreciation of 4.26%.

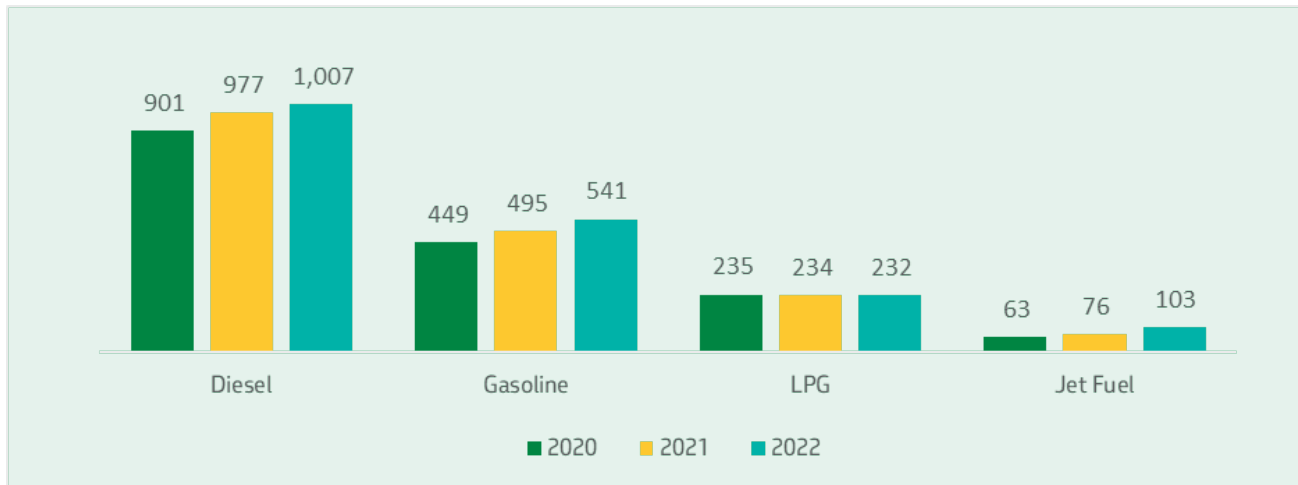
Brazilian Oil and Gas Market

Demand for oil products in Brazil reached its all-time record in 2014. Since then, the average annual GDP growth has remained stagnant, explaining most of the drop in demand for oil products in the same period.

The Covid-19 pandemic has had extensive effects on oil products demand, starting in the second quarter of 2020. Strong social distancing measures, personal mobility restrictions, and temporary lockdowns led to an unprecedented fall in oil-related demand for passenger transportation activities. Gasoline and jet fuel were the most severely impacted products. Although goods and cargoes kept moving around the country, the slowdown in economic activity also slightly reduced diesel demand.

During subsequent quarters, restriction measures were lifted gradually amid the decrease in the daily number of Covid-19 related cases and deaths. In 2021, the bulk of oil products demand has already surpassed the levels seen before the pandemic with jet fuel and naphtha being the only products whose demand is still below pre-pandemic levels.

CONSUMPTION OF SELECTED FUELS IN BRAZIL (mmbbl/d)



Source: Petrobras and EPE, 2022

Despite the recovery, the cumulative effect of the rise in commodity prices, the disruption of supply chains caused by the Covid-19 pandemic and the global energy crisis exacerbated by the Russian invasion of Ukraine are still having repercussions on fuel markets.

In mid-2022, in the face of high fuel prices, the Brazilian government reduced federal and state taxes on fuel, which resulted in additional impetus for gasoline and diesel demand. Additionally, ethanol supply has retracted, causing the rise of ethanol prices and the loss of its competitiveness against gasoline. To mitigate the effects of higher biodiesel prices, the Brazilian government has temporarily reduced the diesel/biodiesel blend requirements, which has led to an increase in the demand for fossil diesel.

Regarding power generation, in 2021 there was a severe drought in the Southern and Central regions of Brazil, which caused the demand for fuel oil for the power plants to skyrocket. With the regularization of rains in early 2022, the level of the reservoirs rose, and the Electric Sector Monitoring Committee (CMSE) decided to reduce the power generation by thermal plants. As a result, overall demand for fuel oil fell by roughly 45% in 2022 when compared to 2021.

Diesel sales rose 3% in 2022. Temporary basic income policies to mitigate the impacts of the Covid-19 pandemic stimulated the demand for essential goods such as food and beverages. Additionally, record grain harvests boosted freight and diesel demand. In turn, jet fuel demand was the most affected by travel restrictions put into place due to the Covid-19 pandemic. In 2022, jet fuel demand gradually recovered to pre pandemic levels, rising by roughly 36% in comparison to 2021, but remains 15% below 2019 levels.

In specific terms, gasoline demand is expected to decrease due to its substitution by hydrous ethanol, the use of which is incentivized by public policies such as *RenovaBio* that induce competitive prices of hydrous ethanol compared to fossil fuel. Additionally, exclusively gasoline-fueled vehicles are being replaced by flex fuel and, in the future, the latter will be gradually replaced by electric automobiles. Moreover, the development of diesel demand is expected to be slowed by the mandatory increase of the biodiesel percentage in the fuel blend that is delivered to the final consumer.

Fuel oil is consumed in three main segments: industrial, power generation and as a marine fuel. For at least two decades now, fuel oil has been undergoing a process of substitution by other sources, especially natural gas, and there is still some room for this process to continue in the next years. In the maritime transport segment, a strong demand for decarbonization is starting to emerge, which will certainly have negative repercussions on the demand for bunker in the medium and long term.

According to the Ministry of Mines and Energy, natural gas demand inter-annual data year-to-date until October 2022 has decreased by 26%, from an average of 93 million cmd in 2021 to 69 million cmd (does not include the gas used in the pipeline transport).



Regulation

On April 7 2022, the CNPE approved Resolution CNPE nº 3, published on May 3 2022, with the directives and enhancements of policies aiming the transition to a competitive market for natural gas. This resolution, in addition to consolidating the CNPE Resolutions nº 10/2016, 04/2019 and 16/2019, sought to define:

- Strategic directives for the design of a new natural gas market;
- The enhancements of energy policies aimed at the promotion of free competition in this market; and
- The bases for the transition period.

Among the terms addressed in the specific case, it may be mentioned:

- The establishment of the transition period to the new market design;
- The prerogative of the MME to publish in its electronic portal, for the duration of the transition, the monitoring of the deadlines indicated to make the new market design appropriate;
- ANP has the power to monitor negotiations for access to essential facilities (production outflow pipelines, gas processing units and regasification terminals for LNG) and, when not concluded within 180 days, has the power to verify the existence of any anti-competitive or controversial conduct;
- The recommendation that ANP, in communication with the MME, the Ministry of the Economy (ME) and CADE, prepare, within 180 days, an analysis of the competitive conditions in the natural gas market and proposals for a program for the progressive release of natural gas; and
- The recommendation that the MME, in communication with the ME, ANP, the Energy Research Company (EPE) and CADE, monitor the implementation of actions necessary for the opening of the gas market, proposing additional and complementary measures to the CNPE.

In December 2022, the ANP issued an update of its 2022-2023 Regulatory Agenda informing that the regulation of the new statutory regulation for gas published in 2021 (Law 14,134/2021 and its regulatory Decree No. 10,712/2021) will be published between the years 2023 and 2024.



Strategic Plan

2023-2027 Strategic Plan

Our 2023-2027 Strategic Plan maintains a consistent strategy of focusing on projects with full potential to generate value, resources and contributions to Brazilian society. We prioritize monetizing resources into wealth for Brazil while following the sustainability guidelines for energy transition. We have expanded our investment plans by 15% for the next five years, an endeavor that we are pursuing with high responsibility and diligence with regards to the allocation of resources.

Throughout 2022, we have delivered operational and financial performance in line with our commitment to generate value for our shareholders and Brazilian society and in full adherence with the 2022-2026 Strategic Plan.

Our 2023-2027 Strategic Plan has been prepared in a way that preserves our vision, values and purpose. The business strategies were maintained, and the Environmental, Social and Governance (ESG) and innovation strategies were improved.

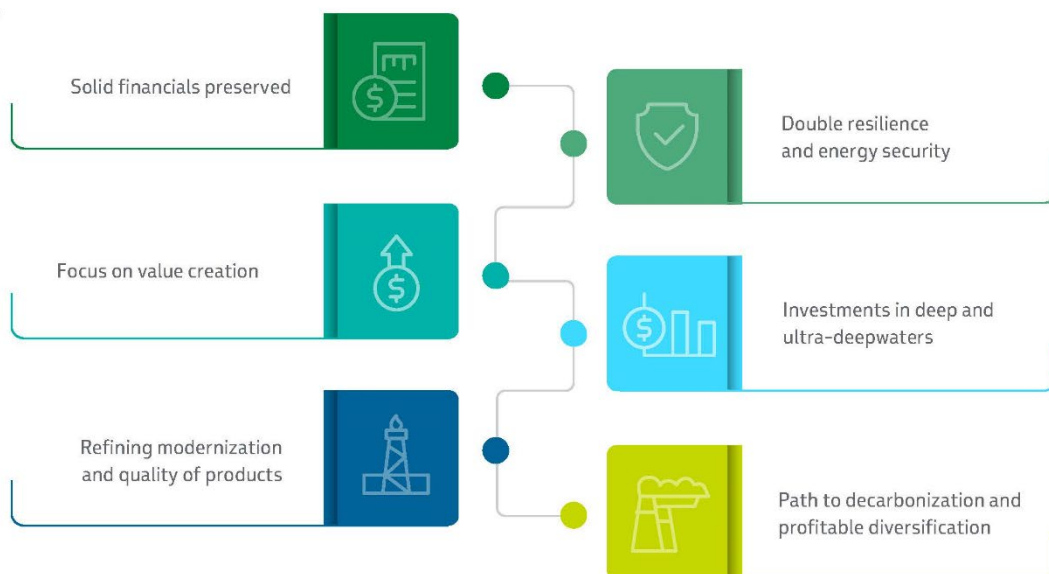
With the vision of *"being the best energy company in value generation, focused on oil and gas, sustainability, safety, respect for people and the environment,"* we preserve our values in the 2023-2027 Strategic Plan:

- (i) Respect for life, people and the environment;
- (ii) Ethics and transparency;
- (iii) Overcoming challenges and trust;
- (iv) Market and results orientation.

Furthermore, we maintained our purpose of *"providing energy that ensures prosperity in an ethical, safe, and competitive way."*

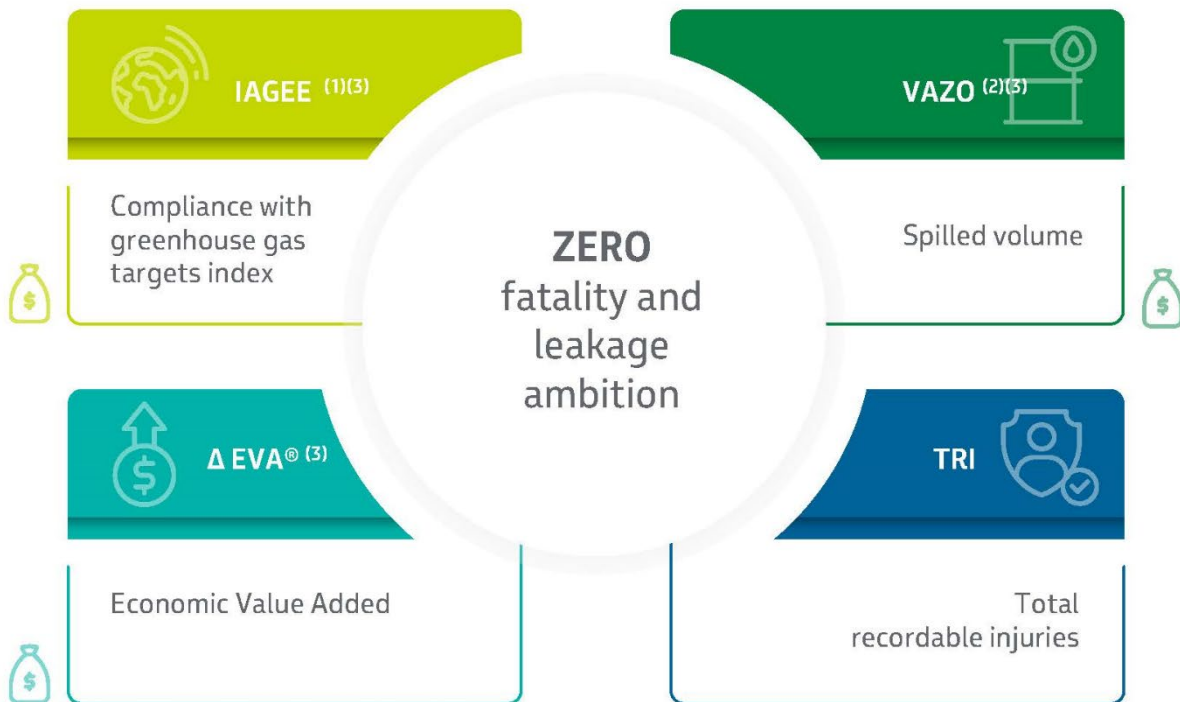
The 2023-2027 Strategic Plan may be amended by our management at any time, including as a result of influence by our Board of Directors and our controlling shareholder, the Brazilian federal government. There can be no assurance that our 2023-2027 Strategic Plan will not be amended.

STRATEGIC PLAN 2023 - 2027





To ensure incentive alignment and to achieve corporate goals, our 2023-2027 Strategic Plan reaffirms the four key metrics from the previous plan, as shown below:



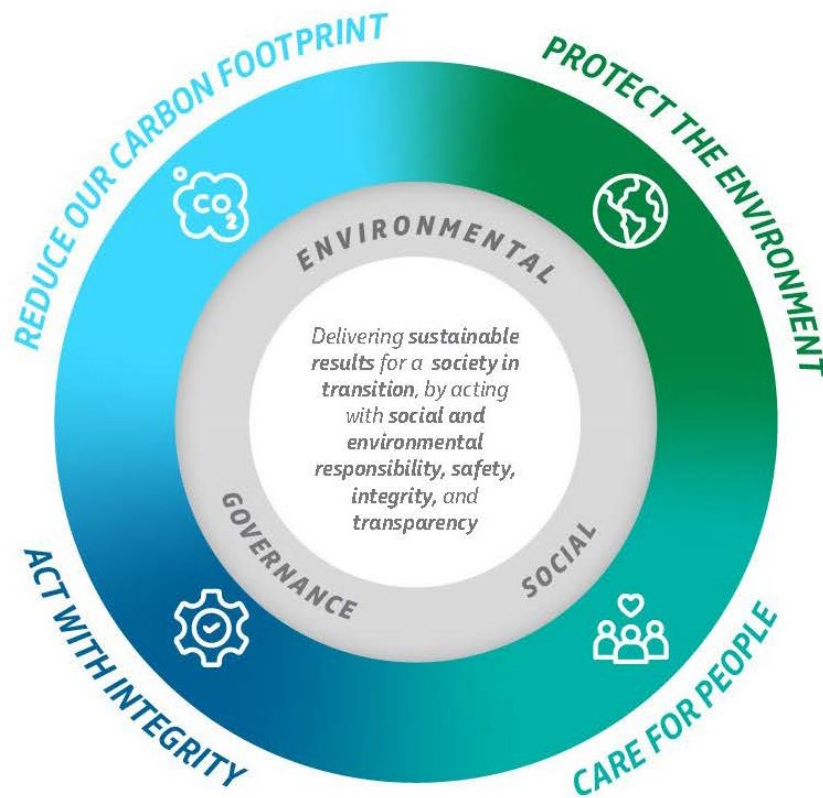
1) Compliance with greenhouse gas targets index (IAGEE) from Exploration & Production and Refining.
2) Volume of oil and oil products spilled.
3) IAGEE, VAZO and ΔEVA® impact variable compensation of all employees, including senior management.

The IAGEE and VAZO targets are aligned with the 2023-2027 Strategic Plan’s low-carbon and environmental sustainability commitments, while the Delta EVA® indicator represents a measure of economic value creation. These metrics have a direct impact on the variable compensation of our executives and employees.

We reaffirm in the 2023-2027 Strategic Plan the goal of zero fatalities and zero leakage. Our commitment to life is a non-negotiable value, and our renowned safety culture continues to be reinforced every day to strengthen the people and the operational safety.



ESG - Environmental, Social and Governance

The 2023-2027 Strategic Plan has integrated the ESG elements into a single vision, summarizing our position according to the diagram below. This ESG diagram guides planning and stakeholder engagement and is aligned with our strategic elements and goals. Four key ideas are highlighted: (i) reduce our carbon footprint; (ii) protect the environment; (iii) care for people; and (iv) act with integrity. For each of these key ideas a set of relevant themes has been identified to support and guide our actions, projects, programs and related commitments.



The goals related to each of the four key ideas of the diagram were consolidated into a single list, aligned with the concept of integrated ESG:



	<p>REDUCE OUR CARBON FOOTPRINT</p>	<p>GOAL: Neutralize emissions (scopes 1 and 2) in activities under our control and influence partners to achieve the same goal in non-operated assets by 2050¹.</p> <ul style="list-style-type: none"> ▪ Reduction of total operational absolute emissions² by 30%³ by 2030. ▪ Zero routine flaring by 2030. ▪ Reinjection of 80 million tCO₂ by 2025 in CCUS projects. ▪ GHG intensity in the E&P segment: achieve portfolio intensity of 15 kgCO₂e/boe by 2025, maintaining 15 kgCO₂e/boe by 2030. ▪ GHG intensity in the Refining segment: achieve an intensity of 36 kgCO₂e/CWT by 2025 and 30 kgCO₂e/CWT by 2030. ▪ Consolidation of 55%³ reduction in the intensity of methane emissions in the upstream segment by 2025, reaching 0.29 tCH₄/thousand tHC.
	<p>PROTECTING THE ENVIRONMENT</p>	<ul style="list-style-type: none"> ▪ 40%⁴ reduction of our withdrawn freshwater by 2030. ▪ 30%⁴ reduction in solid waste generated in processes by 2030. ▪ Allocation of 80% of solid waste generated in processes for RRR⁵ routes by 2030. ▪ 100% of our facilities with a biodiversity action plan by 2025.

(1) Our goal refers to emissions in Brazilian territory, where more than 97% of our operational emissions occur. For other emissions, we also aim for neutrality within a period compatible with the Paris Agreement, in line with local commitments and international organizations.

(2) Our goal is to maintain the 2022 emissions level by 2030, considering the thermoelectric dispatch average of the last five years. Our commitment is not to exceed 54.8 million tons of CO₂ in 2030, except in the accentuated demand for electricity generation from thermoelectric plants due to national water scarcity events, and considers the possibility of using carbon credits as a complementary strategy and depends on improvement in the efficiency of our operations and divestment planned in the 2023-2027 Strategic Plan.

(3) With respect to 2015 emissions.

(4) With respect to 2021 emissions.

(5) Reuse, recycling and recovery.



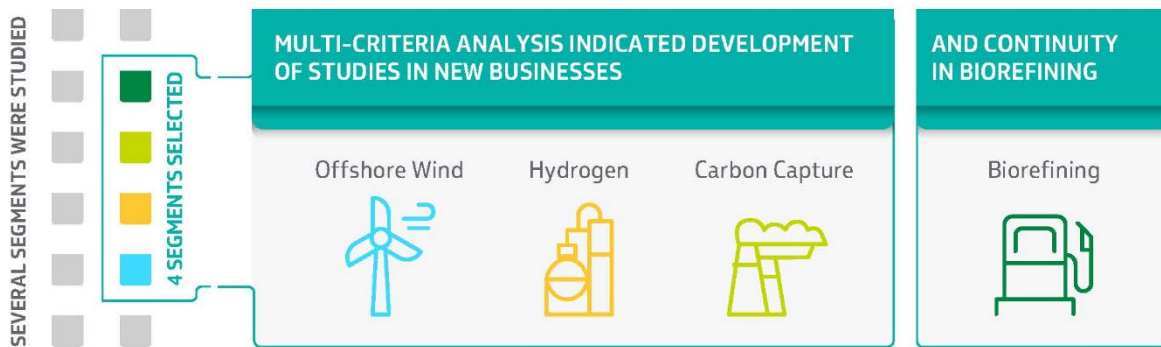
	CARE FOR PEOPLE	<ul style="list-style-type: none"> ▪ Measure and disseminate the social return of at least 50% of voluntary socioenvironmental projects (by 2025). ▪ Keep socioeconomic diagnosis of communities up to date (up to three years) in 100% of operations (of all business units and refineries in the portfolio). ▪ Promote human rights and diligence the operations (100% training of employees in HR and 100% of operations with due diligence in HR) by 2025. ▪ Promoting diversity by providing an inclusive working environment. ▪ Development of impact initiatives, which contribute to the solution of social and/or environmental problems, involving opportunities to act with our stakeholders and customers of our products. ▪ Promotion of safe operations, based on the protection of life, empowering 100% of the leadership in mental health and acting in the promotion of the well-being of more than 38,000 employees.
	ACT WITH INTEGRITY	<ul style="list-style-type: none"> ▪ Adoption of a governance model that allows a balance between efficiency and control. ▪ Promotion of an environment of reference in ethics, integrity and transparency at our company. ▪ Encouraging the adoption of ESG practices among our stakeholders.

Our 2023-2027 Strategic Plan provides investments to strengthen our low carbon position of US\$4.4 billion, which represents 6% of total CAPEX. From this total, US\$3.7 billion are for our low-carbon initiatives in our operations (scopes 1 and 2): (i) US\$2.1 billion for low carbon solutions in E&P projects, (ii) US\$800 million for the Reftop Program, (iii) US\$200 million for Research and Development ("R&D"), and (iv) US\$600 million for the Decarbonization Fund.

In order to strengthen the emissions neutrality pathway, the Petrobras Carbon Neutral Program and the Decarbonization Fund were reinforced in the 2023-2027 Strategic Plan, with the aim of financing decarbonization solutions that reduce emissions with the lowest cost and greatest impact on carbon mitigation. The Fund's budget in the 2023-2027 Strategic Plan is now US\$600 million, representing significant growth over the previous plan, which was US\$248 million, reinforcing our commitment to decarbonization.

Additionally, the 2023-2027 Strategic Plan investments include the amount of US\$600 million for biorefining initiatives (renewable diesel and bio jet fuel) and US\$100 million for Research and Development (R&D) of new skills.

Our 2023-2027 Strategic Plan also presents new businesses investment alternatives on renewables, as shown in the infographic below.



Innovation is a relevant element in enabling the energy transition. Our priority is to innovate to maximize value and competitiveness in low-carbon businesses, aiming for long term diversification. Investment in low-carbon solutions represents at least 10% of our R&D investment.

We are implementing green recycling policies for platforms in the decommissioning process, in line with the best ESG practices available in the market.

For more information on our low-carbon transition plan see “Environment, Social and Governance - Environment” in this annual report.

In our 2023-2027 Strategic Plan, we streamlined our ESG strategies into two key strategies: an ESG integrated strategy covering the three aspects of ESG and another one focused on innovation and its importance for our current and future business. Our business strategies are presented below:

	Exploration and Production	<ul style="list-style-type: none"> - Maximize portfolio value, focusing on deep and ultra-deepwaters assets.
	Refining, Transportation and Marketing	<ul style="list-style-type: none"> - Withdraw completely from fertilizers and biodiesel businesses participation. - Operate with assets focused on the proximity of the oil supply and the consumer market, adding value to the refining park with more efficient processes and new products, moving towards a low carbon market. - Act competitively in the oil and oil product trade, maximizing value captured through integration and the safe and efficient operation of the upstream and downstream logistics chain.
	Gas and Power	<ul style="list-style-type: none"> - Operate competitively in trading own natural gas, completely withdrawing from gas distribution and transportation. - Optimize the thermoelectric portfolio focusing on self-consumption and trading of own natural gas.
	ESG and Innovation	<ul style="list-style-type: none"> - Deliver sustainable results for a society in transition, by acting in business with social and environmental responsibility, safety, integrity and transparency. - Innovate to generate value in business, today and in the future, and achieve the goals in decarbonization.



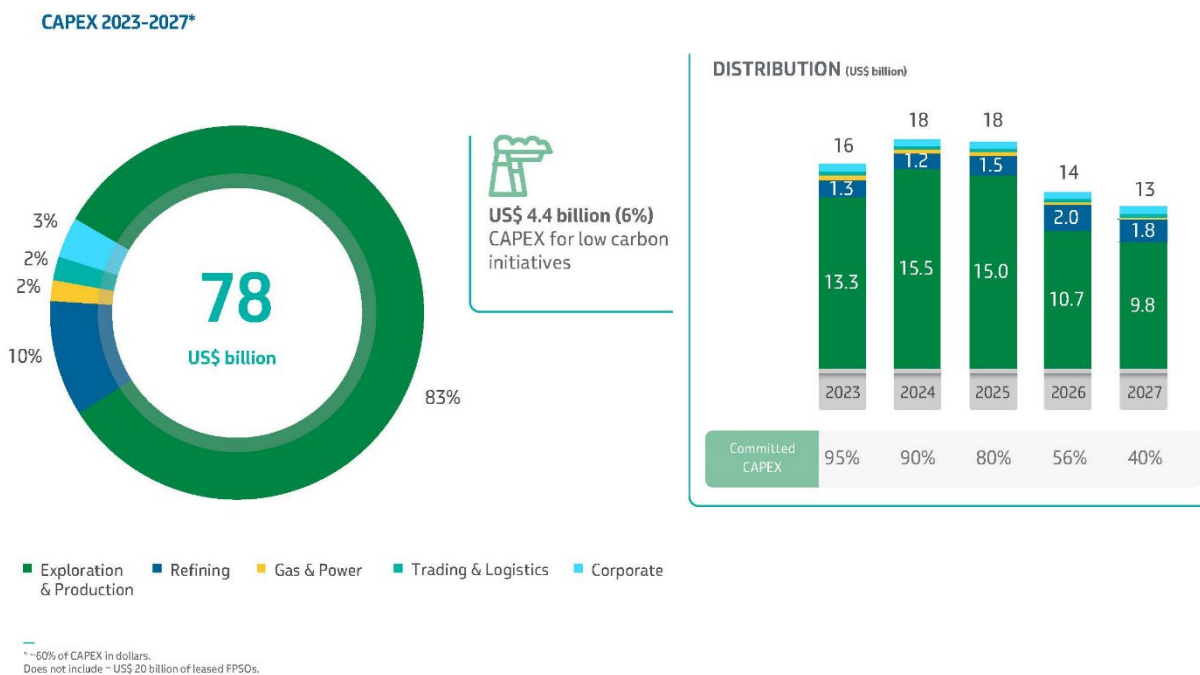
CAPEX - Capital Expenditure

Our projected Capital Expenditure (CAPEX) for the 2023-2027 period is US\$78 billion, 15% higher than the previous plan, and signaling that our investments have returned to the pre-Covid-19 level. An additional US\$20 billion have been allocated for chartering new oil rigs.

For 2023, we have already committed 95% of our total CAPEX. In contrast, in the last year of this Strategic Plan, 2027, 40% of the total projected CAPEX has been committed by the Plan's approval date, indicating a greater level of investment flexibility due to the lower proportion of commitments assumed. It is worth noting that, throughout the life cycle of our projects, the maturity level increases, and a greater proportion of the CAPEX will be utilized.

Most of our expenses (60%) is planned in U.S. Dollars, while the remaining part will be in Brazilian *reais*.

CAPEX 2023-2027*

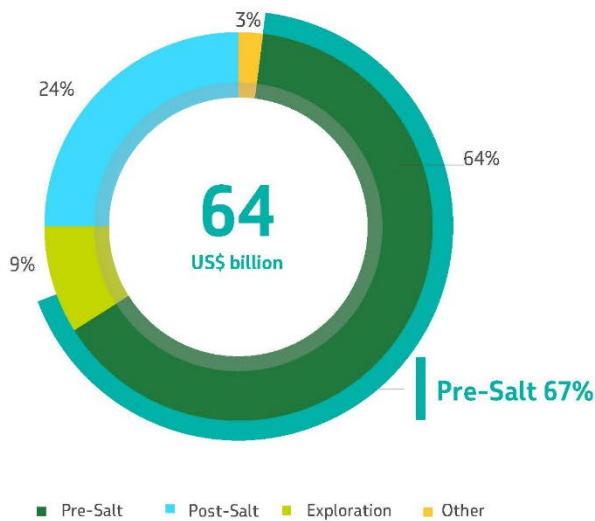


The increased investment in E&P in our portfolio is aligned with our strategy of increasingly concentrating funds in deep and ultra-deepwater assets, in which we have been strengthening our competitive advantage over the years, resulting in the production of a better-quality oil with lower greenhouse gas emissions. We continue to focus on deepwater offshore assets, especially in the pre-salt, where the greatest possible value can be achieved. Our pre-salt discoveries are among the most important in the industry in recent decades. Such pre-salt assets comprise large accumulations of excellent quality, low sulphur high commercial value light oil. It is in this area that we are internationally recognized for our presence, technical capacity and developed technology.



E&P CAPEX 2023-2027

E&P investments remain focused on the Pre-Salt, with double resilience for project sustainability



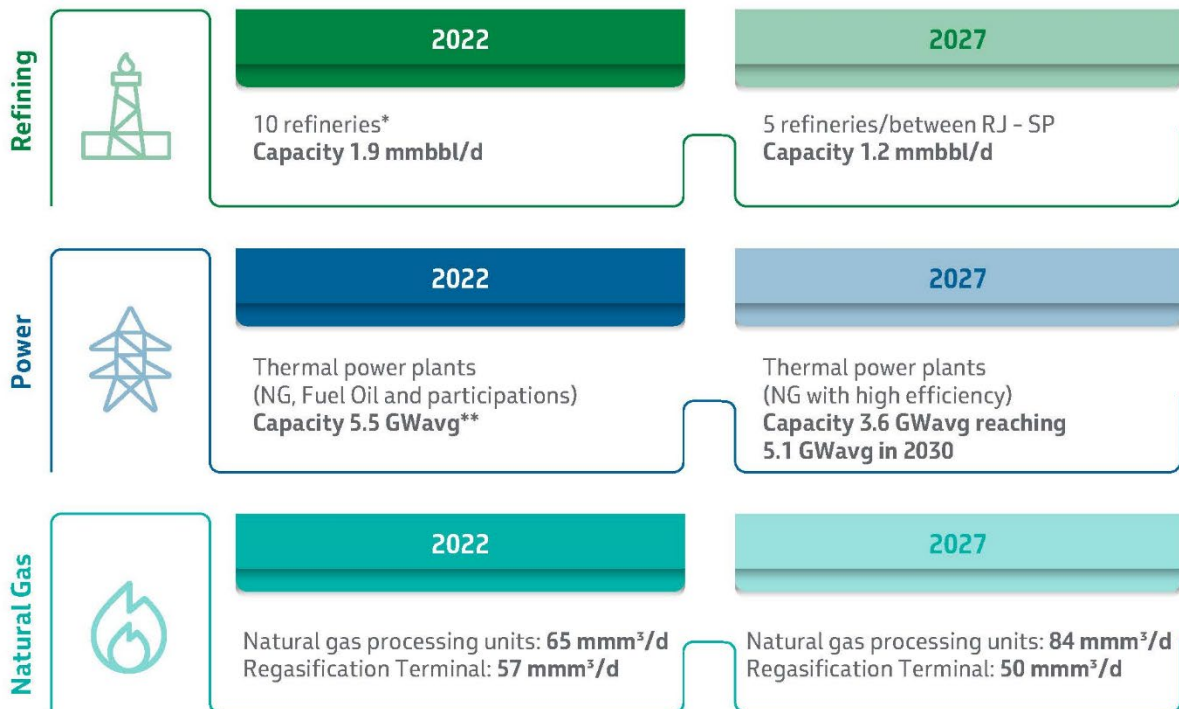
The main drivers for the US\$7 billion CAPEX increase, which is 12% more than the previous plan (reaching a level of US\$64 billion in planned investments over the five years in the E&P segment), were (i) the inclusion of Sepia 2 and Atapu 2 to our project portfolio (US\$3 billion), (ii) added opportunities in complementary projects (US\$2 billion), and (iii) certain updates of macroeconomic and market assumptions and projects amendments (US\$2 billion).

As a result, 67% of our E&P CAPEX focuses on pre-salt assets and projects, particularly the Santos Basin, which concentrates pre-salt assets and boosts production growth, allocating US\$38 billion out of US\$64 billion towards this segment. We will invest in 11 new FPSOs. Of these new units, the development of the Búzios field covers seven FPSOs under implementation by 2027. US\$23 billion (more than 50% of Pre-salt CAPEX) will be allocated to the Búzios field. The HISEP™ (Subsea High Pressure Separation System) technological innovation will be applied in the Mero field. Installed capacity should increase from 230,000 barrels per day in 2022 to 770,000 in 2027, with the implementation of three new FPSOs.

In the 2023-2027 Strategic Plan, the Campos Basin will still remain an important asset for us, which will account for an investment of US\$18 billion of the total amount planned for the E&P segment and five new FPSOs.

With the goal of seeking new oil and gas frontiers, including opportunities in non-associated gas, the plan considers total exploration investment of US\$6.0 billion, and 49% of the investment will be allocated for the drilling of 16 wells in the Equatorial Margin.

REFINING & NATURAL GAS STRATEGIES



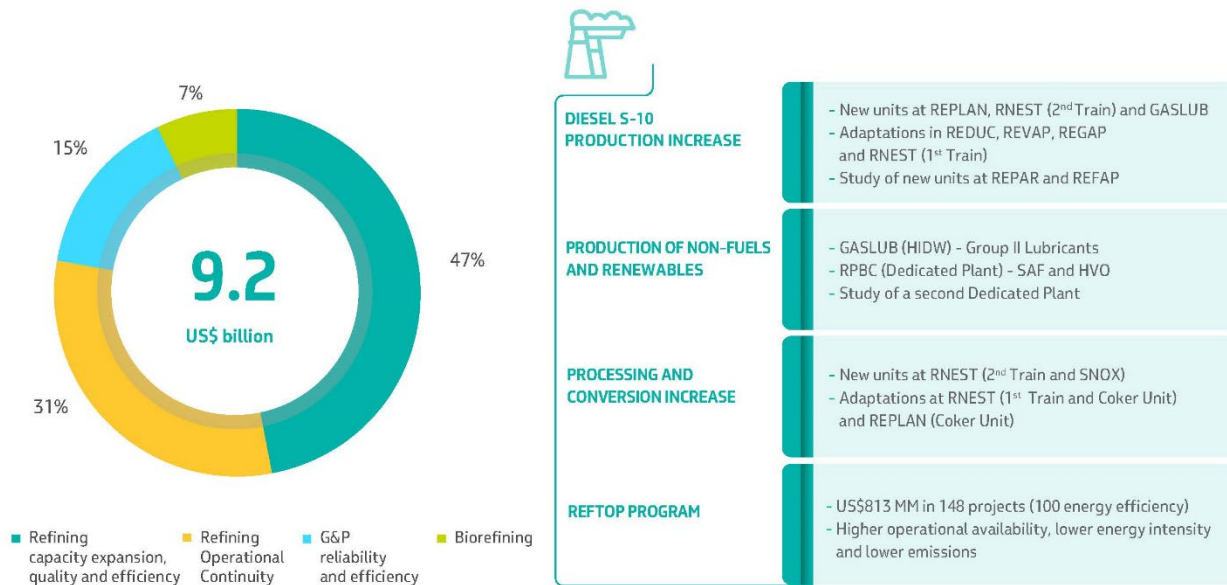
* Does not include Guamaré Industrial Asset (former Potiguar Clara Camarão Refinery), in the state of Rio Grande do Norte.
 ** Average gigawatt.

In the Refining segment, our strategy is focused on assets near the largest oil supply and the largest Brazilian consumer market, taking advantage of greater synergy and integration with our E&P assets. Consistent with our portfolio management strategy, we are maintaining our divestment plan, with respect to our current refining units and, in contrast, increase our investment in upgrades to our remaining refineries to increase S-10 diesel production, biorefining capabilities and operational efficiency while still lowering emissions.

We have 10 refineries located in different regions in Brazil. Our strategic goal is to keep only five refineries in the Southeast. For the next five years, the estimated CAPEX is US\$9.2 billion in the Refining, Gas and Power segment, of which US\$7.8 billion will be invested in the Refining segment and US\$1.4 billion will be allocated to the G&P segment. Investments will be concentrated in the projects highlighted below.

REFINING, GAS AND POWER CAPEX 2023-2027

Expansion and modernization of the refining facilities with high quality low carbon products



We continue to focus on the operational and energy efficiency of our refining units and on higher quality products with a lower carbon footprint, with the spotlight on investments in biorefining. The plan foresees investments in eight new processing units, in addition to six large-scale adaptation works in existing units.

The Refining RefTOP program represents a noteworthy investment of US\$800 million, which aims to place our refineries among the best in the world in terms of energy efficiency and operational performance in natural gas, steam and electricity use. We have advanced in the maturity of this portfolio of projects, totaling 148 projects, with 100 in energy efficiency.

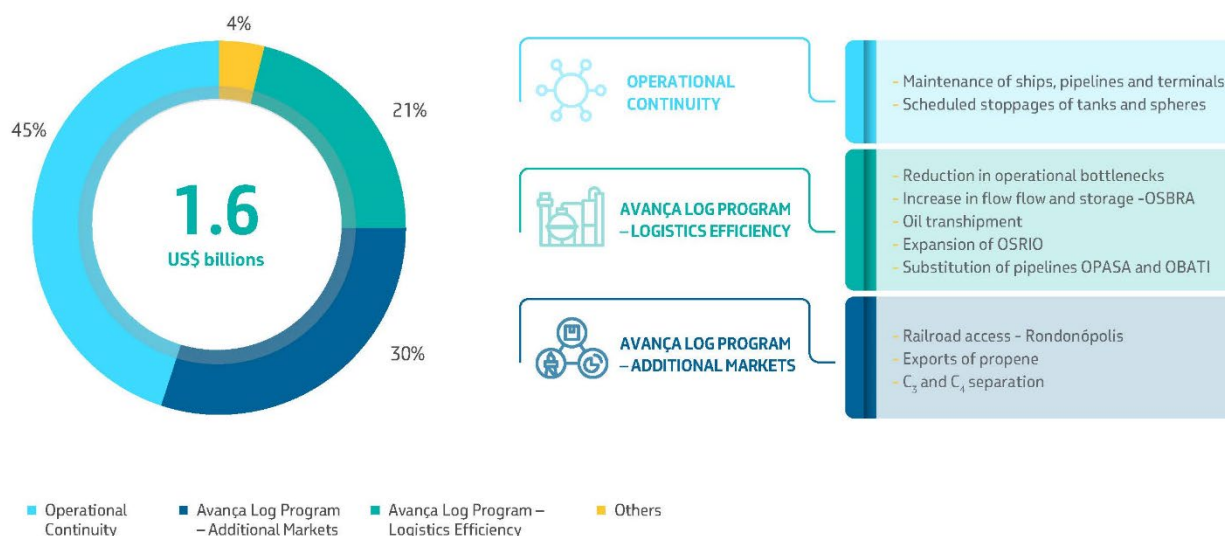
When we looked at the expansion and adequacy of the refinery units, we concluded that taking advantage of the opportunities in the existing refining park proved to be the most economical and attractive for refining and for our company.

In the Gas & Power segment, the 2023-2027 Strategic Plan highlights the continuity of the strategy of own gas commercialization, with commercial actions aligned with the increases in capacity, resulting from investments in infrastructure expansion and own natural gas supply. Our investments are focused on Route 3 and natural gas processing unit to enable a natural gas outflow from pre-salt production. The Route 3 Integrated Project, of which the Natural Gas Processing Unit (UPGN) is a part, is strategic for us, as it will make it feasible to flow and process 21 million m³/d of natural gas produced in the Santos Basin's pre-salt pole and increase the offer of natural gas to the Brazilian market. We estimate to start gas processing operations at the GasLub Cluster in 2024.



TRADING AND LOGISTICS CAPEX 2023-2027

To be the best option for customers in Brazil and abroad



The Trading and Logistics (“T&L”) business unit will intensify its operations in strategic markets in Brazil while continuing to expand and strengthen its operations in foreign markets by attracting new customers and constantly seeking the best opportunities to enhance the value of its oils and products. Another focus of the area is the optimization of the logistics infrastructure with the removal of bottlenecks in the flow of products and oils, inventory optimization and reduction in the fleet's emission indexes.

Production of Oil, NGL and Natural Gas

Our oil and gas production curve, projected for the 2023-2027 period, indicates continued growth, even considering divestments, explained by the development of new production systems and complementary projects.

In line with our strategic focus, E&P activities are concentrated in deep and ultra-deepwaters in Brazil. Production from the pre-salt will account for 78% of our total production by the end of the five-year period.

The production curve incorporates the start-up of 18 new platforms (FPSOs) in the period 2023-2027, 11 chartered, six owned and one non-operated.

The production target for 2023 was maintained at 2.1 million barrels of oil per day, with a variation of 4% up or down, considering adjustments from the Sepia and Atapu Coparticipation Agreement, which reduced 0.1 million boed in relation to the previous plan. The total production target for 2023, including oil and natural gas, was also maintained at 2.6 million boed, considering a variation of 4% up or down.

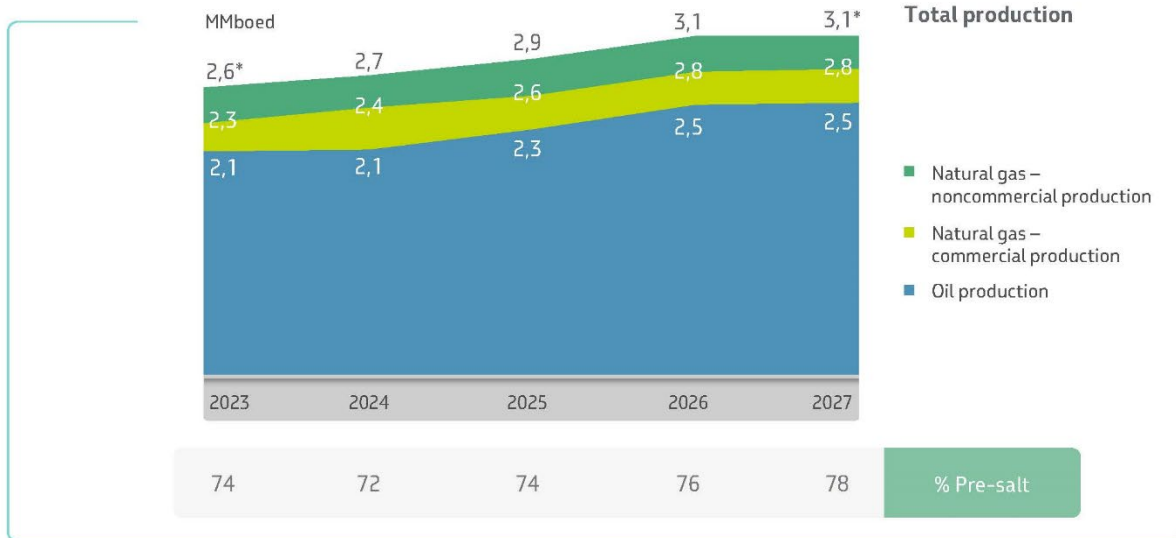
Our oil production projection for 2024 and 2025 was reduced by approximately 0.1 million bbl/d in comparison with the past plan, due to adjustments in the well subsea tie-back schedule.

All total and commercial production projections remained unchanged for the 2023-2027 Strategic Plan.



TOTAL PRODUCTION

million boed | Work Interest (WI) Petrobras | Post divestments | 2023: With variation of +/-4%

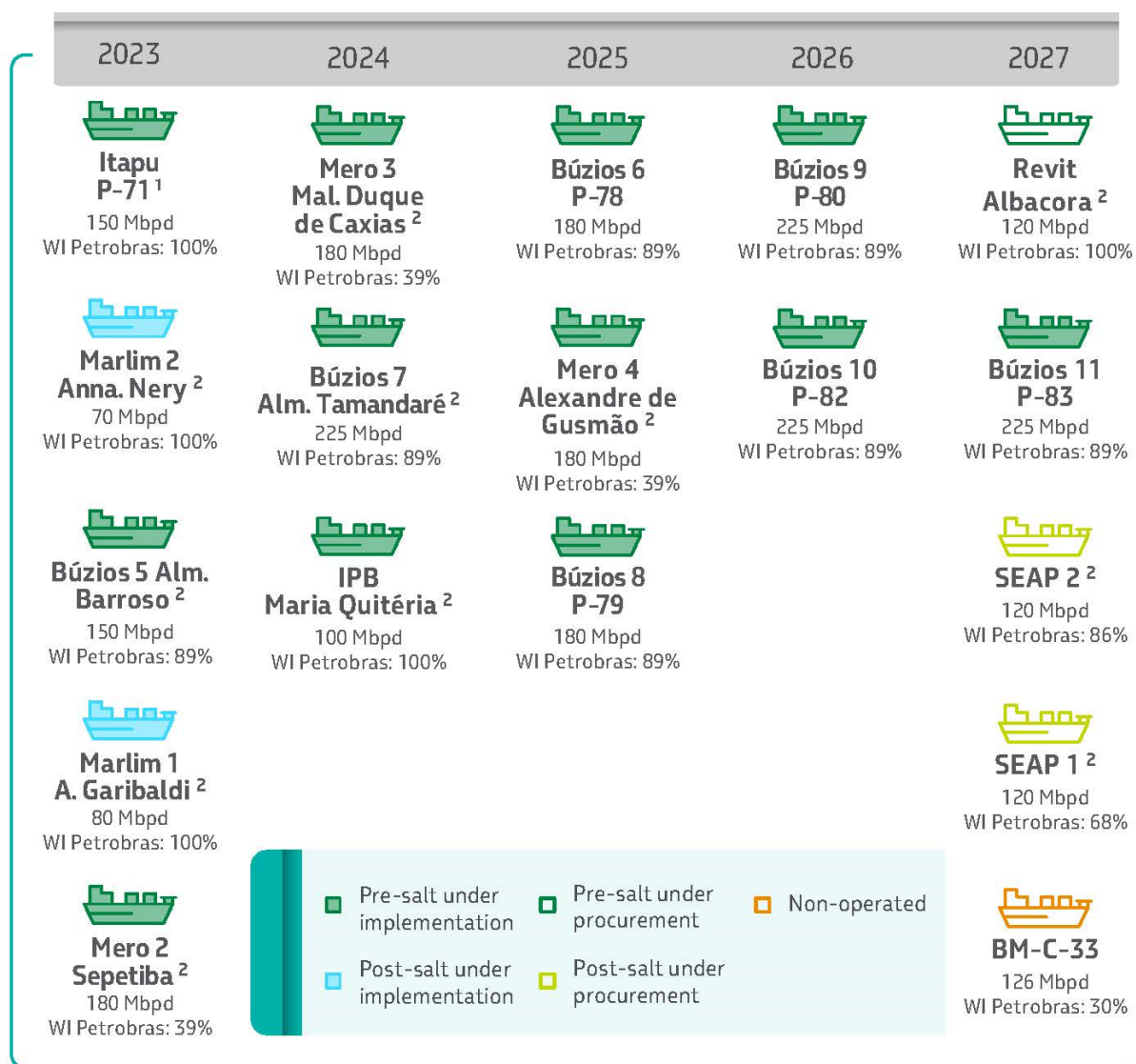


* Total operated production: from 3.8 MM boed (2023) to 4.7 MM boed in (2027)

Below, we present the schedule of our new units through 2027. In the next five years, we will have 18 new FPSOs that will come into operation, 14 in pre-salt and four in post-salt. The pre-salt in the Búzios field will receive the largest number of units with seven new systems, matching the magnitude and high productivity of this asset.



IMPLEMENTATION OF 18 FPSOS, ABOUT 50% OF THE WORLD'S FPSOS



1) Operation started in December 2022, early than planned.

2) Leased platform.

The beginning of operations of FPSO P-71, installed in the Itapu field, in the Santos Basin pre-salt area, was originally scheduled for 2023, but it occurred in December 2022, earlier than previously planned.

The units that we plan to start operating by 2026 are already contracted. The three units planned for the year 2027 are currently in the contracting stage.



Financing

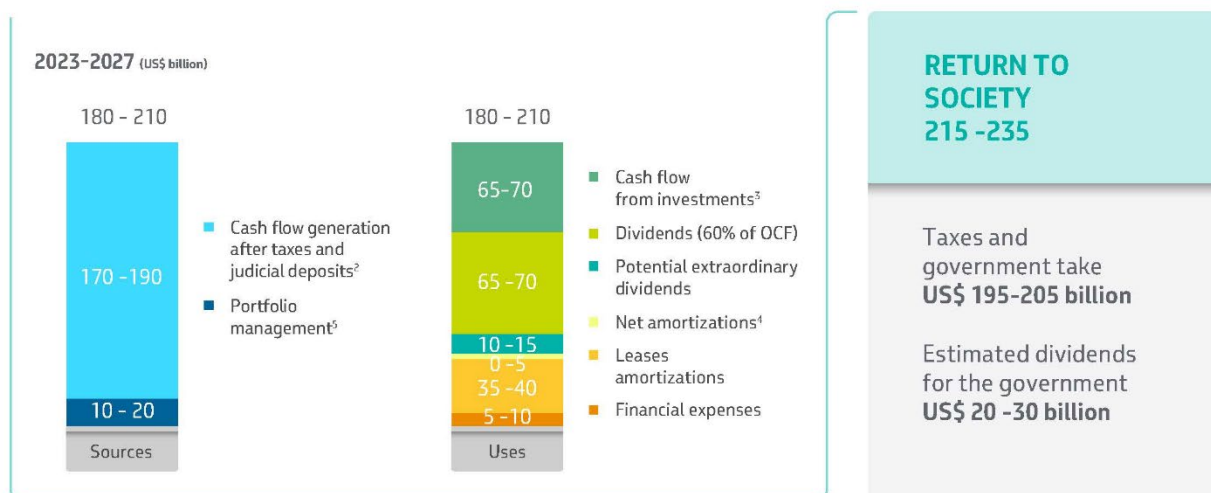
The main assumptions for the financeability of the 2023-2027 Strategic Plan are:

- Competitive prices, aligned to the international market;
- Reference cash of US\$8 billion, which is higher than our minimum cash, which is currently US\$5 billion;
- Dividends in accordance with our current dividend policy;
- Gross debt reference range of US\$50 billion to US\$65 billion; and
- Liability management: debt lengthening and maintenance around US\$55 billion.

It is worth noting that the 2023-2027 Strategic Plan is self-financing for the next five years, with approximately 52% of its cash generation going back to Brazilian society as a whole through dividends paid to the Brazilian federal government plus taxes and government take.

SOLID AND SELF-FUNDING PLAN FOR THE NEXT FIVE YEARS

~52%¹ OF CASH GENERATION RETURNS TO BRAZILIAN SOCIETY



- 1) Dividends paid to the Federal Government plus taxes and government take divided by cash flow generation before taxes.
- 2) Considers decommissioning costs of about US\$ 1.5 billion/year.
- 3) Excludes leases classified as total CAPEX.
- 4) Considers funding of US\$ 11 billion.
- 5) Impact of approximately 70 Kboed in 2023 production and approximately 150 Kboed in further years.

The 2023-2027 Strategic Plan considers an active portfolio management, with expected divestments between US\$10 billion and US\$20 billion over the five-year period, which should contribute to improve operational efficiency, return on capital and additional cash generation to make new investments that are more consistent with our strategy. Active management allows us to focus on assets that have the potential to raise the expected return on our portfolio in a sustainable way and/or reduce the risks perceived by us.

Our Strategic Plan mirrors the importance of a strong company that is healthy and generates resources. In the Strategic Plan's future, we forecast the payment of total taxes and government's share of US\$195-205 billion. When added to our dividends, in accordance with the current shareholder dividend policy, this amount, which will go to the Brazilian federal government and all the other shareholders, represent over 52% of our expected operational revenue generation.



Crude Oil Price and Exchange Rate

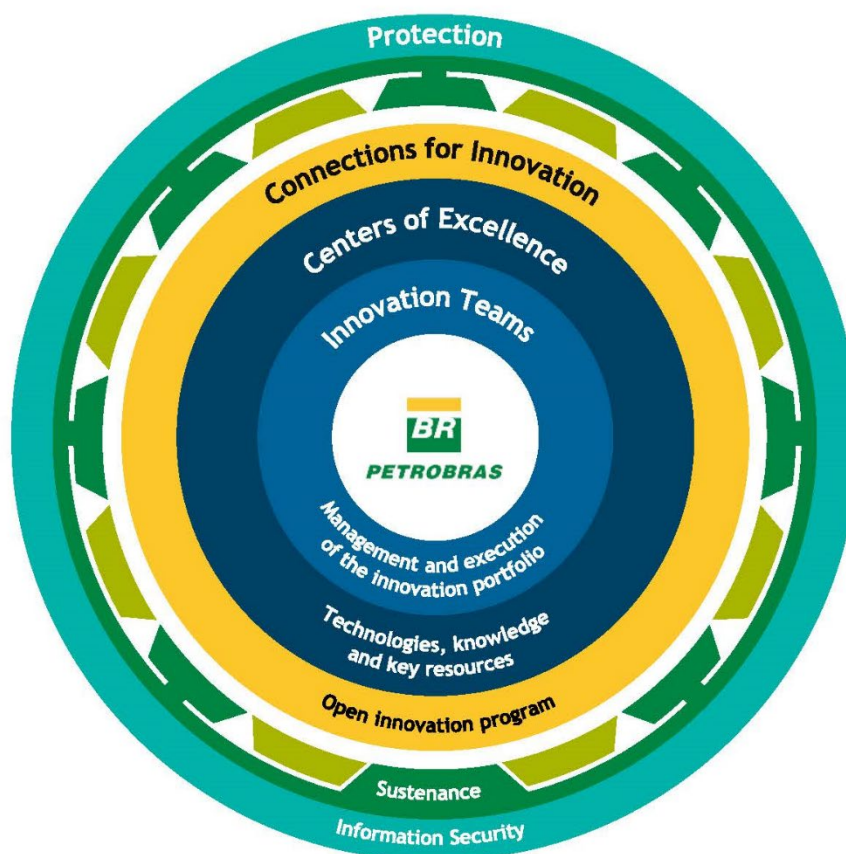
Future calculations have been carried out assuming an average Brent Crude Oil price of US\$85/bbl in 2023, US\$80/bbl in 2024, US\$75/bbl in 2025, US\$70/bbl in 2026 and US\$65/bbl in 2027. We assume an average *real*/U.S. dollar exchange rate of R\$5 to US\$1 between 2023 and 2026, and R\$4.9 to US\$1 in 2027.

Digital Transformation

We believe that, as a leading energy company, it is important to continuously evolve and deploy high value innovative industrial solutions leveraged by digital technologies. Therefore, we continue to develop a consistent and integrated innovation system aligned with our strategic pillars.

Our digital transformation and innovation strategy is "innovate to generate value in today's and the future's businesses, achieving our decarbonization goals". It is implemented by a framework and managed in a way that accelerates the generation of results through innovation at scale. The framework is called the Innovation Machine and integrates several capabilities, processes and resources. This is how we are organized to deliver strategy.

INNOVATION FRAMEWORK



Innovation Teams - through innovation, these teams add value by establishing a partnership between the departments dedicated to technology and innovation with the departments dedicated to businesses. It is necessary to enable the teams to overcome our challenges, accessing knowledge, resources, and guidelines; prioritizing an innovation portfolio based on our goals and strategic programs, ensuring that any results have adoption at scale.

Centers of Excellence ensure that the expertise and resources required for value deliveries are available and accessible, identify, standardizes, and ensure the execution of value deliveries, and identify and engage appropriate partners to carry out their activities.



Connections for Innovation is our open innovation program, designed to accelerate technological development and add value to us. The program's main goal is to find the best partners to cooperate with and develop, test or commercialize technologies, thereby increasing competitiveness and transparency in our processes and providing better alignment incentive for the innovation ecosystem.

Structuration/Sustenance layer deploys the infrastructure, technology platforms and processes needed to achieve business objectives and generate value.

Information Security/Protection facilitates and accelerates Digital and Cultural Transformation through cyber and personnel security, enabling innovation.

We leverage innovation through the activation of this framework, which allows the use of resources, knowledge, and technology wherever they are.

Innovation Teams

The innovation teams are structured in modules, as follows:

Value Streams teams are aligned to a valuable stream of work, empowered to build and deliver value. They are designed to be as independent as possible, minimizing hand-offs to other teams to perform the work. Business and technology work together in these teams, with a clear definition of roles such as Product Manager (PM), Product Owner (PO), Agile Master and Development. We ended 2022 with 190 teams organized in 15 Agile Release Trains (ART). Every quarter, at each ART, these teams plan, execute, check and adapt together, oriented by objectives and key results aligned with our strategy.

Innovation in Process Robotization and Digitalization teams combine expertise, process and technology platforms and have delivered value through digital technology across our value chain. Examples of this team's work include enabling our competitive performance in the new gas market, transforming the material supply process reducing the service time from 30 to less than two days, enabling teams all over our company to deploy and evolve their own digital service flows or automating more than 34% of SOX controls. Those projects have produced results such as 1.2 million man-hours saved per year, more than 220 robotic processes automated and developed and dozens of digitized processes.

R&D&I teams have a history of successfully developing and implementing innovative technologies, from oil basin exploration and deployment of production systems in deepwaters to refining and production of oil derivatives and petroleum products. Our efforts received four Offshore Technology Conference (OTC) awards (1992, 2001, 2015 and 2020). Furthermore, in 2019, the Brazilian edition of the Conference (OTC Brasil) also granted us a Distinguished Achievement Award.

We are investing in digital technologies to optimize our refineries' operation in an even more efficient way, with flexibility and safety. Our R&D is working towards the development of new process technologies to modernize our refineries through our REFTOP program. For more information, please see "Our Business – Refining, Transportation and Marketing - RefTOP - World Class Refining program" in this annual report.

Furthermore, our R&D project portfolio supports market diversification initiatives in an energy transition context, to prospective revenue channels where technology is an advantage, such as CO₂ Capture, Use and Sequestration ("CCUS"), Biofuels and renewable products, as well as the development of new products and commercialization methods.

Our research and development center ("CENPES") is one of the largest facilities of its kind in the energy sector and one of the largest in the southern hemisphere. The CENPES facility has a total area of 308,000 m², including 116 laboratories and more than 4,600 pieces of equipment, with cutting edge technology. CENPES' mission is to "imagine, create and make today the future of Petrobras." As of December 31, 2022, this facility had 1,053 employees, 90.6% of which are dedicated to research and development. We also have some semi-industrial scale prototype plants throughout Brazil that are located near our industrial facilities and are aimed at fast prototyping and scaling up new industrial technologies at reduced costs. We are continuously engaged in several activities relating to research and development. We also conducted joint research projects with universities and research centers in Brazil and abroad, as well as with suppliers,



startups and other operators in order to develop technologies to support the Strategic Plan, in addition to anticipating trends and investing in technological routes aligned with our strategy.

In 2022, we invested US\$792 million in research and development. We are one of the companies, among the major oil and gas companies, that has invested the most in R&D over the last few years, according to Evaluate Energy. About 32.6% of our R&D portfolio is intensive digital technologies such as big data, high performance computing and artificial intelligence in order to support the development of our business.

Our patents portfolio covers all our areas of activities. Currently, we have 1,218 patent applications under review, 478 in Brazil and 740 abroad, within 45 countries. In 2022, we filed 351 patents: 223 abroad and 128 in Brazil, surpassing, for the second consecutive year, our record for filings in a single year among Brazilian institutions. As we pursue valuable results in research and development, we are exploring new ways to innovate through disruptive technologies, digital transformation, and start-up engagement.

Safety Innovation Lab teams work to provide innovative solutions and technologies focused on software and hardware products to accelerate our ambition to zero fatalities and to reduce other issues in HSE such as, absenteeism, leakages, and their impacts, with a focus on agile deployment to reduce the impact on life and the environment. The teams focus on generating value in occupational and process safety and health through the efficient implementation of solutions developed and tested in controlled and representative environments, in order to offer solutions to predict and prevent risks. The teams are able to achieve this by actively monitoring workers and workspace or reducing human exposure to risk by application of technologies such as wearables, intelligent video analytics, robotics and drones.

Centers of Excellence

Center of Excellence in eXtended Reality (XR): The Center of Excellence in eXtended Reality (XR) is based on an innovative project carried out between 2020 to 2022 (in Microsoft Mixed Reality using HoloLens 2) that raised the need for solutions in virtual, augmented and mixed reality.

Cloud Computing Center of Excellence (CCC): Enable us to adopt a public cloud that supports our Digital Transformation Program. CCC has built a multi-cloud hybrid computing environment, bringing together all the capabilities of cloud providers with on-premises data and connectivity, driving security, data access and governance, as well as the high scale use of cloud native services in the process of building business solutions.

Center of Excellence in High Performance Computing (HPC): In 2022, with the release of PÉGASO, the largest and most environmentally friendly supercomputer in Latin America, we now have the four largest and most environmentally friendly supercomputers on the continent, along with Dragão, Atlas and Fênix¹. Combined with use of public cloud technology, our investment in high-performance computing are essential to support upstream strategic programs such as EXP100 and PROD1000. For more information about EXP100 and PROD1000, see “Our Business – Exploration and Production.”

Data: Throughout 2022, we evolved in the development of our data platform, *Ambiente Integrado de Dados e Analytics* (AIDA), with architecture definitions, processes, front-end and three teams instantiated. OSDU was deployed in the Azure cloud environment with data from wells and logs. We developed the use of Azure API Management at scale, and reached 89% centralization of solutions using the integrated E&P database.

Center of Excellence in Analytics and Artificial Intelligence: In 2022, the Analytics and AI CoE accelerated our qualification journey in analytics and data science. In terms of technology, the CoE has built the data science marketplace, a tool that aims to simplify and streamline how a cloud environment is provisioned, through which data scientists have access to various cognitive services in a complete environment for developing machine learning and artificial intelligence models.

Center of Excellence in Process Automation (CERD): In 2022, CERD had the challenge to migrate its RPAs (Robotic Process Automation) to handle SAP S/4 instead of R/3, and lay the groundwork to increase

¹ According to the TOP500 and GREEN500 lists, published in June 2022.



hyperautomation. In addition, CERD was awarded third place as the best automation success case at Imagine, the largest Automation Anywhere Conference. Using the NOW Plataforma, CERD consolidated the Enterprise Service Catalog unifying and disabling more than four legacy applications, improving user experience and efficiency. After all, CERD established new partnerships with Outsystems for Low-code and BPMS demands and Celonis for Process Mining.

Relationship Management Center of Excellence (CEGR): We have hired a CRM (Customer Relationship Management) platform to support our trading operation. The goal is to increase performance and partnership with our clients in the most competitive scenario of the oil and gas market. In November 2022, a Beta version of the new business portal was launched, aiming to replace the “Canal Cliente” (Customer Channel) with new features such as Financial Information, Truck Scheduling, Contact Us and Executive Menu. In addition, artificial intelligence, technologies, omnichannel, 360 vision and analytical capabilities, will complete the solution that will run in a modern and integrated cloud environment.

Agile Center of Excellence (CEA): We continue to expand our adoption of agile principles to accelerate results and stimulate innovation at a rapid pace. To date, 15 Agile Release Trains have been launched, transforming 190 teams and involving over 1300 people across IT and business participants and stakeholders. The Agile Center of Excellence offers training and coaching to enable transformative initiatives and our Strategic Programs.

Connections for Innovation

Connections for Innovation is our open innovation program, designed to accelerate technology development and add value to us. The program’s main goal is to find the best partners to cooperate with and develop, test or commercialize technologies, thereby increasing competitiveness and transparency in our processes and providing better alignment and incentives for the innovation ecosystem. In 2022, we improved the website <https://tecnologia.petrobras.com.br>, which aims to utilize a systematic approach with the external ecosystem. The site hosts the program called ‘Petrobras Conexões para Inovação’ (Petrobras Connections for Innovation), which compiles all of our open innovation initiatives. The information available on our website is not and shall not be deemed to be incorporated by reference in this annual report.

The program consists of different modules, each designed for a specific type of opportunity that relies on three main variables: (i) the target audience (students, universities, technology institutes, startups, large companies, etc.), (ii) the business model and (iii) the technology readiness level (TRL).

Modules descriptions and main achievements in 2022 include:

Open Lab Module: This module concentrates opportunities to develop open-source software through GitHub. This modality of software development initiated by us in 2022 and two repositories have been published so far.

Pre-Commercial Procurement Module: This module was designed to concentrate opportunities ranging from TRL 2 to TRL 7 (“TRL” or “Technology Readiness Level”), this module allows us to assume the technological risk in the development phase of the technology and enables us to link the development and expansion phases, making it more attractive to companies. In 2022, three new contracts were signed to develop technologies such as subsea pipeline inspection, petrochemical processing and digital twin of Artificial Lifting and Flow Assurance.

Technology Transfer Module: In this module, we offer licensing agreements of our technologies, thus increasing the number of companies able to provide services from technologies developed internally by us, in exchange of royalties. In 2022 nine new licensing contracts were signed.

Ignition Module: This module promoted a partnership with a Brazilian university to encourage experimentation, challenging young people to co-create solutions for the digital transformation of the oil and gas sector. In 2022, 24 students participated in three cycles of ideation and experimentation, focusing on challenges on carbon footprint, digital twins and wearable for offshore operation and safety.



Startup Module: This module seeks to develop solutions and business models for innovative startups and small companies through innovation projects. Successfully completed projects have the possibility of carrying out field tests of the pilot batch or pioneering service. In 2022, we released the fourth edition of our public call for startups and selected 23 companies to work on 19 challenges, representing a total investment of more than US\$3 million. In this edition, there were challenges in robotics, carbon reduction, digital technologies, corrosion, geologic modeling, and inspection technologies.

Solutions Acquisition Module: This module aims to test innovative solutions that have been developed by the innovation ecosystem through Public Procurement of Innovation (PPI) contracts. Each PPI contract can reach a total investment of US\$300 thousand to test the solution. In 2022, we signed Brazil's first PPI contract, published 12 opportunities and signed 11 PPI contracts in total, representing a total investment of more than US\$1.5 million.

Technological Partnership Module: Through this module, we offer Technological Cooperation Agreements (TCAs) focused on low TRLs, thus requiring strong engagement with academia. In 2022, 227 new TCAs were signed with our innovation department, most of them with Brazilian technological institutes, representing a total investment of more than US\$170 million.

Resident Module: This module was created to increase interaction with our external partners (universities, technology companies and R&D centers), improving synergy and speeding up internal projects and learning curves associated with emerging technologies, by bringing researchers of our actual partnerships to work in our research center. The 17 researchers participating in the 2022 module are linked to cooperation and technology service agreements and work in our facilities with access to laboratories, software, computing capacity, and internal database. We are structuring the next phase that will allow the application of foreign researchers. Through this module, we intend to strengthen the connection with researchers around the world, generating extra value and innovation for our business.

Sustenance / Structuring

Through this work front, we seek to ensure the availability and quality of transversal and multi-user services, equipment and technologies, with cost efficiency, security and sustainability. We are focused on executing and improving processes and the efficient allocation of resources, as well as providing access to the knowledge needed to support our digital transformation and innovation, through the Digital Transformation Academy.

Contributing to the strategy of propelling us into the future, we work in partnership with the Centers of Excellence in the developing and offering training and education programs. Since 2020, over 1,400 employees have been trained and qualified to work in new roles, such as data scientist, agile master and cloud architects. Additionally, more than 11,400 of our employees from all departments have completed courses in areas of technological expertise.

We also highlight as relevant deliveries the expansion of our telecommunications connectivity capacity, with submarine fiber optic projects and wireless network coverage, improving the efficiency of operations in offshore and onshore environments. This also contributes to the acceleration of digital transformation, renewal and infrastructure optimization and systems support. The focus on the use of cloud computing, new communication channels and digital service, and the implementation of infrastructure projects, aimed at maintaining and modernizing our physical and technological facilities, enables greater efficiency in our operations and increases the productivity of our employees.



Protection

Information security plays a crucial role in our day-to-day operations and is being treated as a priority and an innovation-enabler in our journey of digital transformation. Since 2020, we have utilized the Center of Excellence in Treatment and Response to Security Events, which is focused on the cyber protection of our technological and operational assets, including industrial and control systems, so that we have solid processes to protect our digital environments in line with the best market practices, subject to constant improvements. Based on reference frameworks and with oil and gas industry peer benchmarks, we developed a work plan that has elevated us in our market regarding security management maturity, both in corporate and automation environments.²

Cyber-attack attempts are promptly identified and properly managed by our security ecosystem, including people, processes and security technology. As a result, in 2022 we did not have any operational or reputation impact due to cyberattacks able to compromise our corporate and industrial environments.

We also lead a national intelligence network with more than 50 organizations that share information about cyber-attacks, considerably improving our preventive processes and defenses.

Since 2021, we are member of a selected world reference forum in Information Security - FIRST (Forum of Incident Response and Security Teams). It brings together a wide variety of cyber security and incident response teams, including industrial, government, commercial and academic sectors with representation from different countries. This organization works mainly with cyber-attacks prevention, helping to increase the level of maturity of information security on a global scale.

Privacy is another relevant topic for us. We see the legislation on the protection of personal data as an opportunity to evolve our system to greater maturity, adding continuous improvements to our privacy processes. According to Brazilian Law No. 13,709/2018 – *Lei Geral de Proteção de Dados Pessoais* (General Personal Data Protection Law - “LGPD”), we will be subject to penalties in cases of disclosure or misuse of personal *data*.

To achieve excellence, the process is conducted through a governance model, and the adoption of technical and administrative measures to respond to legal requirements, mitigate data breaches risks and guarantee the data rights of employees and stakeholders as data subjects.

² According to NIST (National Institute of Standards and Technology) Cybersecurity Framework (“CSF”) and Gartner’s IT Score for Security and Risk Management.



Environment, Social and Governance



Environment

The protection of human health and the environment is one of our primary concerns and is essential to our success. Each year, we maintain a set of initiatives focused on the prevention of accidents and the preservation of life and the environment, aligned with our Commitment to Life Program. The Program, which is composed of structured projects based on the critical analysis of health, safety and environment (“HSE”) management, with reference to the best market practices, seeks to achieve our zero fatalities and zero leaks goals while strengthening our vision of being an example of HSE for the industry with the following principles:

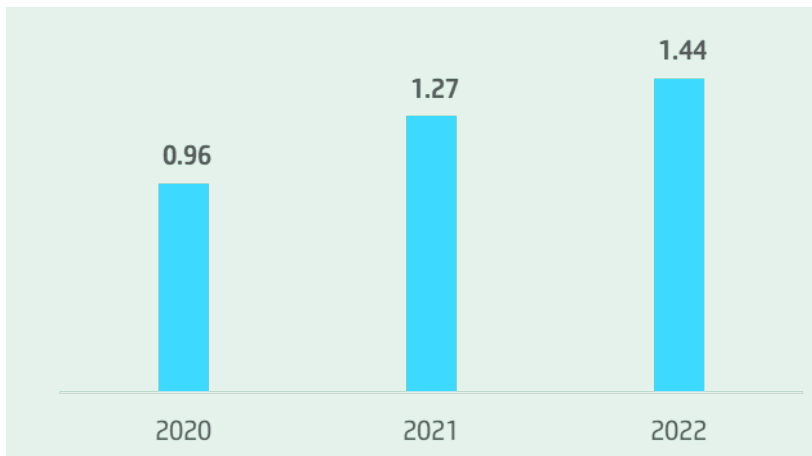
1. HSE as value;
2. Respect for Life;
3. Risk-Based Management;
4. Business Sustainability; and
5. Excellence and Transparency in Performance.

The main initiatives of the Program for 2022 were the following:





HSE INVESTMENTS (US\$ billion)



Our HSE investments are directed towards: our operations, reduction of emissions and waste from industrial processes, management of water and effluent use, repair of impacted areas, implementation of new environmental technologies, modernization of our pipelines and improvement of our capacity to prevent and respond to emergencies. In addition, we support several socioenvironmental projects.

Our development of business with suppliers also comprises environmental requirements according to the best practices in the industry. Contracted companies must present evidence and certifications related to compliance with HSE standards and confirm that they comply with all applicable requirements, laws, regulations and ESG best practices, according to new commitments formalized in 2022.

Since 2019, we have been certified by the Association for Supply Chain Management (ASCM) Enterprise Certification, which is the industry's first and only corporate supply chain designation that demonstrates social responsibility, economic sustainability, and ecological stewardship, recognizing that our Maintenance, Repair and Operations (MRO) and project materials supply chains are meeting the process, people, practices and performance standards for ethics, sustainability and economic responsibility.

As a result of the 2019 MRO supply chain certification process by the ASCM, we started working with a focus on synchronizing its echelons, from planning to delivery, as well as improving inventory management.

In September 2022, we won the ASCM Award of Excellence in the Corporate Transformation category, in recognition of our superior performance and dedication to advancing the field of supply chain management. The award recognized the advances achieved by our MRO and project material supply chain, from actions that generated impact such as increased availability, optimization of inventory and fiscal responsibility.

Total Recordable Injury

Safety is one of our core values.

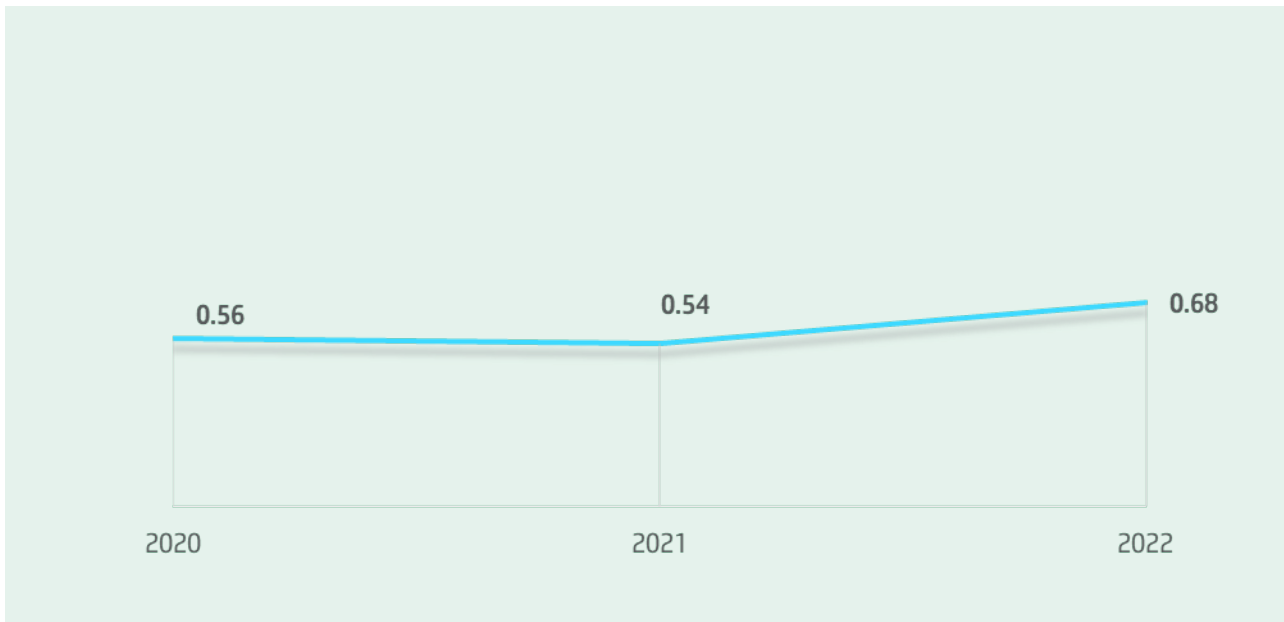
The two key goals of our HSE management are eliminating fatal accidents and achieving top-notch performance when it comes to the prevention of injuries to our employees and to third parties. In 2022, we trained our employees in process safety, HSE aspects in contracts, behavioral auditing and began the construction of the Human Factors Journey, with a greater emphasis on ergonomics in projects and operations.

The TRI rate is one of the metrics monitored by our senior management for matters of health and safety. The evolution of the TRI reflects the implementation of several initiatives for the promotion of our safety culture, trainings and our HSE management assessment program.



After obtaining a TRI result of 0.68 in 2022, in our 2023-2027 Strategic Plan, we established an acceptable limit of 0.7 for 2023, which is lower than the industry benchmark. We expect this result to place us among top oil and gas companies in terms of safety. Since 2016, our Health, Safety and Environment department has promoted the Commitment to Life Program each year, which includes actions and projects aimed at improving results in HSE programs. The performance results of the previous year is one of the main factors considered in the Commitment to Life Program planning.

TOTAL RECORDABLE INJURY RATE – TRI ⁽¹⁾



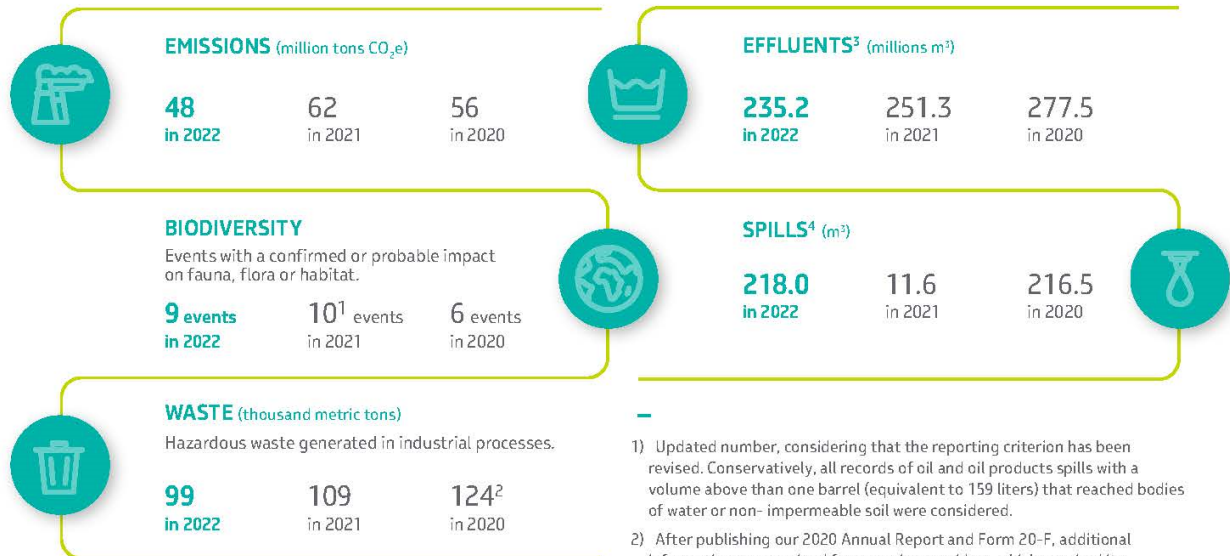
1) In 2022, we obtained a TRI of 0.68, 26% higher than in 2021, when we had achieved a TRI of 0.54.

Although we develop prevention programs in all of our operating units, unfortunately we recorded five fatalities involving our own and contractors' employees in 2022 (compared to three fatalities in 2021). Our procedure is to investigate all incidents reported in order to identify their causes and take preventative and corrective actions. These actions are regularly monitored once they are adopted. In case of serious accidents, we send company-wide alerts to enable other operating units to assess the probability of similar events occurring in their own operations.



Environmental impacts

MAIN IMPACTS



- 1) Updated number, considering that the reporting criterion has been revised. Conservatively, all records of oil and oil products spills with a volume above than one barrel (equivalent to 159 liters) that reached bodies of water or non- impermeable soil were considered.
- 2) After publishing our 2020 Annual Report and Form 20-F, additional information was received from service providers, which required its updating. This update has already been included in the Petrobras 2020 Sustainability Report.
- 3) Industrial effluents, produced water and sanitary effluents (the latter included from 2020 on, according to the latest GRI guidelines). The figure does not consider produced water reinjected in the oil/gas reservoirs for the secondary recovery, nor the effluents from open refrigeration systems.
- 4) Sum of oil (or oil products) spills volumes that were individually greater than one barrel, that reached water bodies or non-waterproofed soil. The volumetric criterion (>1 barrel) is used in the corporate indicator of Oil and Oil Products Spills and is aligned with the National Oil Agency – ANP Manual for reporting incidents for E&P activities. Spills originated by illegal taps were not accounted.

We are an energy company focusing on oil and gas. We therefore use natural resources and impact the ecosystem through our activities. However, we seek to reduce the impacts of our activities on the environment. In 2022, we invested US\$810 million in environmental projects, compared to US\$708 million in 2021 and US\$508 million in 2020. These environmental projects continue to primarily include actions directed at reducing emissions and waste from industrial processes, managing effluents and the rational use and reuse of water, managing risks and impacts on biodiversity, remediation of contaminated areas, recovery of degraded areas, implementation of new environmental technologies, modernization of pipelines, improvement of the capacity to respond to emergencies and the safety of our operations.

For more information on our ESG strategics and goals, see “Strategic Plan” in this annual report.

Spills and Environmental Remediation Plans

Oil and oil product spills totaled 218.03 m³ in 2022, compared to 11.6 m³ in 2021.

We are constantly seeking to improve our standards, procedures and leakage response plans, which are structured at the local, regional and corporate levels.



Since 2019, the “*Mar Azul*” (Blue Ocean) program has the goal to identify and address the main causes for loss of primary containment events. The program continues to integrate one of our most important HSE program, called “*Programa Compromisso com a Vida*” (Commitment to Life Program). Since 2020 this program continues to incorporate lessons learned from the loss of containment events that occurred over this period, integrating safety barriers, processes and routine activities on our Production Units, being part of an active management that keeps continuously searching for improvement opportunities.

In 2022 our oil spill result was heavily impacted by an event that represented 88% of the spills, which caused our Oil Spills Volume Indicator (VAZO) to reach a value of 218.03 m³. The causes of the event were analyzed and integrated into the Mar Azul program in order to incorporate what was learned in the process. It is important to note that, although our 2022 result represents an increase compared to 2021, the volume spilled is still lower when compared to the average performance of our *Peer Group* in 2021¹, which showed a volume of 936.8 m³ of oil spilled from events greater than one bbl.

As part of our environmental plans, procedures and efforts, we maintain detailed response and remediation contingency plans to be implemented in the event of an oil spill or leak from our offshore operations. The Brazilian Institute of the Environment and of Renewable Natural Resources (“IBAMA”) audits, approves and authorizes the execution of these programs.

In order to respond to these events, we have dedicated oil spill recovery vessels fully equipped for oil spill control and firefighting, support boats and other vehicles, additional support and recovery boats available to fight offshore oil spills and leaks, containment booms, absorbent booms and oil dispersants, among other resources. These resources are distributed in Environmental Defense Centers, located in strategic areas to ensure rapid and coordinated response in case of onshore or offshore oil spills.

We have approximately 300 trained workers available to respond to oil spills 24 hours a day, seven days a week, and we can mobilize additional trained workers for shoreline cleanups on short notice from a large group of trained environmental agents in the country. While these workers are located in Brazil, they are also available to respond to an offshore oil spill outside of Brazil.

Since 2012, we have been a member of the Oil Spill Response Limited (“OSRL”), an international organization that brings together over 160 corporations, including major, national and independent oil companies, energy related companies as well as other companies operating elsewhere in the oil supply chain. OSRL participates in the Global Response Network, an organization composed of several other companies dedicated to fighting oil spills. As a member of the OSRL, we have access to all resources available through that network, and also subscribe to their Subsea Well Intervention Services, which provide swift international deployment of response-ready capping and containment equipment. The capping equipment is stored and maintained at bases worldwide, including Brazil.

In 2022, we rejoined the membership of the Association of Oil, Gas and Renewable Energy Companies of Latin America and the Caribbean (“ARPEL”) in order to improve its internal processes and share technical expertise with other operators and regulators in Latin America.

In 2022, we conducted 16 emergency drills: three in person, three fully remote and ten in a hybrid format.

We continue to evaluate and develop initiatives to address HSE concerns and to reduce our exposure to HSE risks on capital projects and operations.

¹ Data on leaked volumes from operations, extracted from sustainability or similar reports published by companies that make up our peer group (BP, Shell, Total, Exxon Mobil and Equinor). As of the filing of this annual report, not all data regarding volumes leaked by companies in our peer group for 2022 had been released.



Air Emissions and Transition to Low Carbon

Our actions related to climate change are supported by three pillars: i) carbon quantification and transparency, ii) resilience of our position in oil and gas facing low carbon transition and iii) strengthening of our skills to create value in low carbon.

We work to ensure that carbon risks and opportunities are correctly captured in scenarios, quantified, and considered in our decisions, for the sustainability and resilience of our business. We adopted transparency in carbon as a value. We highlight our public support of the Task Force for Climate-Related Financial Disclosures (TCFD) and adopt TCFD's recommendations as a reference in climate-related disclosures. We also consider frameworks of Sustainability Accounting Standards Board (SASB), IPIECA, Global Reporting Initiative (GRI) and International Association of Oil and Gas Producers (IOGP) as external references for disclosures and performance.

Our priority is to operate at low cost and superior emissions performance, safeguarding our competitiveness in world markets in the context of deceleration and subsequent retraction in demand, low oil prices and carbon prices. Our projects are evaluated assuming a long term brent crude oil price of US\$55 per barrel. To achieve the resilience of our portfolio, all projects must also be profitable in our resilience scenario, which provides an accelerated energy transition with a significant reduction in the price of fossil fuels, assuming a value of crude oil of US\$35 per barrel in the long term. These are stringent assumptions for the price of oil, aligned with the scenarios compatible with the goals of the Paris Agreement.

The challenge of achieving emissions neutrality is vast, and we recognize that we have many, but not all, the answers on how to get there. Since 2021, we have used the methodology of the Marginal Abatement Cost Curve (MACC) to compare the potential for abatement of operating emissions of opportunities in the short, medium and long term.

Innovation is a relevant element in enabling the energy transition. Our priority is to innovate to maximize value and competitiveness in low-carbon businesses, aiming for long term diversification.

In 2022, our performance in terms of GHG emissions was as follows²:

- Total GHG emissions of 48 million tCO_{2e}, compatible with our target to reduce total operational GHG emissions by 30% by 2030, compared to 2015;
- Carbon intensity in E&P of 15 kgCO_{2e}/boe³, on track for achieving the medium-term target of 15 kgCO_{2e}/boe in 2025, maintained until 2030;
- Carbon intensity in refining of 37.9 kgCO_{2e}/CWT⁴ on track for achieving the medium-term target of 36 kgCO_{2e}/CWT in 2025 and of 30 kgCO_{2e}/CWT in 2030.

In 2022, the low thermoelectric dispatch affected our operational emissions results. Additionally, our initiatives related to energy efficiency and reduction of losses in our operations and divestments completed by the end of 2021 and through 2022 were factors for reducing GHG emissions.

² The 2022 GHG emissions performance results presented in this annual report will be subject to third party audit, and although we do not expect significant differences, the audited results may differ from the results presented herein.

³ The kg CO_{2e} / boe indicator considers gross oil and gas production ("wellhead") in its denominator.

⁴ The kg CO_{2e}/CWT indicator was developed by Solomon Associates specifically for refineries in Europe, and was adopted by the European Emissions Trading System (EU Emissions Trading System, EU ETS) and by CONCAWE (association of European oil refining and distribution companies and gas). A refinery's CWT (Complexity Weighted Tonne) considers the potential for GHG emissions, in equivalence to distillation, for each process unit. Thus, it is possible to compare emissions from refineries of various sizes and complexities.



We are committed to continue improving the GHG emissions efficiency of our E&P activities. After years of producing oil and gas, it is natural for the fields to change over time. Therefore, to expand production levels, it is necessary to employ energy-intensive techniques, such as water and/or gas injection. Thus, such fields' water production and energy demand tend to increase, and the rate of oil production tends to decrease. This affects GHG emissions intensity, reflecting the challenge to offset GHG emissions intensity of the fields that have produced oil for longer periods of time in the portfolio. In this sense, the 18 new FPSO planned in the 2023-2027 Strategic Plan become a challenge and an opportunity to reduce the carbon intensity.

Our carbon intensity targets (E&P and Refining) represented a coverage of 82% of emissions from activities we operated in 2022.

Our strategy also focuses on collaboration, and we have continued to partner with other companies and with the science, technology and innovation community. We highlight, for instance, our participation in the Oil & Gas Climate Initiative, our support for the World Bank's "Zero Routine Flaring by 2030" initiative and for the Oil & Gas Methane Partnership 2.0 (OGMP), a global initiative coordinated by the UN dedicated to the quantification and management of methane emissions, focusing on climate change mitigation.

In addition, we note that our Climate Change Supplement is available on our website at www.petrobras.com.br/ir, which details our contributions to reducing the carbon intensity of our energy supply and how we aim to remain competitive in an evolving context. The information available on our website is not and shall not be deemed to be incorporated by reference in this annual report.



Social Responsibility

Human Rights

A commitment to human rights is key to the sustainability of our business. Several documents governing our activities detail our approach to human rights, as follows:

- **Code of Ethical Conduct:** addresses issues such as respect for diversity, equal opportunities, fair labor relations, health and safety assurance for workers and the right to free association.
- **Guide to Ethical Conduct for Suppliers:** reinforces that our suppliers must promote dignified and safe working conditions for their employees and fight against child and slave labor, in addition to promoting diversity, gender and racial equality as well as the inclusion of people with disabilities.
- **Human Rights Guidelines:** direct our actions, as far as respect for human rights is concerned, in all the activities and regions where we operate and throughout the life cycle of our projects and operations.
- **Human Resources Policy:** states that we must provide employees with a good working environment that promotes diversity and relationships based on trust and respect, without tolerating any form of harassment or discrimination.
- **Social Responsibility Policy:** seeks to prevent and mitigate negative impacts on our direct activities, supply chain and partnerships. It is based on our respect for human rights and seeks to fight against discrimination in all its forms, setting forth standards related to social risk management, community relations and social investment present in the guidelines related to these subjects.
- **Sustainability Report:** our reported indicators and actions follow the Sustainable Development Goals outlined in the sustainability report: Correlation with Global Reporting Initiative (“GRI”) Indicators, Sustainable Development Goals (“SDGs”) and Global Compact Principles. We use the IPIECA Oil and Gas Industry Guide for Voluntary Reporting as a supplementary reporting methodology.

Our commitments to respecting and advocating for human rights are also evident through initiatives in favor of gender equity, racial equality, and the protection of early childhood, for example. We highlight below our main human rights initiatives:

- United Nations Global Compact;
- Women’s Empowerment Principles;
- National Compact for the Eradication of Slave Labor – InPacto;
- Enterprise Racial Equality Initiative;
- Open Letter Enterprises for Human Rights;
- Gender and Race Pro-Equity Program;
- Corporate Statement Against Sexual Exploitation of Children and Adolescents; and
- Early Childhood National Network.

In 2021, we once more secured recognition in the 2021 UN Women’s Empowerment Principles (“WEPs”) Brazil Award, which is organized by a partnership between UN Women, the International Labor Organization, and the European Union, geared towards companies promoting gender equity and women’s empowerment. The award is given every two years, and we won the silver trophy in the large-sized companies category.



We also undertake a commitment to protecting human rights in our supply chain. Each year, the most distinguished suppliers are awarded a "Prêmio Melhores Fornecedores da Petrobras" ("Award for Best Petrobras Suppliers").

The fifth edition of the Best Suppliers Award, in 2022, maintained emphasis on the human rights and environmental factors in the ESG category. Other special awards are in the "health, safety, research & development" and "quality management" categories. In 2022, we conducted a pilot public selection in the metropolitan area of the city of Rio de Janeiro, in the State of Rio de Janeiro, with waste collection cooperatives and associations, focused on the destination of recyclable and reusable solid waste from four of our properties. The initiative will help socially vulnerable people generate income and foster circular economy, with the destination of about 600 tons of waste per year to the cooperatives, in addition to being in line with the goals of the National Solid Waste Policy (Law No. 12,305/2010).

To ensure respect for human rights, our business strategies are guided by our Human Rights Guidelines, which are nationally and internationally recognized in all regions where we operate and are present throughout the life cycle of our projects and operations. Our human rights operations follow the United Nations' Guiding Principles on Business and human rights and are structured along four axes: People Management, Community Relations, Engagement with Supplier and Partner Chain, and Due Diligence in human rights. Each axis describes the processes through which we aim to ensure the incorporation of respect for human rights in all areas of our business and in our relations with our stakeholders, as well as the identification of potential risks in terms of human rights violations related to operations, products or services we provide, in addition to remedying any impacts we cause.

Regarding the support given to projects through the Petrobras Socio-Environmental Program, we believe that actions aimed at the promotion of human rights are a high-value attribute. Human rights are a cross-sectional theme of the Program, as it can be applied to all projects in relation to its main theme in order to expand the Program's scope and potential for transformation. The projects that carry out affirmative action to promote gender equity, racial equality and inclusion of people with disabilities must clearly show the association between their actions and the expected results.

We carry out social risk assessments to identify and mitigate potential human rights impacts to communities or within supply chain activities. These assessments lead to recommendations including the review of emergency response plans through the lens of community relationships, monitoring of community incidents and complaints, disclosure of projects and operational activities, and the inclusion of social responsibility clauses in service agreements, among others.

Our Human Rights Commission, established in 2021, with the shared cooperation of 24 areas of our company, is responsible for implementing the human rights agenda set by our Human Rights Guidelines, ensuring that this agenda is broadly and cross-sectionally integrated into our business.

The Human Rights Commission is divided into three sub-commissions: Human Rights Training, Diversity, Equity and Inclusion and Human Rights Due Diligence.

We have an action plan, established in 2021, with 88 actions to be implemented by 2025. Our Human Rights Action Plan is periodically monitored by the ESG Corporate Forum and the Board of Directors' HSE committee.



Community Relationship

We are committed to maintaining a long-term relationship with communities based on dialogue and transparency. To achieve this, we seek to understand the dynamics of the communities that neighbor the sites where we operate and to develop relationship plans that are constantly monitored and assessed.

We foster collaborations to strengthen ties, promote networking, and generate mutual benefits while respecting the social, environmental, territorial, and cultural rights of communities. We promote committees, meetings, lectures, visits and investment in social and environmental programs and projects, which are in alignment with the objectives of our business and contributes to the conservation of the environment and to the improvement of the living conditions of the communities where we operate.

In 2022, our community relationship activities carried out 216 interactions in communities, including online meetings with community leaders through community committees, as well as visits and events.

We have also incorporated guidelines in our decision-making process related to capital investment projects, including social risk analysis and human rights violations performed by a multidisciplinary group. In 2022, 18 new risk assessments were required to support projects passing through formal planning procedures.

We also strengthened our work with communities, civil society organizations, the public sector and universities through the Petrobras Socio-Environmental Program. This initiative contributes to environmental conservation and the improvement of living conditions of locations where we operate. The program is aligned with our social responsibility policy, which seeks to provide energy, respect human rights and the environment, manage our relationship with communities in a responsible way, and overcome sustainability challenges.

With the aim of expanding our investments in a more diverse portfolio of projects in nature-based solutions, in line with our objectives and strategic commitments, we established a partnership with the National Bank for Economic and Social Development ("BNDES") through match funding Floresta Viva. Targeting joint financial support for reforestation projects of native species in Brazilian biomes, we intend to follow the path of generating high-integrity carbon credits, which generate social and environmental benefits. Hence, in November 2022, we launched the first public selection process: "*Manguezais do Brasil*" (Brazilian Mangroves). With resources from us and BNDES, US\$8.5 million will be made available for up to nine ecological restoration projects for mangroves, salt marshes/apicums, restingas and their drainage basins. We believe in the importance of this investment as a step forward in this frontier of knowledge, especially in Brazil, which has one of the largest areas of mangrove in the world. This initiative will reinforce our socio-environmental investments in blue carbon.

Additionally, in order to align our social performance with the performance of the industry while recognizing the importance of helping those who became even more vulnerable during the pandemic, in September 2021, we launched a 15-month program to support socially-vulnerable families, neighboring the sites where we operate throughout Brazil, with access to essential goods and energy, especially food and cooking gas, more specifically, LPG. The program amounted to US\$50.9 million through December 2022.

We also supported governmental and non-profit institutions with financial contributions through emergency mobilization of resources and various donations towards social and health initiatives, mainly directed to flood-affected communities in the states of Rio de Janeiro, Minas Gerais, Bahia and Pernambuco. The donations totaled US\$1.8 million in 2022.

In 2022, investments directly transferred to society via social and environmental projects and donations totaled US\$76.1 million, compared to US\$33.9 million in 2021.



The Covid-19 pandemic and employee's and suppliers' health

In the past few years, we have engaged in the effort to mitigate the effects of the Covid-19 pandemic in our company. One of our main initiatives was to establish an Organizational Response Structure ("EOR"), based on the Incident Command System ("ICS") management tool that uniformly guided all our actions to prevent and combat the advance of Covid-19 and mitigate its consequences on all possible fronts. As a result, our core operating activities have been carried out consistently and in accordance with health and safety standards, in full compliance with the guidelines provided by the responsible health agencies and with scientific findings.

In order to ensure that the best practices were also adopted by our suppliers, we monitored Covid-19 prevention practices and measures at our sites, ships and contracted personnel to ensure legal compliance with our protocols.

Throughout 2022, we began to adapt or discontinued some measures that were no longer relevant given the epidemiological scenario at the time and in accordance with the determinations of federal public bodies, such as the dissolving the EOR in May 2022.

However, since the Covid-19 pandemic is not over, we prepared a corporate standard to deal with the disease based on the review of health guidelines previously published through technical notes issued by the EOR, and our health teams continue to monitor the epidemiological scenario of Covid-19 in Brazil and in our company, as well as the guidelines and determinations of national and regional health authorities and regulatory bodies.

Corporate Governance

Good corporate governance and compliance practices are a pillar of support for our business. In recent years, we have made significant advances in our corporate governance and in our integrity, compliance and internal controls systems. We have also adopted rigorous ethics and integrity standards through initiatives that reinforce our purpose, values, and commitment to continuous improvement and alignment with good market practices.

Our corporate governance model has a set of rules and procedures that seek to ensure that our decisions are aligned with good governance:

OUR MAIN GOVERNANCE PRACTICES



Law 13,303/16 requires that our Board of Directors be formed by at least 25% of independent members. Our Bylaws extended the requirement to 40%; however this provision can be amended. Technical criteria for the selection of members of the Board of Directors and executive officers set forth in article 17, § 2º, I and II, of Law 13,303/16 and in our Bylaws banned the appointment of ministers, secretaries and others in certain positions of public administration. Our Bylaws also provided additional requirements in addition to those of Law 13,303/16 for assessing the reputation of the administrators and members of the Fiscal Council and political parties and campaigns. On March 16, 2023, Supreme Court’s Minister Ricardo Lewandowski in Direct Unconstitutionality Action – ADI 7331 TPI/DF granted provisional relief, finding that the ban under article 17, § 2º, I and II, of Law 13,303/16 is, in part, unconstitutional. Such decision is subject to review by the plenary of the court, formed by all Supreme Court Ministers.

Our Board of Directors nominates the chief governance and compliance officer. The majority of the board must approve the dismissal of such an officer, with the vote of a majority of the directors elected by minority shareholders.

As we are a mixed-capital company, the Brazilian federal government can guide our activities, with the purpose of contributing to the public interest that justified our creation, aiming to guarantee the supply of oil products throughout the national territory. However, this contribution to the public interest must be compatible with our corporate purpose and with market conditions and cannot jeopardize our profitability and financial sustainability.



Thus, if providing for the public interest calls for conditions different from those of any other private sector company operating in the same market, as explained in our Bylaws, the obligations or responsibilities that we assume must be defined in rules or regulations and outlined in a specific document, such as a contract or agreement, widely publicized and with disclosure in such instruments of detailed costs and revenues, including in the accounting plan. Then, the Brazilian federal government will compensate us, each fiscal year, for the difference between market conditions and the operating result or economic return of the assumed obligation.

Transactions with the Brazilian federal government that require our Board of Directors' approval and occur outside the normal course of business must have been previously reviewed by the minority committee and approved by two-thirds of the board. The minority committee is formed by two members of our Board of Directors appointed by minority common shareholders and preferred shareholders, as well as one independent member, according to our Bylaws.

Regarding our decision-making process, our Bylaws define the board advisory committees that review all matters submitted to the Board of Directors prior to a decision. Additionally, in order to ensure transparency in our most relevant decisions, we use a shared authorization model, where at least two people must come to a decision (the four-eyes principle).

Our whistleblower channel is an independent, confidential and impartial tool. It is available to our external and internal audiences and our controlled companies to register denouncements of fraud, corruption, money laundering, harassment, discrimination, HSE and other issues.

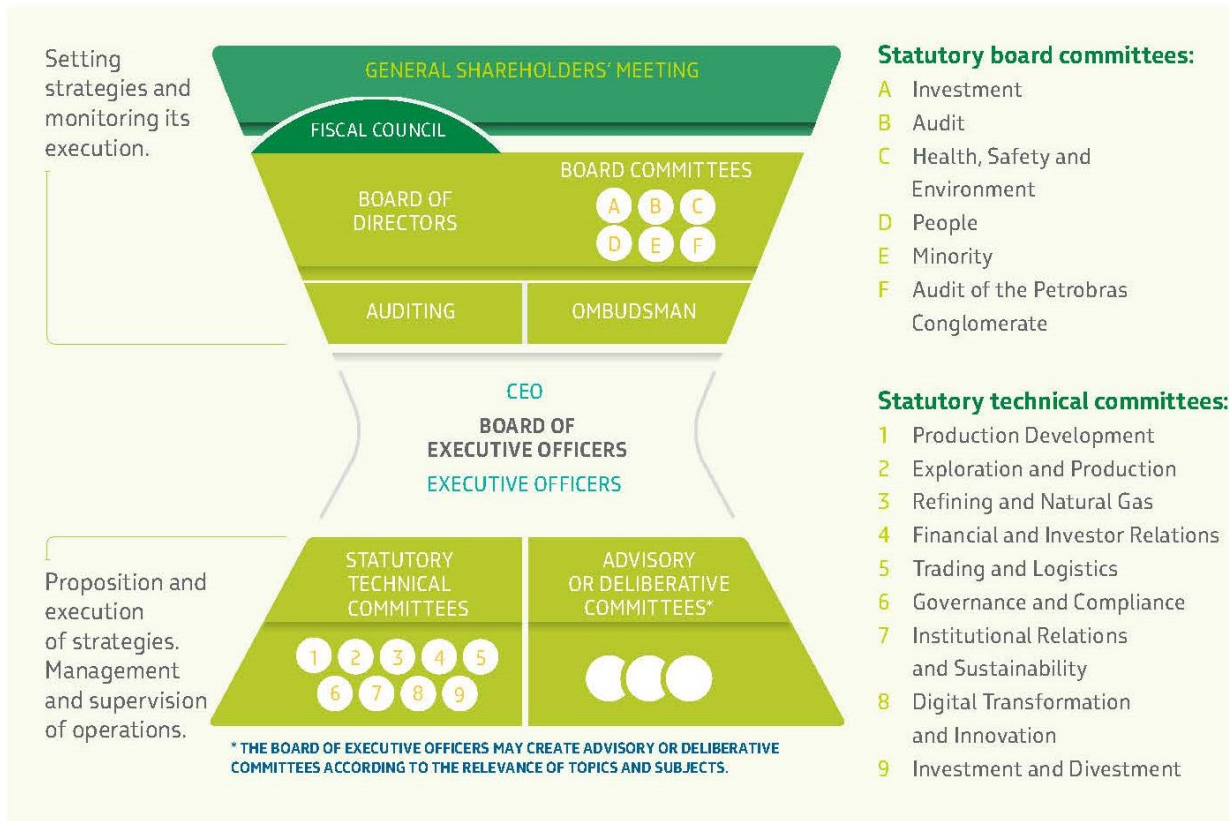
We are part of the special Level 2 corporate governance listing segment of the B3, which demands compliance with differentiated governance regulation and the improvement of the quality of the information we provide. This voluntary move to Level 2 of the B3 reinforces our advances in corporate governance and ratifies our commitment to the continued improvement of processes and to our alignment with good market practices.

Possible initiatives related to changes for governance improvements require formality and transparency of process. In most cases, a shareholders' meeting is required if the proposed change is to a governance rule provided for in our Bylaws or stems from a legislative amendment if relates to a Law 13,303/16 provision.

Corporate Governance Structure

Our corporate governance structure currently consists of a general shareholders' meeting, our Fiscal Council, Board of Directors and its committees, audits, general ombudsman office, Board of Executive Officers and its committees.

GOVERNANCE STRUCTURE



Our Code of Best Practices gathers our main governance policies and aims to improve and strengthen our governance mechanisms, guiding the performance of our directors, executive officers, managers, employees and collaborators.



Our Code of Best Practices

We have a Code of Best Practices, which is an instrument approved by our Board of Directors that brings together our main governance policies (available on our website), as listed here:

	Relevant Act or Fact Disclosure and Negotiation of Securities Policy		Appointment Policy for Members of Senior Management and Fiscal Council
	Compliance Policy		Communication and Relations Policy
	Business Risk Management Policy		Petrobras' Related Party Transactions Policy
	Ombudsman Policy		Corporate Governance Policy
	Dividend Policy		Indemnity Commitment Application and Governance Policy

Major Recognition

We are members of the Brazilian Institute of Corporate Governance (“IBGC”), which ratifies our commitment to the continuous improvement of our processes and internal controls, in alignment with good corporate governance practices in the market, with the objectives and values defined in our 2023-2027 Strategic Plan, as well as with national and international legislation.

We also received, for the sixth time in a row, the certification in the Governance Indicator of the Secretariat for Coordination and Governance of State-Owned Companies (“IG-Sest”), of the Ministry of the Economy, achieving their best level, Level 1, which shows our high degree of excellence in corporate governance.

This certification, besides acknowledging our advances in recent years, is an opportunity to assess our processes at a new level of quality and reaffirm our commitment to the continuous improvement of our corporate governance.

In 2022, we reached 94% adherence to the Brazilian Code of Corporate Governance (“CBGC”). According to the latest survey released by the IBGC, the degree of adherence of companies in the market averaged 62.6% in 2022, an increase of 3.9% compared to the previous year (58.7%).

Additionally, for the sixth consecutive year, in 2022 we won the National Association of Finance, Administration, and Accounting Executives (Anefac) award, granted to the Brazilian companies with the best quality and transparency in their financial statements. The classification is made based on a rigorous technical analysis of the financial statements published by companies based in Brazil that operate in the commercial, industrial, and service sectors. Criteria such as transparency, clarity and consistency of information, adherence to accounting standards, among others, are evaluated.



We believe that the results we have achieved prove the recognition of the market and regulatory and control entities regarding the improvement of our culture of integrity and of our governance mechanisms. We believe that a high degree of integrity reinforces our reputation among our stakeholders and, consequently, within society as a whole.

In 2022, as a result of our efforts and initiatives in the environmental, social and governance sectors, we once again were listed on the Dow Jones Sustainability Index World (“DJSI World”) of S&P Global’s Corporate Sustainability Assessment. We received the highest score in the Environmental Report, Water-Related Risks and Social Report criteria. We also stood out in the criteria of Operational Eco-efficiency, Labor Practices and Human Rights. We had left the index in 2015 and this result for the second consecutive year is once again a great recognition of our progress.

Shareholders’ Meeting

The shareholders’ meetings must take place on an ordinary or extraordinary basis. An ordinary shareholders’ meeting must take place once a year in order to: (i) examine the administrators’ account, examine, discuss and vote on the financial statements; (ii) decide on the allocation of net profit for the year and the distribution of dividends; and (iii) elect the members of the Board of Directors and Fiscal Council. In addition to the matters provided for by law, an extraordinary shareholders’ meeting must take place if called to decide on matters of our best interest, as defined in our Bylaws.

For more detailed information on our shareholders’ meetings, see “Shareholder Information” in this annual report.

Comparison of our Corporate Governance Practices with NYSE Corporate Governance Requirements Applicable to U.S. Companies

Under the rules of the NYSE, foreign private issuers are subject to a more limited set of corporate governance requirements than U.S. domestic issuers. As a foreign private issuer, we must comply with four principal NYSE corporate governance rules: (i) we must satisfy the requirements of Rule 10A-3 under the Exchange Act; (ii) our Chief Executive Officer must promptly notify the NYSE in writing after any executive officer becomes aware of any material non-compliance with the applicable NYSE corporate governance rules; (iii) we must provide the NYSE with annual and interim written affirmations as required under the NYSE corporate governance rules; and (iv) we must provide a brief description of any significant differences between our corporate governance practices and those followed by U.S. companies under NYSE listing standards.

The table below briefly describes the significant differences between our corporate governance practices and the NYSE corporate governance rules.



Section	New York Stock Exchange Corporate Governance Rules for U.S. Domestic Issuers	Our Practices
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Director Independence

303A.01	Listed companies must have a majority of independent directors. "Controlled companies" are not required to comply with this requirement.	We are a controlled company because more than a majority of our voting capital (at least 50% plus one share) is controlled by the Brazilian federal government. As a controlled company, we would not be required to comply with the majority of independent directors requirement if it were a U.S. domestic issuer. According to our Bylaws, we are required to have at least 40% of independent directors.
303A.03	The non-management directors of each listed company must meet at regularly scheduled executive sessions without management.	Except for our CEO (who is also a director), all of our directors are non-management directors. The regulation of our Board of Directors provides that if a particular matter may represent a conflict of interests, the CEO must recuse himself from the meeting, which will continue without his presence. Additionally, the board's regulation also establishes a regular executive session for our Board of Directors matters without management.

Nominating/Corporate governance committee

303A.04	Listed companies must have a nominating/ corporate governance committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. "Controlled companies" are not required to comply with this requirement.	<p>We have a statutory committee that verifies the compliance of the appointment of members of our Fiscal Council, our Board of Executive Officers, and our Board of Directors and the external members of the committees that advise our Board of Directors. Our people committee has a written charter that requires the majority of its members to be independent.</p> <p>Our Board of Directors develops, evaluates and approves corporate governance principles. As a controlled company, we would not be required to comply with the nominating/corporate governance committee requirement if we were a U.S. domestic issuer.</p>
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Compensation committee

303A.05	Listed companies must have a compensation committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. "Controlled companies" are not required to comply with this requirement.	<p>We have a committee that advises our Board of Directors with respect to compensation and management succession. Our people committee has a written charter that requires the majority of its members to be independent.</p> <p>As a controlled company, we are not required to comply with the compensation committee requirement.</p>
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Audit committee



Section	New York Stock Exchange Corporate Governance Rules for U.S. Domestic Issuers	Our Practices
303A.06 303A.07	Generally, listed companies must have an audit committee with a minimum of three independent directors that satisfy the independence requirements of Rule 10A-3 under the Exchange Act, with a written charter that covers certain minimum specified duties. However, pursuant to Exchange Act Rule 10A-3(c)(3), a foreign private issuer is not required to have an audit committee equivalent to or comparable with a U.S. audit committee if the foreign private issuer has a body established and selected pursuant to home country legal or listing provisions expressly requiring or permitting such a body, and if the body meets the requirements that (i) it be separate from the full board, (ii) its members not be elected by management, (iii) no executive officer be a member of the body, and (iv) home country legal or listing provisions set forth standards for the independence of the members of the body.	Our audit committee is a statutory advisory committee to our Board of Directors and satisfies the exemption set forth in Rule 10A-3(c)(3) under the Exchange Act. See “Management and Employees–Audit Committee” for a description of our audit committee. Our audit committee has a written charter that sets forth its responsibilities that include, among other things: (i) assess the independent auditor's qualifications and independence, and the performance of the independent audit functions, (ii) assuring legal and regulatory compliance, including with respect to internal controls, compliance procedures and ethics, and (iii) monitoring our financial position, especially as to risks, internal auditing work and financial disclosure; (iv) carry out prior analysis of transactions with related parties that meet the criteria established in the Related Party Transactions Policy, approved by our Board of Directors. In addition, one of the audit committee members is an external accounting and auditing expert, who brings valuable expertise and experience to the committee's work.
Equity Compensation Plans		
303A.08	Shareholders must have the opportunity to vote for compensation plans through shares and material reviews, with limited exceptions as set forth by the NYSE's rules.	Under Brazilian Corporate Law, shareholder approval is required for the adoption and revision of any equity compensation plans. We do not currently have any equity compensation plans.
Corporate Governance Guidelines		
303A.09	Listed companies must adopt and disclose corporate governance guidelines.	We have a set of Corporate Governance Guidelines (<i>Diretrizes de Governança Corporativa</i>) that address general ombudsman qualification standards, responsibilities, composition, appraisals and access to information by the management. The guidelines do not reflect the independence requirements set forth in Sections 303A.01 and 303A.02 of the NYSE rules. Certain portions of the guidelines, including the responsibilities and compensation sections, are not discussed with the same level of detail set forth in the commentaries to the NYSE rules. The guidelines are available on our website at www.petrobras.com.br/ir . The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.



Section	New York Stock Exchange Corporate Governance Rules for U.S. Domestic Issuers	Our Practices
<p>We also have a Corporate Governance Policy, approved by our Board of Directors, which establishes our governance principles and guidelines. This policy applies to our company and our affiliates, pursuant to Article 16 of our Bylaws.</p>		
<p>Code of Ethics for Directors, Officers and Employees</p>		
303A.10	Listed companies must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers.	We have a Code of Ethical Conduct (<i>Código de Conduta Ética</i>), applicable to the members of the Board of Directors and its advisory committees, members of the Fiscal Council, members of the Executive Board, employees, interns, service providers and anyone acting on our behalf ("collaborators"), including its subsidiaries in Brazil and abroad, and a Code of Best Practices (<i>Código de Boas Práticas</i>) applicable to our directors, executive officers, senior management, employees and collaborators. No waivers of the provisions of the Code of Ethical Conduct or the Code of Best Practices are permitted. These documents are available on our website at www.petrobras.com.br/ir . The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.
<p>Certification Requirements</p>		
303A.12	Each listed company CEO must certify to the NYSE each year that he or she is not aware of any violation by us of NYSE corporate governance listing standards.	Our CEO will promptly notify the NYSE in writing if any executive officer becomes aware of any material noncompliance with any applicable provisions of the NYSE corporate governance rules.



Operating and Financial Review and Prospects



Consolidated Financial Performance

We achieved a net income of US\$36.8 billion, cash provided by operating activities of US\$49.7 billion, a Free Cash Flow (a non-GAAP measure defined below) of US\$40.1 billion and an Adjusted EBITDA (a non-GAAP measure defined below) of US\$66.2 billion.

Operating income (loss) in 2022 was US\$57.1 billion, 52% higher than 2021 primarily due to the 43% appreciation of average Brent price for the year and higher sales of oil products, at higher average prices, in the domestic market. Net income attributable to our shareholders was US\$36.6 billion in 2022, an 84% increase compared to US\$19.9 billion in 2021, mainly due to the 43% appreciation of average Brent prices, higher average prices on oil products, lower net finance expenses (- US\$3.8 billion compared to - US\$11.0 billion in 2021) and gains from co-participation agreements in the Transfer of Rights fields (+ US\$7.3 billion compared to + US\$2.9 billion in 2021), partially offset by higher income taxes (- US\$16.8 billion compared to - US\$8.2 billion in 2021) and impairment losses in 2022 of US\$1.3 billion compared to impairment reversals of US\$3.2 billion in 2021.

Fluctuations in our financial condition and results of operations are driven by a combination of factors, including:

- the volume of crude oil, oil products and natural gas we produce and sell;
- changes in international prices of crude oil and oil products (denominated in U.S. dollars);
- changes in the domestic prices of oil products (denominated in *reais*);
- fluctuations in the *real* vs. U.S. dollar exchange rates and other currencies, as disclosed in Note 34.3(c) to our audited consolidated financial statements;
- the demand for oil products in Brazil;
- the recoverable amounts of assets for impairment testing purposes; and
- the amount of production taxes from our operations that we are required to pay.

CONSOLIDATED STATEMENT OF INCOME INFORMATION (US\$ million)

	As reported			
	Jan-Dec		Variation	
	2022	2021	▲	▲ (%)
Sales revenues	124,474	83,966	40,508	48.2
Cost of sales	(59,486)	(43,164)	(16,322)	(37.8)
Gross profit	64,988	40,802	24,186	59.3
Selling expenses	(4,931)	(4,229)	(702)	(16.6)
General and administrative expenses	(1,332)	(1,176)	(156)	(13.3)
Exploration costs	(887)	(687)	(200)	(29.1)
Research and development expenses	(792)	(563)	(229)	(40.7)
Other taxes	(439)	(406)	(33)	(8.1)
Impairment (losses) reversals	(1,315)	3,190	(4,505)	(141.2)
Other income and expenses	1,822	653	1,169	179.0
Operating income	57,114	37,584	19,530	52.0



Net finance expense	(3,840)	(10,966)	7,126	65.0
Results of equity-accounted investments	251	1,607	(1,356)	(84.4)
Net income (loss) before income taxes	53,525	28,225	25,300	89.6
Income taxes	(16,770)	(8,239)	(8,531)	(103.5)
Net income for the year	36,755	19,986	16,769	83.9



Exchange rate and variation impacts

As we are a Brazilian company and most of our operations are carried out in Brazil, we prepare our financial statements primarily in *reais*, which is our functional currency and that of all of our Brazilian subsidiaries. We also have entities that operate outside Brazil the functional currency of which is the U.S. dollar. We have selected the U.S. dollar as our presentation currency in this annual report to facilitate the comparison with other oil and gas companies. We have used criteria set forth in IAS 21 – “The effects of changes in foreign exchange rates” to translate the consolidated financial statements from *reais* into U.S. dollars. Based on IAS 21, we have translated (i) all assets and liabilities into U.S. dollars at the exchange rate as of the date of the statement of financial position; (ii) all accounts in the statements of income, other comprehensive income and cash flows using the average exchange rates prevailing during the relevant period and (iii) equity items at the exchange rates prevailing at the respective transactions dates.

For more information regarding our functional and presentation currency, see “About Us” and Note 2.2 to our consolidated financial statements.

EXCHANGE AND INFLATION RATES

	2022	2021	2020
Year-end exchange rate (<i>reais</i> /US\$)	5.22	5.58	5.20
Appreciation (depreciation) during the year(1)	6.5%	(7.4%)	(28.9%)
Average exchange rate for the year (<i>reais</i> /US\$)	5.16	5.40	5.16
Appreciation (depreciation) during the year(2)	4.3%	(4.7%)	(30.7%)
Inflation rate (“IPCA”)	5.79%	10.06%	4.52%

(1) Based on year-end exchange rate.

(2) Based on average exchange rate for the year.

From January 1, 2023 to March 28, 2023, the *real* appreciated 0.9% against the U.S. dollar.

Most of our export revenues are denominated in U.S. dollars and our domestic sales are also indirectly linked to the U.S. dollar due to our current policy to generally seek to maintain parity with international product price. Therefore, the devaluation of the *real* is generally favorable to our results as the positive impact in revenues is higher than the negative impact on operating costs, the majority of which are denominated in Brazilian *reais*.



Exchange rate fluctuations may affect the results of variables such as the following:

- **Margins:** The relative pace at which our total revenues and expenses in *reais* increase or decrease as a result of exchange rate fluctuations, and its impact on our margins, is affected by our pricing policy in Brazil. Absent changes in the international prices of crude oil, oil products and natural gas, when the *real* appreciates against the U.S. dollar, and we do not adjust our prices in Brazil, our margins increase. On the other hand, absent changes in the international prices of crude oil, oil products and natural gas, when the *real* depreciates against the U.S. dollar and we do not adjust our prices in Brazil, our margins decline. For further information on our prices in our pricing policies, see “Sales Volumes and Prices” in this section.
- **Debt service:** The depreciation of the *real* against the U.S. dollar also increases our debt service expenses in *reais*, as the amount of *reais* necessary to pay principal and interest on foreign currency debt increases with the depreciation of the *real*. As our Debt denominated in other currencies increases, the negative impact of a depreciation of the *real* on our results and net income when expressed in *reais* also increases, thereby reducing earnings available for distribution.
- **Retained earnings available for distribution:** Exchange rate variation also affects the amount of retained earnings available for distribution by us when expressed in U.S. dollars. Amounts reported as available for distribution in our statutory accounting records are calculated in *reais* and prepared in accordance with IFRS. They may increase or decrease when expressed in U.S. dollars as the *real* appreciates or depreciates against the U.S. dollar.

We designated hedging relationships to account for the effects of the existing hedge between a foreign exchange gain or loss from portions of our long-term debt obligations (denominated in U.S. dollars) and foreign exchange gain or loss of our highly probable U.S. dollar denominated future export revenues, so that gains or losses associated with the hedged transaction (the highly probable future exports) and the hedging instrument (debt obligations) are recognized in the statement of income in the same periods.

For more information about our cash flow hedge, see Notes 4.7 and 34.3(a) to our audited consolidated financial statements.

For information about our related foreign exchange exposure related, see “Liquidity and Capital Resources – Exposure to Interest Rate and Exchange Rate Risk” in this section.

For more information about our foreign exchange exposure related to assets and liabilities, see Note 34.3(c) to our audited consolidated financial statements.

Sales Revenues

In 2022, sales revenues increased 48% compared to 2021, reaching US\$124.5 billion, due to both higher oil products prices and crude oil prices.



Sales volumes and prices

As a vertically integrated company, we process most of our crude oil production in our refineries and sell the refined oil products primarily in the Brazilian market. Therefore, the price of oil products in Brazil has a significant impact on our financial results. International oil product prices vary over time as the result of many factors, including the price of crude oil. When possible, we seek to sell our products in Brazil at par with international product prices. The average price of Brent Crude Oil, as reported by Bloomberg, was US\$101 per barrel in 2022, US\$71 per barrel in 2021 and US\$42 per barrel in 2020. As of December 31, 2022, the Brent Crude Oil price was US\$81.33 per barrel.

Consolidated sales revenues were US\$124,474 million in 2022 as compared to US\$83,966 million in 2021, primarily due to:

- An increase of US\$34,761 million due to higher oil products prices; and
- An increase of US\$5,747 million due to higher oil products volumes sold.

	For the year ended December 31								
	2022			2021			2020		
	Volume (m bbl, except as otherwise noted)	Net Average Price (US\$)(1)	Sales Revenues (US\$ million)	Volume (m bbl, except as otherwise noted)	Net Average Price (US\$)(1)	Sales Revenues (US\$ million)	Volume (m bbl, except as otherwise noted)	Net Average Price (US\$)(1)	Sales Revenues (US\$ million)
Diesel	275,572	145.69	40,149	292,488	82.86	24,236	251,400	55.39	13,924
Automotive gasoline	148,647	108.81	16,175	149,132	79.86	11,910	125,536	50.29	6,313
Fuel oil (including bunker fuel)	12,239	115.29	1,411	22,125	80.23	1,775	14,669	54.20	795
Naphtha	26,692	89.76	2,396	25,020	67.91	1,699	42,544	39.82	1,694
Liquefied petroleum gas	77,149	66.38	5,121	83,320	53.90	4,491	86,170	39.26	3,383
Jet fuel	35,879	151.15	5,423	27,184	83.54	2,271	21,887	66.48	1,455
Other oil products	63,717	86.88	5,536	59,892	71.14	4,261	66,470	40.80	2,712
Subtotal oil products	639,895	119.10	76,211	659,161	76.83	50,643	608,676	49.74	30,276
Natural gas (boe)	111,270	68.96	7,673	128,504	45.79	5,884	106,890	34.14	3,649
Oil	73,771	104.63	7,719	8,789	76.35	671	1,279	37.53	48
Ethanol, nitrogen products, renewables and other non-oil products	1,085	260.83	283	1,422	28.13	40	1,620	36.42	59
Electricity, services and others	—	—	2,406	—	—	3,953	—	—	2,302
Total Brazilian market	826,021	—	94,292	797,876	—	61,191	718,465	—	36,334
Exports	260,734	105.46	27,497	296,055	72.59	21,491	350,090	45.55	15,945
International sales	20,511	130.91	2,685	16,888	76.03	1,284	31,190	45.02	1,404
Total global market	281,244	—	30,182	312,943	—	22,775	381,280	—	17,349
CONSOLIDATED SALES REVENUES	1,107,265	—	124,474	1,110,819	—	83,966	1,099,745	—	53,683

(1) Net average price calculated by dividing sales revenues by the volume for the year.



Cost of Sales

In 2022, the cost of sales increased 38%, reaching US\$59,486 million, mainly reflecting both higher imported crude oil and oil products prices, and a higher share of imported crude oil in the refined products, which has a higher price. It is worth highlighting the 156% increase in the LNG acquisition costs.

Selling Expenses

Selling expenses were US\$4,931 million in 2022, an increase of 17% compared to US\$4,229 million in 2021, mainly due to higher shipping and freight unit costs and higher volumes of crude oil sales in the Brazilian market.

General and Administrative Expenses

General and administrative expenses were US\$1,332 million in 2022, an increase of 13% compared to US\$1,176 million in 2021, mainly reflecting higher expenses with third-party services, especially data processing services, lower cost recoveries related to consortium overhead costs, salary readjustments, in accordance with Collective Bargaining Agreements, and the employees process of promotion advancement.

Exploration Costs

Exploration costs were US\$888 million in 2022, a 29% increase when compared to US\$687 million in 2021, mainly due to higher dry wells expenses.

Impairment of Assets

We recognized impairment in the amount of US\$1,315 million in 2022, a US\$4,505 million decrease compared to a gain in impairment reversal of US\$3,190 million in 2021.

This decrease was mainly in oil and gas producing properties in Brazil (a US\$1,315 million impairment in 2022 compared to a US\$3,373 million impairment reversal in 2021). The reversal in 2021 is related to the revision of the key assumptions of the 2022-2026 Strategic Plan, especially the increase in average Brent prices for 2022.

Other Income and Expenses

Other income was US\$1,822 million in 2022, US\$1,169 million higher than 2021 (an income of US\$653 million), mainly due to:

- higher gains from co-participation agreements in bid areas, from US\$631 million in 2021 to US\$4,286 million in 2022, due to a US\$3,552 million gain, in 2022, with the Co-participation Agreements related to the Surplus Volumes of the Transfer of Rights Agreements of Sepia and Atapu (including a US\$693 million gain related to the earn out, reflecting the average appreciation of Brent), as well as a US\$735 million gain, in the same year, with the Co-participation Agreement of the Búzios field, compared to a US\$ 631 million gain, in 2021, with the Co-participation Agreement of the Búzios field; and
- lower expenses with the Health and Pension Plans for retired employees (a US\$1,015 million expense in 2022 compared to a US\$1,467 million expense in 2021), mainly reflecting the effect of the actuarial review of the Health Plan regarding the change in the co-participation of the benefit in 2021.



Partially offset by:

- lower income from disposals and write-offs of assets and on remeasurement of investment retained with loss of control (a US\$1,144 million income in 2022 compared to a US\$1,941 million income in 2021). In 2022, the income primarily related to capital gains of onshore and shallow water's E&P assets, and the selling of Gaspetro. In 2021, the income primarily related to the contingent payment to us following the approval by the ANP of the individualization agreement in Bacalhau field (a US\$950 million income) and of the sale of Mataripe Refinery ("RLAM") (a US\$574 million income);
- higher expenses related to legal, administrative and arbitration proceedings (a US\$1,362 million expense in 2022 compared to a US\$740 million expense in 2021), mainly due to provisions for losses with civil litigation involving contractual issues; and
- a US\$323 million increase in costs related to the decommissioning of returned and abandoned areas in 2022 (a US\$225 million expense), compared to a US\$99 million income in 2021.

Net Finance Income (Expense)

Net finance expense was US\$3,840 million in 2022, a 65% decrease when compared to US\$10,966 million in 2021, mainly due to:

- foreign exchange losses of US\$2,173 million in 2022, as compared to US\$6,637 million losses in 2021 reflecting the currency appreciation of the Brazilian *real* over the US Dollar;
- Lower costs on the repurchase of debt securities in the capital market (US\$1,224 million lower), largely due to the reduction of transactions related to debt repurchase;
- lower expenses with interest (US\$274 million lower), due to the lower leverage driven by the prepayments and debt repurchases that occurred over the periods; and
- higher gains with interest on marketable securities of US\$1,159 million in 2022, as compared to US\$315 million in 2021, due to higher interest rates.

Results in equity-accounted investments

We had a gain in equity-accounted investments of US\$251 million in 2022, compared to a gain of US\$1,607 million in 2021. This reduction was mainly due to lower gains with Braskem and the absence of results in the equity accounted investments related to BR Distribuidora which was sold in 2021.

Income Taxes

Income tax was an expense of US\$16,770 million in 2022, compared to a expense of US\$8,239 million in 2022, mainly due to higher net income before income taxes (US\$53,525 million of income in 2022 compared to a US\$28,225 million income in 2021).

For information regarding discussion of earlier years, please refer to our previous Annual Report and Form 20-F. Our SEC filings are available to the public on the SEC's website at www.sec.gov and on our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.



Financial Performance by Business Segment

SELECTED FINANCIAL DATA BY REPORTABLE OPERATING SEGMENTS AND FOR CORPORATE AND OTHER BUSINESS

	For the year ended December 31		
	2022	2021	▲ 22-21
	(US\$ million)	(US\$ million)	(%)
Exploration and Production			
Sales revenues to third parties ⁽¹⁾⁽²⁾	1,311	1,105	18.6
Intersegment sales revenues	76,579	54,479	40.6
Total sales revenues⁽²⁾	77,890	55,584	40.1
Cost of sales	(30,465)	(23,673)	28.7
Impairment (losses) reversals	(1,218)	3,107	(139.2)
Net income (loss) attributable to our shareholders	32,073	23,324	37.5
Refining, Transportation and Marketing			
Sales revenues to third parties ⁽¹⁾⁽²⁾	111,581	73,108	52.6
Intersegment sales revenues	1,950	1,416	37.7
Total sales revenues⁽²⁾	113,531	74,524	52.3
Cost of sales	(99,154)	(65,620)	51.1
Impairment (losses) reversals	(97)	289	(133.6)
Net income (loss) attributable to our shareholders	7,426	5,626	32.0
Gas and Power			
Sales revenues to third parties ⁽¹⁾⁽²⁾	11,077	9,487	16.8
Intersegment sales revenues	3,991	2,564	55.7
Total sales revenues⁽²⁾	15,068	12,051	25.0
Cost of sales	(10,518)	(9,494)	10.8
Impairment (losses) reversals	1	(208)	(100.5)
Net income (loss) attributable to our shareholders	1,038	(219)	(574.0)
Corporate and other Businesses			
Sales revenues to third parties ⁽¹⁾⁽²⁾	505	266	89.8
Intersegment sales revenues	6	238	(97.5)
Total sales revenues⁽²⁾	511	504	1.4
Net income (loss) attributable to our shareholders	(3,015)	(7,146)	(57.8)

(1) Not all of our segments have significant third-party revenues. For example, our Exploration and Production segment accounts for a large part of our economic activity and capital expenditures but has little third-party revenues.

(2) Revenues from commercialization of oil to third parties are classified in accordance with the points of sale, which could be either the Exploration and Production or Refining, Transportation and Marketing segments.



Exploration and Production

Net income attributable to our shareholders in our E&P segment was US\$32,073 million in 2022 compared to US\$23,324 million in 2021, primarily due to:

- higher sales revenues (an increase of US\$22,308 million), primarily due to higher crude oil prices;
- partially offset by higher cost of sales (an increase of US\$6,789 million), mainly due to higher government take expenses driven by higher oil prices;
- higher impairment losses (an increase of US\$4,325 million) due to impairment losses in oil and gas producing properties in Brazil in 2022, compared to the reversal of impairment of US\$3,107 in 2021. See Note 25 to our consolidated financial statements for further information about impairment losses; and
- higher exploration costs (an increase of US\$201 million), mainly due to higher dry well expenses.

Refining, Transportation and Marketing

Net income attributable to our shareholders in our RTM segment was US\$7,426 million in 2022 compared to US\$5,626 million in 2021, primarily due to:

- higher sales revenues (an increase of US\$39,007 million), primarily due to the increase in international prices for mainly diesel, jet fuel and gasoline, impacted by restrictions on the global supply of oil products and the embargo on Russian oil, as a result of the ongoing geopolitical conflict in Ukraine since March 2022. These effects also had a positive impact on fuel oil and petroleum export revenue in 2022;
- higher costs of sales due to the increase in the average Brent and higher expenses: selling expenses increase of US\$302 million mainly due to the increase in shipping expenses and gain from disposal/write-offs of assets primarily due to the divestment of the RLAM refinery in 2021; and
- lower reversal of impairment related to the second unit of Abreu e Lima refinery in 2022 compared to 2021. In 2022 there was US\$89 million of impairment reversal compared to US\$ 359 million in 2021.

Gas and Power

In 2022, the net income attributable to our shareholders in our Gas & Power segment was US\$1,038 million, an increase of US\$1,257 million compared to 2021, mainly due to a recovery in commercialization margin consequence of an improvement in the natural gas sales portfolio, aligned with the appreciation of Brent and the lower volume of regasified LNG.

For information regarding discussion of earlier years, please refer to our previous Annual Report and Form 20-F. Our SEC filings are available to the public on the SEC's website at www.sec.gov and on our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.



Liquidity and Capital Resources

We closely monitor liquidity levels in order to effectively meet cash needs from our business operations and financial obligations. We have a conservative approach to the management of our liquidity, which consists mainly of (i) cash and cash equivalents (cash in hand, deposits held at call with banks, money market mutual funds and other short-term highly liquid investments with maturities of three months or less), and (ii) investments in financial assets (treasury bills). Based on the information presented below, we believe our working capital is sufficient for our present requirements.

Adjusted Cash and cash equivalents is a non-GAAP measure that comprises cash and cash equivalents, government bonds and time deposits from highly rated financial institutions abroad with maturities of more than three months from the end of the period, considering the expected realization of those financial investments in the short-term. This measure is not defined under the IFRS and should not be considered in isolation or as a substitute for cash and cash equivalents computed in accordance with IFRS. It may not be comparable to the adjusted cash and cash equivalents of other companies; however, management believes that it is an appropriate supplemental measure to assess our liquidity and supports leverage management.

LIQUIDITY AND CAPITAL RESOURCES

US\$ million	2022	2021
Cash and cash equivalents at the beginning of the period	10,480	11,725
Net cash provided by operating activities	49,717	37,791
Acquisition of PP&E and intangibles assets	(9,581)	(6,325)
Investments in investees	(27)	(24)
Proceeds from disposal of assets – Divestment	4,846	4,783
Financial compensation from co-participation agreements	7,284	2,938
Dividends received	374	781
Divestment (Investment) in marketable securities	(3,328)	4
Net cash provided by (used in) investing activities	(432)	2,157
(=) Net cash provided by operating and investing activities	49,285	39,948
Net change in finance debt	(8,304)	(21,757)
Proceeds from financing	2,880	1,885
Repayments	(11,184)	(23,642)
Repayment of lease liability	(5,430)	(5,827)
Dividends paid to our shareholders	(37,701)	(13,078)
Dividends paid to non-controlling interest	(81)	(105)
Investments by non-controlling interest	63	(24)
Net cash used in financing activities	(51,453)	(40,791)
Effect of exchange rate changes on cash and cash equivalents	(316)	(402)
Cash and cash equivalents at the end of the period	7,996	10,480
Government bonds and time deposits with maturities of more than three months and post-fixed Bank Deposit Certificates with daily liquidity at the end of the period	4,287	650



Cash and cash equivalents in companies classified as held for sale at the end of the period	-	(13)
Adjusted Cash and cash equivalents at the end of the period	12,283	11,117



Free Cash Flow

Free Cash Flow is a non-GAAP measure representing Net cash provided by operating activities minus Acquisition of PP&E and intangible assets. We use it as a supplemental measure to assess our liquidity and to support liability management. In addition, this measure is the basis for the distribution of dividends according to our dividend policy.

Free Cash Flow is a non-GAAP measure and may not be comparable to the calculation of liquidity measures presented by other companies, and it should neither be considered in isolation nor as a substitute for any measures calculated in accordance with IFRS. This metric must be considered together with other measures and indicators for a better understanding of our financial condition.

RECONCILIATION OF FREE CASH FLOW

	US\$ million		R\$ million ⁽¹⁾	
	2022	2021	2022	2021
Net cash provided by operating activities	49,717	37,791	255,410	203,126
(-) Acquisition of PP&E and intangible assets	9,581	(6,325)	49,656	(34,134)
FREE CASH FLOW	40,136	31,466	205,754	168,992

(1) According to our dividend policy, proposed dividends to shareholders is calculated based on the Free Cash Flow measured in Brazilian reais whose numbers are derived from our annual financial statements filed with the CVM.

The principal uses of funds in the year ended December 31, 2022 were for debt service obligations, including pre-payment of debts in the international banking market, interest on finance debt, repurchase of securities in the international capital market and lease payments totaling US\$16,614 million, acquisition of PP&E and intangibles assets in the amount of US\$9,581 million and dividend payments amounting to US\$37,701 million. These funds were principally provided by cash from operating activities of US\$49,717 million, financial compensation for the Búzios, Sépia e Atapu co-participation agreements of US\$7,284 million, proceeds from financing of US\$2,880 million and proceeds from divestments of US\$4,846 million.



Source of Funds

In 2022, our financing strategy was mainly based in managing our existing financial liabilities, aiming to extend short-term debt maturities and improving our capital structure, preserving our solvency and liquidity.

We pursued our financing strategy in 2022 in the following ways:

- using cash flow from operations; and
- portfolio management.

Cash Flows from Operating Activities

Net cash provided by operating activities was US\$49,717 million in 2022, an increase of 32% from US\$37,791 million in 2021, mainly due to higher oil prices and higher refining margins.

Disposal of Assets

We received cash inflow from the sale of assets amounting to US\$4,846 million, for the year ended December 31, 2022, which represents the prices paid to us on the closing of the completed transactions and the upfront contract signing payments related to certain transactions that have not yet been closed.

Assets	Cash-inflow (US\$ million)
Exercise of the call option in Búzios field	1,953
Sale of Carmópolis group of onshore fields	548
Sale of Gaspetro	391
Sale of Albacora Leste concession	293
Sale of Recôncavo group of onshore fields	246
Sale of Alagoas group of fields and of Alagoas Natural Gas Processing Unit	240
Sale of REMAN refinery assets	229
Sale of Potiguar group of fields	110
Sale of Deten petrochemical plant	106
Others	730
TOTAL	4,846

From January 1, 2023 through February 28, 2023, we have received US\$1,718 million from divestments, primarily related to the receipt of US\$1,635 million on the sale of the Albacora Leste field.

For additional information on divestments, see “Our Business – Portfolio Management” in this annual report.



Debt

Our proceeds from financing are comprised of local and global notes issued in the capital markets, funds raised from banking markets (in Brazil and abroad), and the use of revolving credit lines.

Additionally, our total debt includes lease liabilities. Our Gross Debt (which represents the sum of current and non-current finance debt and lease liabilities) totaled US\$53,799 million, and the Net Debt (a non-GAAP measure representing Gross Debt minus Adjusted Cash and cash equivalents), totaled US\$41,516 million.

For reconciliation of Net Debt and Gross Debt, see “Liquidity and Capital Resources – Sources of Funds – Finance Debt - Adjusted EBITDA and Net Debt/Adjusted EBITDA ratio” in this annual report.

Finance Debt

Debt profile

In 2022, proceeds from financing amounted to US\$2,880 million, mainly reflecting: (i) a sustainability-linked loan in the international banking market in the amount of US\$1,244 million maturing in 2027; (ii) commercial notes in the Brazilian market in the amount of US\$572 million due in 2030 and 2032; and (iii) the issuance of private placement commercial notes that backed the issuance of certificates of real estate receivables in the amount of US\$280 million, maturing in 2030, 2032 and 2037.

We currently issue notes in the international capital markets through our wholly-owned finance subsidiary PGF. We fully and unconditionally guarantee such notes issued by PGF.

Information on weighted average interest rate and weighted average maturity of our finance debt is presented below:

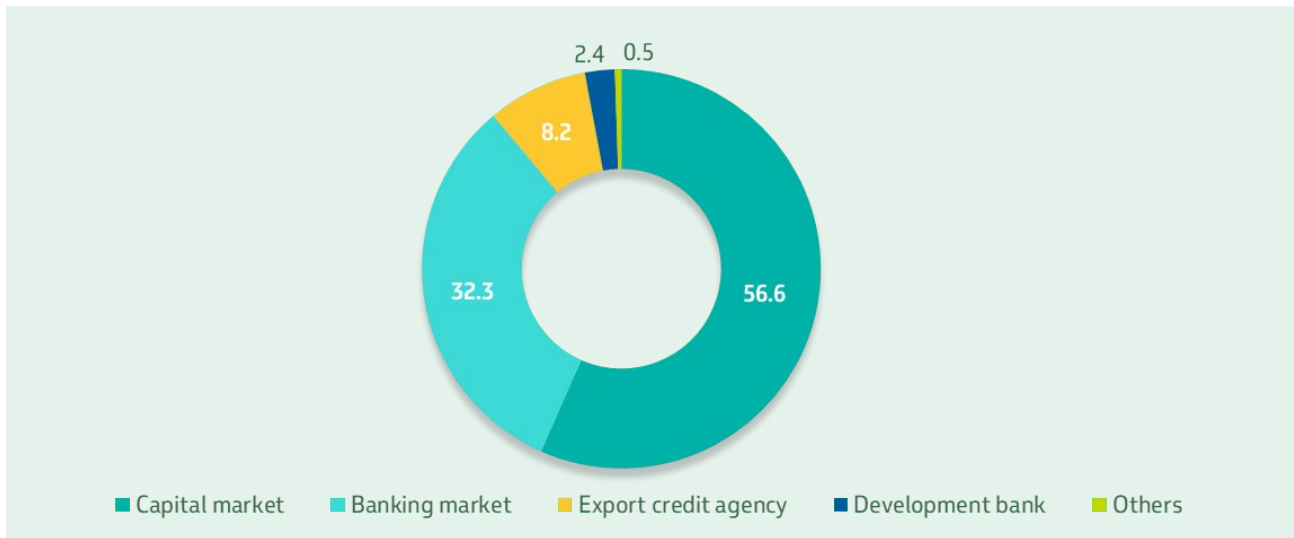
	2022	2021	2020
Weighted average interest rate (%)	6.5	6.2	5.9
Weighted average maturity (in years)	12.07	13.39	11.71
Leverage (%) ⁽¹⁾	39	41	47

(1) This leverage takes into account market capitalization as of December 31 of the respective year and is defined as (Gross Debt – Cash and cash equivalents) / (Market Capitalization + Gross Debt – Cash and cash equivalents).

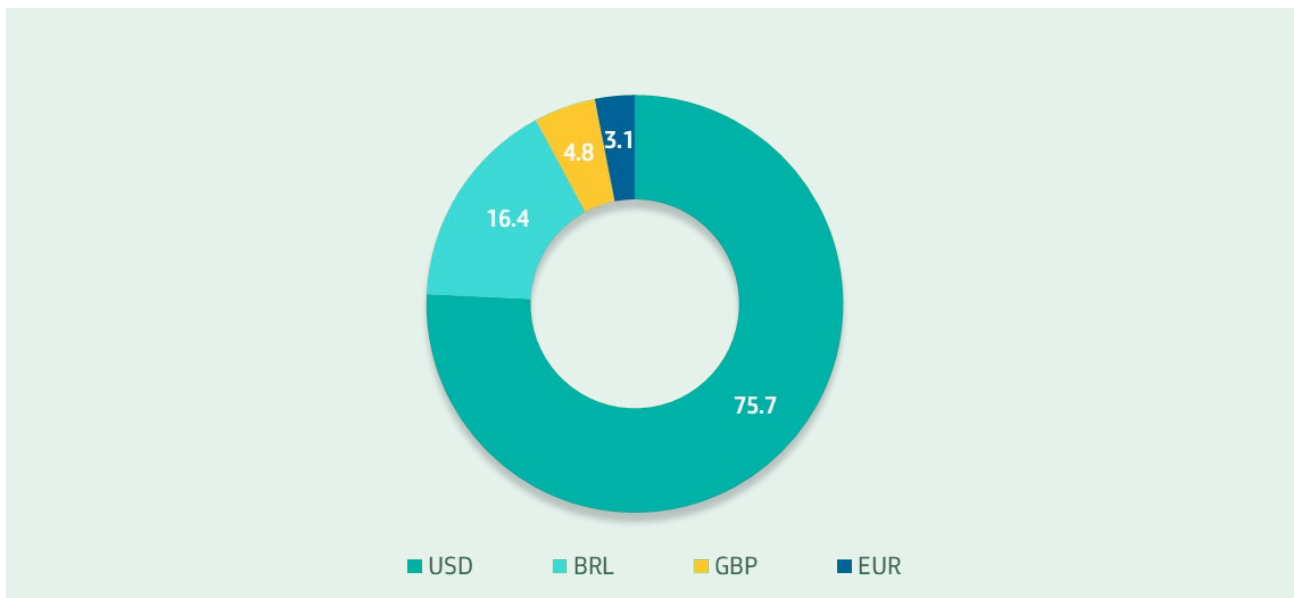
For additional information on Finance Debt amortization, see “ – Liquidity and Capital Resources – Use of Funds – Debt Service Obligations” in this annual report.



FINANCE DEBT PROFILE PER CATEGORY AS OF DECEMBER 31, 2022 (%)



DEBT PROFILE PER CURRENCY AS OF DECEMBER 31, 2022 (%)



As of December 31, 2022, our finance debt due in the short-term, including accrued interest, amounted to US\$3,576 million, as compared to US\$3,641 million as of December 31, 2021.

Our outstanding long-term finance debt amounted to US\$26,378 million as of December 31, 2022, as compared to US\$32,059 million as of December 31, 2021. This decrease was primarily due to the repurchase of global bonds previously issued by us in the capital markets.

See Note 31 to our audited consolidated financial statements for a breakdown of our finance debt, a roll-forward schedule of our finance debt by source and other information.

For more information about our securities, including our bonds, see Exhibit 2.4 to this annual report.



Rating

In 2022, Moody's maintained our credit rating at "Ba1," with a stable outlook. The agency also maintained our stand alone rating at "Ba1", one notch above the Brazilian government. S&P maintained our credit rating at "BB-" with a stable outlook and kept our stand alone rating at "BB+", one notch below investment grade. Fitch maintained our credit rating at "BB-", but improved the outlook from negative to stable. The agency maintained our stand alone rating at "BBB", the second level in the investment grade scale.

As of March 28, 2023, there were no changes to our stand-alone credit profile rating or to our global rating.

GLOBAL RATING

	2023 ⁽¹⁾	2022 ⁽²⁾	2021 ⁽²⁾
Standard & Poor's	BB-	BB-	BB-
Moody's	Ba1	Ba1	Ba1
Fitch	BB-	BB-	BB-

(1) As of March 28, 2023.

(2) As of December 31.

STAND ALONE RATING

	2023 ⁽¹⁾	2022 ⁽²⁾	2021 ⁽²⁾
Standard & Poor's	BB+	BB+	BB+
Moody's	Ba1	Ba1	Ba1
Fitch	BBB	BBB	BBB

(1) As of March 28, 2023.

(2) As of December 31.



Exposure to interest rate and exchange rate risk

The table below provides a summary of information regarding our exposure to interest rate and exchange rate risk in our finance debt for 2022 and 2021, including short-term and long-term debt.

TOTAL FINANCE DEBT ⁽¹⁾

	2022 (%)	2021 (%)
Real - denominated		
Fixed rate	8.8	7.2
Floating rate	7.6	5.4
Sub-total	16.4	12.6
U.S. dollar - denominated		
Fixed rate	39.9	46.9
Floating rate	35.8	31.9
Sub-total	75.7	78.8
Other currencies		
Fixed rate	7.9	8.6
Sub-total	7.9	8.6
TOTAL	100.0	100.0
Floating rate debt		
<i>Real</i> -denominated	7.6	5.4
Foreign currency-denominated	35.8	31.8
Fixed rate debt		
<i>Real</i> -denominated	8.8	7.2
Foreign currency denominated	47.8	55.6
TOTAL	100.0	100.0
U.S. dollars	75.7	78.7
Euro	3.1	3.4
Gbp	4.8	5.2
Brazilian <i>reais</i>	16.4	12.7
TOTAL	100.0	100.0

(1) Short term and long term.



We aim to practice integrated risk management in every decision-making process. Thus, we do not focus solely on the individual risks of our operations or business units, but, rather, we take a broader view of our consolidated activities, capturing possible natural hedges where and when available. With respect to the management of financial risks, including market risks, we preferentially use more structural actions through the management of our equity and indebtedness levels, instead of using financial derivative instruments.

Market risk management focuses on the uncertainties inherent in meeting our objectives and aims at establishing action plans towards a balanced combination of risk, return and liquidity. Acceptable limits for market risks depend on the conditions of the business environment, such as price levels, rates and volatility of risk factors, political, macroeconomic and other uncertainties that significantly influence our economic and financial performance. We define the limits for market risks when elaborating each new strategic plan we adopt, considering our strategic objectives, goals, expected value and the liquidity of financial resources required for the implementation of that strategic plan. The use of financial instruments, such as derivatives, may be necessary to meet our needs.

In general, our foreign currency floating rate debt is principally subject to fluctuations in LIBOR. Our floating rate debt denominated in *reais* is subject to fluctuations in the Brazilian interbank offering rate (or "DI") and Brazilian long-term interest rate as fixed by the CMN.

We are taking actions to mitigate the potential impact of the discontinuation of LIBOR on our debt contracts in order to substitute LIBOR with another reference rate but according to information that we have through the date of this annual report, we do not believe this event should represent a material risk to our consolidated results and financial condition. For more information on the expected effects of the IBOR Reform, see note 31.4 to our audited consolidated financial statements.

We generally do not use derivative instruments to manage our exposure to interest rate fluctuation, but we may utilize these financial instruments in the future.

The exchange rate risk to which we are exposed has greater impact on the balance sheet and derives principally from the presence of non-*real* denominated obligations in our debt portfolio. With respect to the management of foreign exchange risks, we take a broader view of our consolidated activities, capturing possible natural hedges whenever they are available, benefiting from the correlation between our income and expenses. In the short term, the management of our foreign exchange risk involves allocating our cash investments between the *real* and other foreign currencies. Our strategy, reevaluated annually in the revision of our Strategic Plan, may also involve the use of financial instruments, such as derivatives, to hedge certain liabilities, minimizing foreign exchange rate risk exposure, especially when we are exposed to a foreign currency in which no cash inflows are expected, for example, the Pound Sterling.

In 2017, we entered into derivative transactions, through our indirect subsidiary Petrobras Global Trading BV ("PGT"), in the form of cross-currency swaps to hedge against exposure in Pound Sterling versus U.S. dollars, arising from past issues of bonds in that currency. During 2021, the notional amount was reduced, adjusting the protection to a lower exposure to the Pound Sterling provided by the prepayment of related-party loans in this currency over the course of this period. In 2022, after carrying out a broad and integrated assessment of the main risk factors to which we are exposed, we decided to fully unwind from the Pound Sterling derivatives contracts.

In September 2019, we contracted derivative operations to hedge against cash flow exposure arising from debt issued in Brazilian *reais*, the first series of the seventh debentures issuance, with the IPCA x CDI interest rate swap maturing in September 2029 and September 2034 and the CDI x Dollar cross-currency swap operations maturing in September 2024 and September 2029. In July 2022 we approved the first Debenture Repurchase Plan, authorizing the acquisition of debentures issued by us to be held in treasury or later sold. So far, we have carried out the repurchase of an insignificant amount of this debt. The position in the derivatives contracts remains unchanged.



We have designated cash flow hedging relationships to reflect the economic essence of the structural hedge mechanism between U.S. dollar-denominated debt and future sales revenues.

See “Consolidated Financial Performance – Exchange Rate and Variation Impacts” in this section and Notes 4.7 and 34.3(a) to our audited consolidated financial statements for further information about our cash flow hedge.

See Note 34.3 to our audited consolidated financial statements for more information about our interest rate and exchange rate risks, including a sensitivity analysis demonstrating the potential impact of an adverse change in the underlying variables as of December 31, 2022.

For further information regarding expected maturity schedule and currency, the principal and interest cash flows, related average interest rates of our debt obligations, credit risk and liquidity risk, see Notes 31, 34.5 and 34.6 to our audited consolidated financial statements.

Lease Liabilities

We are the lessee in agreements primarily including oil and gas producing units, drilling rigs and other exploration and production equipment, vessels and support vessels, helicopters, lands and buildings. As of December 31, 2022, the amount of lease liabilities totaled US\$23,845 million.

Adjusted EBITDA and Net Debt/Adjusted EBITDA ratio

The Net Debt/Adjusted EBITDA ratio is non-GAAP measure that helps our management assess our liquidity and leverage, and it is measured in U.S. dollars. Net Debt/Adjusted EBITDA ratio is not defined under IFRS and should not be considered in isolation or as a substitute for net income or other measures calculated in accordance with IFRS.

Adjusted EBITDA represents an alternative measure to our net cash provided by operating activities and is computed by using the net income before net finance income (expense), income taxes, depreciation, depletion and amortization, adjusted by results in equity-accounted investments, impairment, reclassification of comprehensive income (loss) due to the disposal of equity-accounted investments, results from disposal and write-offs of assets, remeasurement of investment retained with loss of control and results from co-participation agreements in bid areas. Adjusted EBITDA is not defined under IFRS and should not be considered in isolation or as a substitute for net income or other measures calculated in accordance with IFRS.



US\$ million	2022	2021	2020
Net income	36,755	19,986	948
Net finance expense	3,840	10,966	9,630
Income taxes	16,770	8,239	(1,174)
Depreciation, depletion and amortization	13,218	11,695	11,445
Results in equity-accounted investments	(251)	(1,607)	659
Impairment	1,315	(3,190)	7,339
Reclassification of comprehensive income (loss) due to the disposal of equity-accounted investments	0	41	43
Results on disposal/write-offs of assets and on remeasurement of investment retained with loss of control	(1,144)	(1,941)	(499)
Results from co-participation agreements in bid areas	(4,286)	(631)	-
Adjusted EBITDA	66,217	43,558	28,391

Net Debt reflects the Gross Debt, net of Adjusted Cash and cash equivalents (see definition in “Liquidity and Capital Resources” in this annual report). Gross Debt reflects the sum of current and non-current finance debt and lease liabilities.

Our Adjusted EBITDA, Adjusted Cash and cash equivalents, Net Debt and Net Debt/Adjusted EBITDA ratio are non-GAAP measures and may not be comparable to the calculation of liquidity measures presented by other companies, and they should neither be considered in isolation nor as substitutes for any measures calculated in accordance with IFRS. These metrics must be considered together with other measures and indicators for a better understanding of our financial condition.

We applied the same foreign exchange translation method as set forth in Note 2 to our audited consolidated financial statements for presenting this metric in U.S. dollars. Accordingly, assets and liabilities items were translated into U.S. dollars at the exchange rate as of the date of the statement of financial position, and all items pertaining to the statement of income and statement of cash flows were translated at the average rates prevailing at each period.

The following table presents the reconciliation for 2022 and 2021 of the Net Debt/Adjusted EBITDA ratio measure to the most directly comparable measure derived from IFRS captions, which is, in this case, is the finance debt plus lease liability minus cash and cash equivalents, divided by the net cash provided by operating activities:



US\$ million	2022	2021
Cash and cash equivalents	7,996	10,467
Government securities and time deposits (maturity of more than three months)	4,287	650
Adjusted Cash and cash equivalents	12,283	11,117
Finance debt	29,954	35,700
Lease liability	23,845	23,043
Current and non-current debt - Gross Debt	53,799	58,743
Net Debt	41,516	47,626
Net cash provided by operating activities - OCF	49,717	37,791
Allowance for credit loss on trade and other receivables	(65)	30
Trade and other receivables, net	(355)	2,075
Inventories	1,217	2,334
Trade payables	359	(1,073)
Taxes payable ⁽¹⁾	13,957	(697)
Others ⁽²⁾	1,387	3,095
Total Adjusted EBITDA	66,217	43,558
Gross debt net of Cash and cash equivalents/OCF ratio	0.92	1.28
Net debt/Adjusted EBITDA ratio	0.63	1.09

(1) It is composed of Other taxes payable and Income taxes paid.

(2) In 2022, it mainly comprises payments related to Pension plans (Term of Financial Commitment). In 2021, it mainly comprises payments related to Judicial deposits and Pension plans (Term of Financial Commitment and Petros 3 Plan).

Our Net Debt/Adjusted EBITDA ratio computed in U.S. dollar decreased from 1.09 as of December 31, 2021 to 0.63 as of December 31, 2022, reflecting the effects derived by the combination of higher Adjusted EBITDA and lower Net Debt.

Use of Funds

Capital Expenditures

We disbursed a total of US\$9,848 million in 2022 (of which 68% was used in E&P business), a 12% increase when compared to our Capital Expenditures of US\$8,772 million in 2021. In line with our previous 2022-2026 strategic plan, our Capital Expenditures in 2022 were primarily directed toward the most profitable investment projects relating to oil and gas production. These expenditures are based on our plan cost assumptions and financial methodology.

**CAPITAL EXPENDITURES BY BUSINESS SEGMENTS (US\$ million)**

For the Year Ended December 31,	2022	2021	2020
Exploration and Production	7,844	7,129	6,557
Refining, Transportation and Marketing	1,193	932	947
Gas and Power	350	412	352
Corporate and Other Businesses	461	298	200
TOTAL	9,848	8,772	8,056

For information on our future Capital Expenditures, see “Strategic Plan” in this annual report.



Exploration and Production Investments:

US\$ 7,844 million

- Started operation of two new system: FPSO Guanabara (Mero 1) and P-71 (Itapu).
- Ramp up of four systems: FPSO Guanabara (Mero 1), P-71 (Itapu), FPSO Carioca (Sépie) and P-68 (Berbigão/Sururu).
- New wells in mature fields: P-48 (Barracuda/Caratinga), P-40 (Marlim Sul), PMXL-1 (Mexilhão), P-50 (Albacora Leste), P-55/P-62 (Roncador) and P-58 (Parque das Baleias).



Refining, Transportation and Marketing Investments:

US\$ 1,193 million

- Investments to allow REPLAN and REVAP to produce 100% S-10 diesel oil and aviation fuel were approved for execution phase. Furthermore a REVAMP in U-2700 unit at REDUC also takes place in downstream in order to produce 4,500 m³/d of S-10 diesel oil aiming to meet market and environmental needs. The total capital investment in these projects sum up US\$ 660 million.
- Investments in scheduled maintenance stoppages. More than 3,000 equipment underwent inspection and maintenance at all the company's refineries.



Gas and Power Investments:

US\$ 350 million

- Construction and expansion of the capacity of gas pipelines and natural gas processing units to supply the pre-salt pole production in the Santos basin.
- In addition, studies are underway regarding new projects for the GASLUB Cluster, which include conceptual and basic engineering that has already started and is in progress.



Dividends

Our Board of Directors proposed a distribution of dividends in 2022 in the amount of US\$43,187 million. Such dividends were calculated in Brazilian *reais*, according to our dividend policy, in the amount of R\$222,560 million representing 60% of our Free Cash Flow, converted to U.S. dollars based on the exchange rate prevailing at the date of approval for each anticipation and on the closing exchange rate for the complementary dividends.

For more information on our dividend policy, see “Shareholder Information – Dividends” in this annual report and Note 33.5 to our audited consolidated financial statements.

Debt Service Obligations

As of December 31, 2022, our debt maturity profile includes, for the next five years, US\$33,889 million in finance debt and lease liability (nominal amounts).

AMORTIZATION PROFILE ⁽¹⁾ (US\$ million)



1) Amounts composed by Lease nominal future payments and Finance debt principal.

Finance Debt

In 2022, we repaid several finance debts, in the amount of US\$11,184 million notably: (i) US\$5,444 million to repurchase global bonds previously issued by us in the capital markets and (ii) US\$5,676 million of debt repayment. See Note 31 to our audited consolidated financial statements.

Lease Liabilities

We are the lessee in agreements that primarily include oil and gas producing units, drilling rigs and other exploration and production equipment, vessels and support vessels, helicopters, land and buildings.

Payments in certain lease agreements vary due to changes in facts or circumstances occurring after their inception other than the passage of time. These payments are not included in the measurement of the lease obligations.



In addition, there are nominal amounts of lease agreements for which the lease term has not commenced, as they relate to assets under construction or not yet available for use. As of December 31, 2022, these agreements amount to US\$79,913 million (US\$79,557 million at December 31, 2021).

For information on changes in the balance of lease liabilities and on leases by class of underlying assets, see Note 32 to audited consolidated financial statements.

Ability of Subsidiaries to Transfer Funds to Us

As of the date hereof, we have no knowledge of any legal or economic restrictions on the ability of our subsidiaries to transfer funds to us in the form of loans and/or dividends, except for the prejudgment attachment levied by a number of EIG entities that currently prevents PIBBV from paying dividends to Petrobras. As a result, we do not anticipate any impact on our ability to meet our cash obligations. For further information on the prejudgment attachment see “Legal and Tax - Legal Proceedings - Sete Brasil’s Investor Claim and Mediation Procedure” in this annual report.

Other Information

Critical Accounting Policies and Estimates

Note 4 to our audited consolidated financial statements provides information about those areas involving judgments and/or estimates requiring the use of assumptions about matters with a higher degree of uncertainty. We consider an accounting policy or estimate as critical based on the degree of uncertainty, the potential events that may affect our estimates and the likelihood of a material impact if we have used a different estimate.

Explanatory notes to our audited consolidated financial statements to each of those areas relates provide additional qualitative and quantitative information for a better understanding of our judgments application, the estimation uncertainties and their impacts.



Management and Employees



Management

Board of Directors

Our Board of Directors is composed of a minimum of seven and maximum of eleven members and is responsible for, among other things, establishing our general business policies. Our Bylaws specifically provide that our Board of Directors must be composed of external members only, without any current statutory or employment relationship with us, except for the member designated as our CEO and the member elected by our employees.

The Brazilian federal government controls a majority of our voting shares and has the right to elect a majority of the members of our Board of Directors. Our Board of Directors, in turn, elects our management. See “Recent Developments” in this annual report.

As a mixed-capital company with 200 or more employees, in which the Brazilian federal government directly or indirectly holds a majority of the voting rights, our employees have the right to elect one member of our Board of Directors to represent them, by means of a separate voting procedure.

Our Bylaws also provide that, regardless of the rights granted to minority shareholders, the Brazilian federal government always has the right to elect the majority of our directors, regardless of the number of directors.

The term of office of our directors may not exceed two years and any member of our Board of Directors may be re-elected for up to three consecutive times.

In accordance with Brazilian Corporate Law, shareholders may remove any director from office at any time with or without cause at an extraordinary shareholders’ meeting, and in case of removal of any board member elected through cumulative voting procedure, it will result in the removal of all of the other members elected under the same procedure, after which new elections must occur.

Our Board of Directors must be composed of, at least, 40% independent members, in compliance with Brazilian Corporate Law and B3 Level 2 rules. In case of contradictions between these rules, the stricter rules prevail.

For further information on Level 2 listing segment, see “Shareholder Information” in this annual report.

For further information regarding the composition, attributions and duties of our Board of Directors, see Exhibit 1.1 to this annual report for a copy of our Bylaws.

For further information relating to changes to the composition of our Board of Directors and our management team, see “Recent Developments” in this annual report.

As of the date of this annual report, we have the following 11 directors:



Gileno Gurjão Barreto

**Born**

January 23, 1972

**Nationality**

Brazilian

**Position**

Chairman of the Board of Directors since August 2022

**Other directorships**

Chief Executive Officer (CEO) of PRODESP S.A. (Processamento de Dados do Estado de São Paulo)

**Current term expires**

Ordinary General Shareholders' meeting 2024

**Nominated by**

Controlling Shareholder

**Independent**

No

**Family Relations**

None

**Business experiences**

Mr. Barreto was CEO (2020–2023) and a Legal, Governance and Management Officer (2019–2020) of SERPRO S.A. (Serviço Federal de Processamento de Dados). Former CARF (Conselho Administrativo de Recursos Fiscais) and CSRF (Câmara Superior de Recursos Fiscais) advisor from 2004 to 2014. He was a partner at Loeser e Portela Advogados from 2011 to 2018 and held a position at PricewaterhouseCoopers from 1991 to 2011 in the Auditing, Consulting, Tax Consulting, and Administrative and Judicial Litigation areas, where he led the Tax Controversy & Dispute Resolution practice. He was consultant to several national and multinational private companies and state and quasi-governmental companies, such as autonomous agencies (Receita Federal do Brasil), regulatory agencies (ANEEL, ANTT), and trade associations (CNI, CNA, CNF).

**Education**

Mr. Barreto is a lawyer and graduated from the Centro Universitário de Brasília with an MBA in Business Administration from Escola de Administração de Empresas de São Paulo da Fundação Getúlio Vargas.



Jean Paul Terra Prates



Born
June 19, 1968



Nationality
Brazilian



Position
Member of the
Board of Directors
since January 2023



Other directorships
None



Current term expires
Ordinary General
Shareholders'
meeting 2024



Nominated by
Controlling
Shareholder



Independent
No



Family Relations
None



Business experiences

Mr. Prates was a member of the legal counsel of Petrobras International S.A. – Braspetro and editor of the Oil & Gas Journal Latinoamericana. He also served as Executive Director of Expetro Consultoria em Recursos Naturals Ltda., the largest national oil consultancy, during the 1990s and 2000s, coordinating projects both nationally and internationally for several public and private companies and union and sector entities and advised governments, regulatory agencies and parliamentarians in all areas of the energy sector. As Energy Secretary of the Rio Grande do Norte State Government, he led the state to energy self-sufficiency and national leadership in wind power generation. He was recently recognized as one of the three most influential people in the renewable energy sector in Brazil and as one of the 50 most important personalities in the world energy sector by the two major international energy magazines: Recharge (European) and Windpower (American). Mr. Prates was also elected one of the 25 most influential in the world wind industry by Windpower magazine.



Education

Mr. Prates is a lawyer and graduated from the Universidade do Estado do Rio de Janeiro. He also holds a master's in Economics and Management of Oil, Gas and Engines from the French Petroleum Institute (IFP School) and a master's in Energy Policy and Environmental Management from the University of Pennsylvania.

**Edison Antônio Costa Britto Garcia****Born**
August 16, 1961**Nationality**
Brazilian**Position**
Member of the Board
of Directors since
August 2022**Other directorships**
Chief Executive Officer of
Companhia Energética de Brasília
(CEB), General Director of CEB
Participações and CEB Iluminação
Pública e Serviços S.A., and
Member of the Board of Directors
of CEB, Neenergia Distribuição de
Brasília, CELPE, CONSERN,
COELBA, ELEKTRO S.A. and
INVESTCO S.A.**Current term expires**
Ordinary General
Shareholders'
meeting 2024**Nominated by**
Controlling
Shareholder**Independent**
Yes**Family Relations**
None**Business experiences**

Mr. Garcia has served as CEO of Companhia Energética de Brasília (CEB) and General Director of CEB Participações SA since January 2019 and of CEB Iluminação Pública e Serviços SA since March 2021. He is a full member of each of the Board of Directors at CEB, CEB Lajeado SA, INVESTCO SA (a company controlled by EDP) and the energy distributors of Grupo Neenergia: CELPE, COSERN, COELBA, ELEKTRO Redes S.A. and Neenergia Distribuição de Brasília S.A. (NDB). His professional career highlights 25 years of experience in capital markets and corporate law through his previous role as Federal Attorney and CVM Superintendent, representation of CVM as Advisor at the National Financial System Resources Council for two terms (2000-2004) and almost six years as Superintendent and President of the Association of Capital Market Investors, an entity created by investment fund managers (2006-2012). He was President and Attorney General of the Social Security Institute (Instituto Nacional de Seguridade Social) during 2018. Additionally, he was Secretary of State of Planning and General Coordination of Mato Grosso under Dante de Oliveira Government (1996-1998). He also held other positions in the federal government, including within the Attorney General's office and various other ministries, over the course of 36 years.

**Education**

Mr. Garcia is a lawyer and graduated from Centro Universitário de Brasília. He also holds a post-graduate LLM degree in corporate law and capital markets from the Insper Learning Institution of IBMEC.

**Francisco Petros Oliveira Lima Papathanasiadis****Born**
September 14, 1964**Nationality**
Brazilian**Position**
Member of the
Board of Directors
since April 2022**Other directorships**
Member of Ethics Committee of
Fundação das Empresas Elétricas de
São Paulo (FUNCESP), Member of the
Audit Committee of the Mapfre Brasil
Participações and Advisor to the
Presidency of the Instituto dos
Advogados de São Paulo (IASP)**Current term expires**
Ordinary General
Shareholders'
meeting 2024**Nominated by**
Common
Shareholder**Independent**
Yes**Family Relations**
None**Business experiences**

Mr. Petros is an economist and lawyer, specializing in corporate law, corporate governance, compliance and forensic investigations. In recent years, he has worked on complex restructurings of corporate areas, compliance and corporate integrity, investigations and closings of settlement agreements with national and international authorities. He has worked in the capital markets sector for 25 years and has extensive knowledge of corporate finance, company valuation and investments. He was president of Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais de São Paulo (1999-2001) and was President of the Council for Supervision of Capital Market Analysts, established by the CVM (2010-2015). He has relevant experience as board member and committee member of large Brazilian companies, having participated in the corporate governance restructurings and strategic decision-making of companies, including Petrobras (2015-2019), BRF (2017-2020) and BR Distribuidora (2015-2016).

**Education**

Mr. Petros has bachelor's degree in law from Universidade Presbiteriana Mackenzie (2014). He also holds a degree in economics from Pontifícia Universidade Católica de São Paulo (PUC-SP) (1987) and a post-graduate degree in finance (MBA) from Instituto Brasileiro do Mercado de Capitais (IBMEC).

**Iêda Aparecida de Moura Cagni****Born**
May 30, 1974**Nationality**
Brazilian**Position**
Member of the Board of Directors since August 2022**Other directorships**
Chairwoman of the Board of Directors of Banco do Brasil**Current term expires**
Ordinary General Shareholders' meeting 2024**Nominated by**
Controlling Shareholder**Independent**
Yes**Family Relations**
None**Business experiences**

Mrs. Cagni has been a National Treasury Attorney since 2008, serving as Director of Corporate Management and General Coordinator of Administration. She also served as a member of both the Board of Directors of the Federal Data Processing Service and the Bahia State Water and Sanitation Company. She also was fiscal advisor to BB Gestão de Recursos - Distribuidora de Títulos e Valores Mobiliários S.A, an entity controlled by Banco do Brasil, Valec-Engenharia, Construções e Ferrovia and Banco do Brasil. She was General Secretary of Administration of the General Advocacy of the Union (2020-2022). Currently, she holds the position of Chairwoman of the Board of Directors of Banco do Brasil.

**Education**

Mrs. Cagni has a bachelor's degree in law from Faculdade de Direito de Anápolis, a master's in Public Management from Fundação Getúlio Vargas and an MBA in Public Law from Processus Faculdade de Direito. She also completed the Risk Management and Financial Decision-Making program at the University of Chicago and the Innovation and Public Management program at the University Institute of Lisbon, among others.

Jônathas Assunção Salvador Nery de Castro**Born**
September 5, 1983**Nationality**
Brazilian**Position**
Member of the Board of Directors since August 2022**Other directorships**
Chairman of the Board of Directors of Conselho Nacional de Proteção de Dados Pessoais, Member of the Board of Directors of Aeroporto de Viracopos, Member of the Board of Directors of Companhia Imobiliária de Brasília (Terracap) and Member of Audit Board of Brasilcap Capitalização S.A.**Current term expires**
Ordinary General Shareholders' meeting 2024**Nominated by**
Controlling Shareholder**Independent**
Yes**Family Relations**
None**Business experiences**

Since 2010, Mr. Castro has worked as a public servant, specializing in the drafting, execution and monitoring of public policy, particularly within the infrastructure sector. He also has experience in government administration.

**Education**

Mr. Castro holds an undergraduate degree in mechanical engineering and a master's degree in mechanical sciences from the Universidade de Brasília. Additionally, he holds an MBE in Economics from the Universidade de São Paulo (USP) and an MBA in Business Management from IBMEC.

**José João Abdalla Filho****Born**
May 30, 1945**Nationality**
Brazilian**Position**
Member of the Board of Directors since April 2022**Other directorships**
Chief Executive Officer (CEO) of Banco Clássico S.A., Agro imobiliária Avanhadava S.A., Dinâmica Energia S.A., Jataí Empreendimentos e Participações, Jupem S.A. Participações e Empreendimentos, Navegação Porto Morrinho S.A., Socal S.A. Mineração e Intercâmbio Comercial e Industrial and Agro Imobiliária Primavera S.A, and Member of the Board of Directors of Companhia Energética de Minas Gerais (CEMIG)**Current term expires**
Ordinary General Shareholders' meeting 2024**Nominated by**
Minority Shareholders**Independent**
Yes**Family Relations**
None**Business experiences**

Mr. Abdalla, also known as Juca Abdalla, is one of the largest individual long-term investors of B3 through his various investment vehicles valued above R\$20 billion, largely focused on the Oil and Gas, Energy and Mining sectors and positions that have been held for more than 10 years. He has experience in the Naturgy Brasil and CEMIG boards, providing him an important background in the energy and oil & gas sectors. His performance has always been guided by respect for the interests of all stakeholders, especially within state-controlled companies. With a focus on controlling operating costs, capital allocation policy and ensuring returns equivalent to the risks assumed by stakeholders, especially shareholders of the companies. Always with a focus on the long-term, Mr. Abdalla works to ensure the best possible performance by management. His main roles include: (a) CEO and controlling shareholder of Banco Clássico S.A., (a controlling shareholder of several investment vehicles), since 1989; (b) full member of the Board of Directors of Companhia Energética de Minas Gerais since 2019 including serving as an alternate (2015-2019); (c) full member of the Board of Directors of Transmissora Aliança de Energia Elétrica (2019-2022); and (d) alternate member of the Board of Directors of Naturgy Brasil (2015-2022).

**Education**

Mr. Abdalla holds a degree in economics from Universidade Presbiteriana Mackenzie.

**Marcelo Gasparino da Silva****Born**
February 13, 1971**Nationality**
Brazilian**Position**
Member of the Board of Directors since August 2021**Other directorships**
Chairman of the Board of Directors of Eternit, Member of the Board of Directors of Vale S.A. and Member of the Board of Directors of Centrais Elétricas Brasileiras (ELETROBRAS).**Current term expires**
Ordinary General Shareholders' meeting 2024**Nominated by**
Minority Shareholders**Independent**
Yes**Family Relations**
None**Business experiences**

Mr. Gasparino da Silva has experience in the following sectors: mining and steel, oil & gas, petrochemical, logistics, generation, transmission and distribution of energy, distribution of natural gas, transformation of steel, basic industry, civil construction, roofing for civil construction (including photovoltaic generation, storage and basic sanitation) having acquired skills, abilities, and knowledge. These experiences allow Mr. Gasparino da Silva to effectively contribute to a diverse array of subjects and strategies that the boards on which he participates, regularly encounter such as turnaround, ESG, capital structure, mergers & acquisitions, sale of non-core assets and, crucially, financial restructuring of companies in crisis, a category which includes judicial reorganization, executive succession, highly complex legal issues and a leadership role in coping with global crises such as the Covid-19 pandemic. He is a Board Member certified by the Brazilian Institute of Corporate Governance (IBGC) since 2010. He started his executive career as Legal and Institutional Director of Celesc (2007-2009). He was Chairman of the Board of Directors of Usiminas. In April 2017, he was elected President of the Board of Directors of Eternit to lead the company's turnaround after the election of a new executive board. However, in the same year, Eternit suffered a major setback after the use of Chrysotile Asbestos was banned in Brazil, resulting in a Judicial Reorganization Process in 2018. In parallel to leading Eternit's board through a tumultuous time, Mr. Gasparino da Silva helped Eternit search for new business in the photovoltaic sector, ultimately launching Eternit Solar and Tégula Solar, both photovoltaic roof tile initiatives, that allowed Eternit to include technology and innovation in its product portfolio. He was member of the Boards of Directors of Bradespar (2015-16), Battistella (2016-17), Casan (2019), Celesc (2011-14 and 2018-19), CEMIG (2016-2022), ELETROBRAS (2012-14 and 2016), Eletropaulo (2016-18), Gasmig (2020-21), Kepler Weber (2017-20) Tecnisa (2012-14) and Usiminas (2012-16). He was a fiscal advisor to AES Tietê (2013-14), Bradespar (2014-15) and Braskem (2018-19).

**Education**

Mr. Gasparino da Silva is a lawyer and graduated with a degree and a specialist certification in Corporate Tax Administration from the Universidade Federal de Santa Catarina. He has also completed executive trainings in mergers and acquisitions at London Business School, and CEO Program for Senior Executives at Fundação Getúlio Vargas. Additionally, he is a Professor at Fundação ENÁ - School of Government, teaching certification courses for administrators of state-owned companies and public-owned companies.

**Marcelo Mesquita de Siqueira Filho****Born**
December 20, 1969**Nationality**
Brazilian**Position**
Member of the Board of Directors since August 2016**Other directorships**
Board Member at the Endowment Fund of Pontifícia Universidade Católica do Rio de Janeiro, Member of the Board of Directors of Tamboro Educacional S.A., Arara Tecnologia e Serviços Financeiros Ltda. and Director of Leblon Realty Barrallog Participações LTDA. and Leblon Equities Gestão de Recursos Ltda.**Current term expires**
Ordinary General Shareholders' meeting 2024**Nominated by**
Common Shareholders**Independent**
Yes**Family Relations**
None**Business experiences**

Since 2008, Mr. Mesquita has served as a co-founding partner of Leblon Equities and co-manager of equity funds and private equity investments. He has over 30 years of experience in the Brazilian stock market, having worked at UBS Pactual for 10 years and at Banco Garantia for seven years. At UBS Pactual, he was the co-head of Brazilian Equity Capital Markets, co-head of Brazilian Equities; and head of Brazil Equity Research & Strategy Analysis. At Banco Garantia, he worked as a commodities stock analyst and an investment banker. Since 1995, he has been named as one of the leading analysts in Brazil according to several surveys by Institutional Investor Magazine. He was ranked “#1 Brazilian Analyst” from 2003 to 2006 (#3 in 2002, #2 in 2001 and #3 in 2000). He was also ranked as the “#1 Stock Strategist in Brazil” from 2003 to 2005.

**Education**

Mr. Mesquita holds a degree in economics from the Pontifícia Universidade Católica do Rio de Janeiro (PUC-RJ), in French studies from Nancy University II and an OPM (Owner/President Management) from Harvard Business School.

Rosangela Buzanelli Torres**Born**
January 5, 1960**Nationality**
Brazilian**Position**
Member of the Board of Directors since July 2020**Other directorships**
None**Current term expires**
Ordinary General Shareholders' meeting 2024**Nominated by**
Employees**Independent**
No**Family Relations**
None**Business experiences**

Mrs. Buzanelli joined our company in 1987 in the Geophysics department. She is currently employed in the Deepwater Exploration Department.

**Education**

Mrs. Buzanelli holds a degree in engineering geology from the Universidade Federal de Ouro Preto, and a master's degree in geosciences from the Instituto Nacional de Pesquisas Espaciais.

**Ricardo Soriano de Alencar****Born**
May 26, 1973**Nationality**
Brazilian**Position**
Member of the
Board of Directors
since August 2022**Other directorships**
Member of the Board of
Directors of Companhia
Imobiliária de Brasília
(Terracap)**Current term expires**
Ordinary General
Shareholders'
meeting 2024**Nominated by**
Controlling
Shareholder**Independent**
No**Family Relations**
None**Business experiences**

Mr. Soriano served as National Treasury Prosecutor for more than 20 years and was the former Attorney General for the Brazilian National Treasury. He is a member of the Board of Directors of Petrobras and Terracap and is a member of the Investment Committee at Petrobras. He also formerly served as a federal prosecutor. Among others, he has held positions in the General Consultancy Office and was Deputy Attorney General and General Legal Coordinator in the Office of the Attorney General for the Brazilian National Treasury. He was a member of the Fiscal Council of Caixa Econômica Federal for four years (chairing the council for three of those years), in addition to serving as a member of the Board of Directors of Caixa Econômica Federal for approximately six years and of Banco do Nordeste do Brasil for four years (chairing for two of those years). For more than a decade, Mr. Soriano was also a member of examining boards in various public auctions related to the legal, tax and external control sectors. He has extensive experience as a lawyer in the scope of the Brazilian federal government.

**Education**

Mr. Soriano holds a bachelor's degree in Law from the Universidade de Brasília and a post-graduate degree from the Fundação Escola Superior do Ministério Público do Distrito Federal e Territórios. Additionally, he holds two post-graduate degrees in Administrative Law and Constitutional Law from the Universidade Gama Filho.



Fiscal Council

We have a permanent Fiscal Council composed of up to five members, which is independent of our management and independent registered accounting firm. Our Fiscal Council's responsibilities, as a supervisory body, include, among others: (i) representing the shareholders, monitoring management activities; (ii) verifying compliance with legal and statutory duties; and (iii) reviewing the annual management report and the audited consolidated financial statements, issuing an opinion at the end of the year.

The members of our Fiscal Council and their corresponding alternates are elected by our shareholders at the Annual Shareholders' Meeting for a one-year term. Two consecutive re-elections are permitted under Brazilian Corporate Law. Holders of preferred shares and minority holders of common shares are each entitled, as a class, to elect one member and the corresponding alternate of our Fiscal Council. The Brazilian federal government has the right to appoint the majority of the members of our Fiscal Council and their alternates, of which one member and the corresponding alternate will be necessarily appointed by the Minister of Finance, representing the Brazilian Treasury.

CURRENT MEMBERS OF OUR FISCAL COUNCIL

	Year of first appointment	Elected/appointed by
Members		
Marisete Fátima Dadald Pereira	2022	Brazilian federal government
Sergio Henrique Lopes de Sousa (Chairman)	2020	Brazilian federal government
Janete Duarte Mol	2022	Brazilian federal government/Ministry of Finance
Patrícia Valente Stierli	2021	Minority shareholder
Michele da Silva Gonsales Torres	2021	Preferred shareholder
Alternate members		
Otávio Ladeira de Medeiros	2022	Brazilian federal government/Ministry of Finance
Alan Sampaio Santos	2020	Brazilian federal government
Antonio Emílio Bastos Aguiar Freire	2021	Minority shareholder
Robert Juenemann	2021	Preferred shareholder

For further information relating to changes to the composition of our Fiscal Council, see "Recent Developments" in this annual report.



Executive Officers

Our Board of Executive Officers is composed of one Chief Executive Officer (“CEO”) and eight executive officers. According to our Bylaws, our Board of Executive Officers is responsible for our day-to-day management. Our executive officers are not required to be Brazilian citizens but must reside in Brazil. Pursuant to our Bylaws, our Board of Directors elects our executive officers, including the CEO, and must consider personal qualifications, expertise and specialization when electing executive officers. Our executive officers’ mandate lasts for two years, and no more than three consecutive re-elections are allowed. Our Board of Directors may remove any executive officer from office at any time and without cause, with a special procedure for the removal of the Executive Director of Governance and Compliance pursuant to the Internal Regime of Board of Directors. According to the Internal Regime of Board of Directors, in order to decide on the removal of the Executive Director of Governance and Compliance the Board of Directors must follow a qualified quorum which requires the vote of the Director elected by the minority shareholders or the Director elected by the preferred shareholders.

For further information regarding our Board of Executive Officers, see Exhibit 1.1 to this annual report for a copy of our Bylaws.

For further information relating to changes to the composition of our Board of Executive Officers, see “Recent Developments” in this annual report.

As of the date of this annual report, we have the following nine executive officers:

Jean Paul Terra Prates


Born

June 19, 1968


Nationality

Brazilian


Position

Chief Executive Officer (CEO) since January 2023


Family Relations

None


Current term expires

April 2023


Business experiences

Mr. Prates was a member of the legal counsel of Petrobras International S.A. – Braspetro and editor of the Oil & Gas Journal Latinoamericana. He also served as Executive Director of Expetro Consultoria em Recursos Naturals Ltda., the largest national oil consultancy, during the 1990s and 2000s, coordinating projects both nationally and internationally for several public and private companies and union and sector entities and advised governments, regulatory agencies and parliamentarians in all areas of the energy sector. As Energy Secretary of the Rio Grande do Norte State Government, he led the state to energy self-sufficiency and national leadership in wind power generation. He was recently recognized as one of the three most influential people in the renewable energy sector in Brazil and as one of the 50 most important personalities in the world energy sector by the two major international energy magazines: Recharge (European) and Windpower (American). Mr. Prates was also elected one of the 25 most influential in the world wind industry by Windpower magazine.


Education

Mr. Prates is a lawyer and graduated from the Universidade do Estado do Rio de Janeiro. He also holds a master’s in Economics and Management of Oil, Gas and Engines from the French Petroleum Institute (IFP School) and a master’s in Energy Policy and Environmental Management from the University of Pennsylvania.

**Cláudio Rogério Linassi Mastella****Born**
December 17, 1962**Nationality**
Brazilian**Position**
Chief Trading & Logistics
Executive Officer since
April 2021**Family Relations**
None**Current term expires**
April 2023**Business experiences**

Mr. Mastella has 35 years of professional experience at our company, specifically within the Commercialization, Refining, and Logistics departments. He served as a Board Member of Logum Logística S.A. at Transpetro, our group companies. He was an Alternate Director of Petrobras Argentina S.A. and Member of the Strategy and Finance Committee of Transpetro. He has been serving as the Deputy Chairman of the Brazilian Downstream Association of the Instituto Brasileiro de Petróleo, Gás e Biocombustíveis (IBP) since 2020.

**Education**

Mr. Mastella holds a degree in chemical engineering from the Universidade Federal do Rio Grande do Sul, an Executive MBA from IBMEC, a graduate degree in management from the Fundação Dom Cabral, and attended development programs abroad such as: Executive Development Program at Northwestern Kellogg and Managing Supply Chains for Global Competitiveness at Stanford GSB.

Fernando Assumpção Borges**Born**
May 6, 1960**Nationality**
Brazilian**Position**
Chief Exploration and
Production Executive
Officer since April 2021**Family Relations**
None**Current term expires**
April 2023**Business experiences**

Mr. Borges has 39 years of professional experience at our company, having held several managerial roles in the Exploration and Production area. Mr. Borges also served as an Executive Manager at our company, having previously held the Executive Management of Libra from April 2016 to September 2019 and the Executive Management of External Relations from September 2019 to April 2021. He held the position of Director at the Instituto Brasileiro de Petróleo, Gás e Biocombustíveis (IBP) from April 2016 to March 2020 and, since April 2016, after being nominated by us, Mr. Borges has served as Director of the Associação Brasileira de Empresas de Exploração e Produção de Petróleo e Gás (ABEP).

**Education**

Mr. Borges holds a degree in civil engineering from the Universidade Federal de Uberlândia, an Executive MBA from Universidade Federal do Rio de Janeiro, and attended the Advanced Management Program at Institut Européen D'Administration des Affaires, in France.

**João Henrique Rittershausen****Born**
October 24, 1964**Nationality**
Brazilian**Position**
Chief Production
Development Executive
Officer since April 2021**Family Relations**
None**Current term expires**
April 2023**Business experiences**

Mr. Rittershausen has worked at our company for 35 years, having held several managerial roles in the E&P and Supplies segment. Mr. Rittershausen has served as an Executive Manager at our company since November 2017. Initially, he held an Executive Management position in Surface Systems, and, in November 2018, he became the Executive Manager of Surface, Refining, and Gas and Energy Systems, a department responsible for building our company's new assets in the areas of E&P and RGN.

**Education**

Mr. Rittershausen holds a degree in electrical engineering from the Universidade Federal de Minas Gerais, and in petroleum engineering from our company. In addition, he holds an MBA in business management from Universidade Federal do Rio de Janeiro and from the Advanced Management Program of Institut Européen D'Administration des Affaires in France.

Paulo Palaia Sica**Born**
January 20, 1966**Nationality**
Brazilian**Position**
Chief Digital
Transformation
and Innovation
Executive Officer since
September 2022**Family Relations**
None**Current term expires**
April 2023**Business experiences**

Mr. Palaia Sica has more than 37 years of career experience in Information Technology and additional experience in several market sectors. He has occupied several leading positions in the last 27 years as the main technology executive of the institutions where he has worked. For more than nine years, he was the Technology Director of GOL Linhas Aéreas Inteligentes S/A and the General Director of GOL Labs, innovation lab focused on the airline industry. He was also the Director of Technology at Webjet Linhas Aéreas, DASA, CVC, and the President of the Deliberative Council of the Brazilian e-Business Association, between 2015 and 2016. In addition, he worked as a technology consultant for Hospital Sírio Libanês, GJP Hotéis Exclusivos, MOVIDA Aluguel de Carros, JSL SA and Grupo COMPORTE. He holds patents for technological solutions that aim to reduce operational costs and improve the customer experience of airlines, and has received more than 36 awards issued by the largest entities in the Brazilian IT market during his career.

**Education**

Mr. Palaia Sica has a Bachelor's degree in Data Processing from Universidade Braz Cubas and a post-graduate degree in Strategic IT Management from University of California – Berkeley.



Rafael Chaves Santos



Born
July 3, 1974



Nationality
Brazilian



Position
Chief Sustainability &
Institutional Relations
Executive Officer since
December 2021



Family Relations
None



Current term expires
April 2023



Business experiences

Mr. Santos joined our company in January 2019 and since then has contributed extensively to our company's strategic repositioning. He represented our company as the head of strategy, as Chairman of the Board of Transportadora Brasileira Gasoduto Bolívia-Brasil S.A. (TBG) and Transpetro; and as a Board member of Oil and Gas Climate Initiative (OGCI). Previously, he worked for the Banco Central do Brasil, for Vale International, for ENEVA, the largest private operator of natural gas in Brazil, and for EPGE, the school of economics of Fundação Getúlio Vargas.



Education

Mr. Santos holds a civil engineering degree from the Universidade Estadual do Rio de Janeiro. He also obtained a master's degree in finances from the Pontifícia Universidade Católica do Rio de Janeiro and a PhD in economics from Fundação Getúlio Vargas.

**Rodrigo Araujo Alves****Born**
July 10, 1985**Nationality**
Brazilian**Position**
Chief Financial & Investor
Relations Executive
Officer (Chief Financial
Officer – CFO / Chief
Investor Relations Officer
– CIRO) since April 2021**Family Relations**
None**Current term expires**
April 2023**Business experiences**

Mr. Alves has worked at our company since 2007, with extensive experience in the finance sector, occupying the position of Chief Accounting and Tax Officer from 2017 to April 2021. He was the Chairman of the Fiscal Council of TBG and member of the Fiscal Council of other companies in our group: Stratura Asfaltos and Éolica Mangue Seco. He was also a member of an IASB advisory group from July 2018 to September 2021 and is currently a member of the Board of Directors of the Associação Brasileira das Companhias Abertas (ABRASCA). He has received several awards, most notably the Anefac Merit Award for professional of the year in the tax category in 2020, the Confef award for tax executive of the year for basic industries in 2018 and the Anefac Transparency Trophy in 2019 and 2020, which is awarded to the company with the most transparent Financial Statements in Brazil.

**Education**

Mr. Alves holds a bachelor's degree in business administration from the Universidade Federal de Minas Gerais and a bachelor's in accounting from Faculdade Moraes Júnior Mackenzie Rio, an MBA in economic and financial management from the Fundação Getúlio Vargas, and an executive master's degree in finance (with honors) from HEC Paris. He is a Certified Public Accountant (CPA) in the state of Washington, United States; he holds a COSO Internal Control Certificate from the American Institute of Certified Public Accountants (AICPA) and is Certified in IFRS (CertIFR) by the Association of Chartered Certified Accountants (ACCA). He also took courses in management and finances at INSEAD, Chicago Booth, Singularity University, Fundação Dom Cabral, the CFA Institute and MDT International.

Rodrigo Costa Lima e Silva**Born**
April 17, 1975**Nationality**
Brazilian**Position**
Chief Refining and
Natural Gas Executive
Officer since January
2021**Family Relations**
None**Current term expires**
April 2023**Business experiences**

Mr. Silva joined our company in 2005, having held several managerial roles in the Exploration & Production, Gas & Power, and Strategy areas, including the role of Executive Gas and Energy Manager between June 2019 and January 2021. Previously, Mr. Silva was the executive manager for Strategy. He has also managed activities related to exploration and production. Additionally, Mr. Silva was chairman of the Board of Directors for some of our subsidiaries.

**Education**

Mr. Silva holds a degree in business administration from Universidade Católica de Salvador. He also holds a master's degree in business administration from IBMEC, as well as a MBA in corporate finance from Fundação Getúlio Vargas.



Salvador Dahan



Born
July 19, 1977



Nationality
Brazilian



Position
Chief Governance and
Compliance Executive
Officer since May 2021



Family Relations
None



Current term expires
April 2023



Business experiences

Mr. Dahan has 23 years of experience in the Compliance, Risk and Governance areas. From 2005 to 2007, he was the LATAM Risk and Investigation Manager at Procter & Gamble. In 2007, he was invited to work on structuring the Compliance and Corporate Security areas of the Gerda Group, where he held the position of General Manager until 2016. In early 2017, he joined Nissan Motors to act as Chief Governance, Risk, Compliance and Audit Officer for Latin American operations, structuring processes and policies and, in 2019, he was invited to work in Japan as Nissan's General Manager.



Education

Mr. Dahan holds a law degree from Universidade Mackenzie, with an MBA in business security management from FECAP and a postgraduate degree in business and community leadership from INSPER/SP.

Additional Information on our Board of Directors and Board of Executive Officers

Requirements for Election

Our Bylaws determine certain limitations on the election of our executive officers, members of our management and members of our Board of Directors in addition to criteria set forth by our nomination policy, Law No. 13,303/16, and Decree No. 8,945/16. Thus, in order to be elected, each of our executive officers and each member of our Board of Directors must:

- not be a defendant in any legal or administrative proceedings with an unfavorable ruling by appellate courts concerning a matter related to the activities to be performed in our company;
- not have commercial or financial pending issues claimed or included in official debtor registers, although clarification on such issues may be provided to us;
- demonstrate diligence in solving issues raised in reports of internal or external control bodies in processes and/or activities under their management, when applicable;
- not have violated our Code of Ethics, Code of Conduct, Manual of our Program for Corruption Prevention or other internal rules, when applicable;
- not have been included in the disciplinary system of any of our subsidiaries or affiliates, nor have been subject to labor or administrative penalty in any other legal entity in the last three years as a result of internal investigations, when applicable; and
- have 10 years of experience in leadership, preferably, in business or in a related area, as specified in our nomination policy.



Compensation

Under our Bylaws, our shareholders establish the aggregate compensation, or allocate the compensation on an individual basis, payable to our directors, executive officers, members of our Fiscal Council and advisory committees to our Board of Directors. In case shareholders do not allocate the compensation on an individual basis, our Board of Directors is allowed to do so.

For the year-ended December 31, 2022, the aggregate amount of compensation we paid to all members of our Board of Directors and our Board of Executive Officers was US\$6.3 million. As of December 31, 2022 we had nine executive officers and 11 Board of Directors members.

For more information on the amounts set aside or accrued by us to provide pension, retirement or similar benefits, see “Employees – Benefits” in this section.

	2022		
	Board of Executive Officers	Board of Directors	Fiscal Council
Average number of members in the period	9.00	11.00	5.00
Average number of paid members in the period	9.00	3.83	5.00
Value of maximum compensation (US\$)	452,768.37	28,187.46	28,187.46
Value of minimum compensation (US\$) ⁽¹⁾	327,597.39	28,187.46	28,187.46
Average value of compensation (US\$) ⁽²⁾	608,852.97 ⁽³⁾	27,812.55	28,187.46

(1) The value of the minimum individual annual remuneration was determined considering the remuneration actually paid to members during the year.

(2) The average value of compensation corresponds to the total value of the annual compensation paid divided by the average number of paid members in the period.

(3) The calculation includes the values related to the termination of the position (gardening leave) and payment of the deferred installments of Variable Remuneration referring to former members of the Board of Executive Officers who left our company. Consequently, the average value was higher than the value of the maximum compensation and does not represent the amount actually paid to our current Executive Officers, which is presented in the minimum and maximum compensation amounts indicated above.

For further information regarding compensation of our employees and officers, see Notes 17 and 35 to our audited consolidated financial statements.

In addition, the members of our Board of Executive Officers receive additional benefits, such as medical assistance, supplementary social security benefits and a housing allowance.

The members of the Board of Directors are entitled to supplementary social security benefits. Members of the Board of Directors and the Board of Executive Officers may be legally entitled to gardening leave (“*Quarentena*”) upon termination of office, which rules and exceptions are provided by Brazilian law. None of our Directors or Directors of our subsidiaries are entitled to post termination benefits. We have a people committee, the COPE, in the form of an advisory committee.

For information on our advisory committee, see “Statutory Board Committees” below.



Share Ownership

As of December 31, 2022, the members of our Board of Directors, executive officers and members of Fiscal Council beneficially held the following shares of our capital stock:

	Board of Directors	Board of Executive Officers	Fiscal Council
Common shares	-	-	-
Preferred shares	-	63,213	-

Accordingly, on an individual basis, and as a group, our Directors, Executive Officers and Fiscal Council members beneficially owned less than 1% of any class of our shares. The shares held by our Directors, Executive Officers and Fiscal Council members have the same voting rights as the shares of the same type and class that are held by our other shareholders. None of our Directors, Executive Officers and Fiscal Council members hold any options to purchase common shares or preferred shares, nor does any other person have any option to purchase our common or preferred shares. We do not have a stock option plan for our Directors, Officers or employees.

Statutory Board Committees

Our Board of Directors has a total of six statutory advisory committees:

- Investment Committee:** responsible for advising our Board of Directors with respect to the definition of our strategic guidelines, the strategic plan, the annual business plan, among other strategic matters and financial issues. The committee also assists our Board of Directors in evaluating the structure and conditions of investment and divestment transactions, including new business opportunities, mergers, consolidations, and spin-offs in which we are involved, and which are within the responsibility of the Board of Directors. In addition, the committee provides advice to our Board of Directors on analyzing our annual financing program.
- Audit Committee:** for further information on our audit committee, please see "Audit Committee" in this section.
- Health, Safety and Environmental Committee:** responsible for advising our Board of Directors on policies and guidelines related to the strategic management of HSE, climate change, transition to a low carbon economy and social responsibility issues, among other matters. This committee monitors, among other issues, indicators and research on our image and reputation, related to the HSE and sustainability matters, suggesting actions when necessary. In addition, the committee approves and monitors ESG initiatives.
- People Committee:** responsible for assisting our Board of Directors in aspects regarding the management of senior level human assets, including, but not limited to: compensation (fixed and variable), appointments and succession policies as well as the selection and eligibility processes. The People Committee stands in compliance with Brazilian Law No. 13,303/12 and Decree No. 8,945/16, acting as an eligibility committee for assisting shareholders to nominate members to the Board of Directors and Fiscal Council and overseeing the implementation of the required background checks on integrity and compliance regarding of the Board of Directors, Fiscal Council and Executive Officers nominees, as well as external members of the Board of Directors advisory committees, and having a deliberative role in these cases. The committee advises our Board of Directors on the possible application of penalties for the Executive Officers and, members of the Board of Directors and its Statutory Advisory Committees and, evaluates appeals of terminations of employment



contracts in the event that the Integrity Committee does not reach a consensus on disciplinary measures. The committee also monitors image and reputation surveys, recommending actions when necessary.

- **Minority Committee:** responsible for advising our Board of Directors on transactions with related parties involving, the Brazilian federal government, its entities and foundations, or federal state-owned enterprises on a permanent basis, including following up the revision process of the Transfer of Rights Agreement. The minority committee also advises our shareholders issuing its opinion on certain matters that require approval in shareholders' meetings, pursuant to article 30, §4 of our Bylaws.
- **Conglomerate Audit Committee:** approved to meet the requirements of Law No. 13,303/16, which provides the possibility that controlled companies share the costs and structures of their corresponding parent companies. The committee is responsible for the companies of the Petrobras Conglomerate that do not have internal audit committees. In addition, the committee provides advice to our Board of Directors regarding guidelines for companies of the Petrobras Conglomerate in matters provided in its bylaws.



SUMMARY OF THE COMPOSITION OF OUR STATUTORY ADVISORY COMMITTEES, AS OF THE DATE OF THIS ANNUAL REPORT

Members	Committees					
	Investment	Audit	Health, Safety, and Environment	People	Minority	Audit of the Petrobras Conglomerate
Ana Silvia Corso Matte				●		
Carlo Linkevieius Pereira			●			
Edison Antonio Costa Britto Garcia		●		●		
Edson Chil Nobre	●					
Evely Forjaz Loureiro			●			
Francisco Petros		●			●	
Gileno Gurjão Barreto		●		●		●
Iêda Aparecida de Moura Cagni				●		
Jônathas Assunção de Castro	●					
José João Abdalla Filho	●					
Marcelo Gasparino da Silva	●		●	●	●	●
Marcelo Mesquita de Siqueira Filho					●	●
Ricardo Soriano de Alencar	●					
Rosangela Buzanelli Torres			●			
Valdir Augusto de Assunção		●				

● CHAIRMAN / CHAIRWOMAN OF EACH COMMITTEE

● EXTERNAL MEMBERS OF EACH COMMITTEE

● REMAINING MEMBERS



Audit Committee

Our statutory audit committee is an advisory committee of our Board of Directors, and provides assistance in matters involving our accounting, internal controls, financial reporting and compliance. Our statutory audit committee also recommends the appointment of our independent registered accounting firm to our Board of Directors and evaluates the effectiveness of our internal financial and legal compliance controls. In accordance with Law No. 13,303/2016 and Decree No. 8,945/2016, our statutory audit committee must have at least three members and no more than five members, who must be independent in accordance with the independence requirements of the Law No. 13,303/2016 and CVM Resolution 23/2021 and at least one of the members must have recognized experience in corporate accounting. Additionally, CVM Resolution No. 23/2021 requires at least one member of the audit committee to be a board member, although they permit the appointment of other members who are not members of the Board of Directors provided that such other members meet the independence requirements of the CVM. On November 30, 2020, our shareholders approved an amendment to our bylaws requiring our audit committee to be composed of members of our Board of Directors and external individuals. In 2022, Mr. Valdir Augusto de Assunção remains an external member of our audit committee, having been appointed by our Board of Directors in March 2021.

Due to its composition, our statutory audit committee is not equivalent to or comparable with a U.S. audit committee. Pursuant to Exchange Act Rule 10A-3(c)(3), which provides for an exemption under the rules of the SEC regarding the audit committees of listed companies, a foreign private issuer is not required to have an audit committee equivalent to or comparable with a U.S. audit committee if the foreign private issuer has a body established and selected pursuant to home country legal or listing provisions expressly requiring or permitting such a body, and if the body meets the requirements that (i) it be separate from the full board, (ii) its members not be elected by management, (iii) no executive officer be a member of the body, and (iv) home country legal or listing provisions set forth standards for the independence of the members of the body.

Given that in 2011, the CVM approved an Instruction No. 509/2011 (current CVM Resolution No. 23/2021) governing the *comitê de auditoria estatutário* (statutory audit committee), an audit committee established under the bylaws of the issuer and subject to certain requirements under the CVM rules, we understand that our statutory audit committee complies with these requirements, and we rely on the exemption provided by Rule 10A-3(c)(3) under the Exchange Act.

Mr. Valdir Augusto de Assunção is our audit committee financial expert. Our audit committee is currently composed of four members (all independent, in accordance with the independence requirements of the Law No. 13,303/2016 and CVM Resolution No. 23/2021) and is responsible for, among other matters:

- monitoring, analyzing, and making recommendations to our Board of Directors with respect to the appointment and dismissal of our independent registered accounting firm, as well as evaluating the independence of our independent registered accounting firm for issuing an opinion on the financial statements and their qualifications and expertise;
- advising our Board of Directors on the review of our annual and quarterly consolidated financial statements, monitoring compliance with relevant legal and listing requirements and ensuring appropriate disclosure of our economic and financial situation filed with the CVM and the SEC;
- advising our Board of Directors and our management, in consultation with internal and independent registered accounting firm and our risk management and internal controls units, in monitoring the quality and integrity of our internal control over financial reporting systems, our audited consolidated financial statements and related financial disclosures;
- reviewing and submitting proposals to our Board of Directors relating to the resolution of conflicts between management and the independent registered accounting firm relating to our audited consolidated financial statements;
- assessing and monitoring, together with our internal management and audit area, the adequacy of actions to prevent and combat fraud and corruption;



- evaluating and monitoring, jointly with our management and our internal auditors, our transactions with related parties, including a review, at least once a year, of all related party transactions and a previous analysis of related party transactions involving amounts higher than certain levels;
- establishing and reviewing procedures for the receipt, retention and processing of complaints regarding accounting, internal control and auditing matters, including procedures for the confidential submission of internal and external complaints relating to the scope of the committee's activities, as well as receiving, retaining and processing any such complaints;
- evaluating the parameters underlying the actuarial calculations, as well as the actuarial result of the benefit plans maintained by our social security foundation, Fundação Petrobras de Seguridade Social; and
- conducting the formal evaluation of our internal audit executive manager on an annual basis.

For further information relating to changes to the composition of our Board of Directors, see "Recent Developments" in this annual report.

With respect to the relationship of our audit committee with our independent registered accounting firm, as provided in our Bylaws, our Board of Directors is responsible for deciding, among other matters, the appointment and dismissal of independent registered accounting firm, which are prohibited from providing consulting services to us during the term of an audit's contract. Our audit committee has the authority to recommend pre-approval policies and procedures for the engagement of our independent registered accounting firm's services. Our management is required to obtain the audit committee's pre-approval before engaging an independent registered accounting firm to provide any audit or permitted non-audit services to us or any of our consolidated subsidiaries. Our audit committee has pre-approved a detailed list of audit services up to specified monetary thresholds. The list of pre-approved services is updated from time to time. The audit services that are not included in the list, or that exceed the thresholds specified therein must be directly approved by our audit committee. Our audit committee monitors the performance of the services provided by our independent registered accounting firm and reviews and monitors our independent registered accounting firm's independence and objectivity.



Principal accountant fees and services

The following table sets forth the fees billed to us, in US\$ million, by our independent registered accounting firm KPMG Auditores Independentes Ltda. during the fiscal years ended December 31, 2022 and 2021:

	2022	2021
Audit fees ⁽¹⁾	6.0	6.6
Audit-related fees ⁽²⁾	0.3	0.1
TOTAL FEES	6.3	6.7

- (1) Audit fees comprise fees billed (including fees for services related to tax review in relation to statutory and regulatory filings) in connection with the audit of our audited consolidated financial statements (IFRS and Brazilian GAAP), interim reviews (IFRS and Brazilian GAAP), audits of our subsidiaries (IFRS and Brazilian GAAP, among others), consent letters and review of periodic documents filed with the SEC.
- (2) Audit-related fees refer to assurance and related services that are reasonably related to the performance of the audit or reviews of our audited consolidated financial statements and are not reported under "audit fees."

Additional Information on Members of our Audit Committee

Relying on the exemption set forth in Rule 10A-3(b)(1)(iv)(E), two members of our audit committee, Mr. Edison Antônio Costa Britto Garcia and Mr. Gileno Gurjão Barreto have been appointed by the Brazilian federal government, our controlling shareholder. In our assessment, Mr. Garcia acts independently in performing the responsibilities of an audit committee as defined in Rule 10A-3 under the Exchange Act and acts in accordance with the CVM Rules, Mr. Barreto acts independently in performing the responsibilities of an audit committee as defined in Rule 10A-3 under the Exchange Act.

Mr. Francisco Petros Oliveira Lima Papathanasiadis is also a member of our audit committee, designated by holders of our common shares. Mr. Petros is independent, as defined in Law No. 13,303/2016 and CVM Instruction No. 509/2011.

For recent developments relating to recent changes to the composition of our Board of Directors, see "Recent Developments" in this annual report.

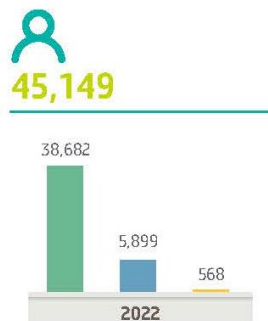
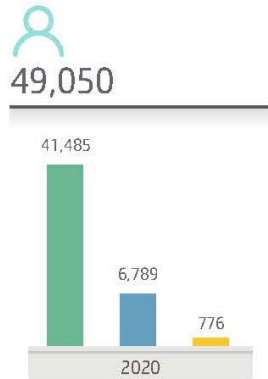


Employees

Our workforce is our most important asset. Our people management is based on inclusion, diversity, dialogue and respect for our employees.

Our employees' profile

Total Employees at Petrobras



- Petrobras (not including our subsidiaries, joint operations or structure entities)
- Subsidiaries in Brazil
- Subsidiaries Abroad



Total Employees at Petrobras

(not including our subsidiaries, joint operations or structure entities)

38,682

Business Area	2022	2021	2020
Exploration and Production	12,969	13,418	14,637
Refining, Transportation and Marketing	8,773	8,796	9,385
Gas and Power	1,523	1,607	1,665
Others	15,417	14,882	15,798
Total	38,682	38,703	41,485



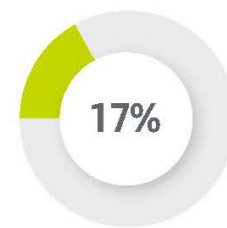
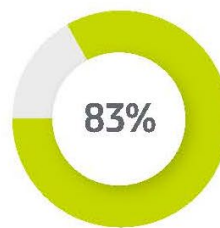
32,123

MEN



6,559

WOMEN



CORPORATE FUNCTION

Manager	11.3%	Manager	13.7%
Supervisor	5.9%	Supervisor	3.6%
Specialist	2.5%	Specialist	2.7%
Other	80.3%	Other	80.0%



	As of December 31,		
	2022	2021	2020
Our employees by region (not including our subsidiaries, joint operations or structure entities)			
Southeastern Brazil	32,985	32,572	34,047
Northeastern Brazil	3,390	3,840	4,910
Other locations	2,307	2,291	2,528
Total	38,682	38,703	41,485
Our subsidiaries' employees by region			
Southeastern Brazil	4,596	4,901	5,216
Northeastern Brazil	734	744	856
Other locations in Brazil	569	563	717
Abroad	568	621	776
Total	6,467	6,829	7,565
TOTAL	45,149	45,532	49,050

We attract and retain talented employees by offering competitive benefits and participation in a variable compensation program. We also offer as the possibility for professional growth and development based on performance and meritocracy in addition to monthly compensation.

The table below sets forth the main expenses related to our employees for the last three years:

	US\$ million		
	2022	2021	2020
Salaries, accrued vacations and related charges	3,006	2,665	3,064
Employee training ⁽¹⁾	42	8	6
Profit-sharing distributions	131	125	7
Variable compensation program	547	469	439

(1) Employee training is not considered an employee benefit in our audited consolidated financial statements.

For more information on profit-sharing distributions and variable compensation program see respectively "Labor Relations" and "Employees Variable Compensation" in this annual report.



Workforce

One of the main current and future challenges for our people management is to ensure the continuous adequacy of our workforce to the business portfolio.

Our workforce planning methodology is aimed at the optimal mapping of employees' needs. It is built through our business's processes perspective and considers strategic scenario modifications in the medium and long terms. It considers operational safety and projects requirements, as well as portfolio management decisions and organizational restructuring.

In addition, we seek to adapt our current workforce to our strategies through the following: improvement of internal workforce mobility practices; flexibility for our portfolio management strategy; training and continuing education related to mobility programs; analysis of impacts and costs; critical thinking; knowledge management; and improvement of our workforce profile. These programs, which facilitate the increase of productivity and optimize our processes, also allow us to better adjust our workforce to our business needs.

Employees are one of the most important intangible assets to us and the ability to attract qualified and talented employees, as well as retain and nurture internal talent is critical to our success and sustainability. We focus on attracting the best external talent without neglecting the internal talent of employees, who have grown with us, and understand our organization, mission and culture.

In order to meet workforce needs, we prioritize the filling of open positions internally, through organized internal career mobility processes to retain talent and reduce external hiring costs.

We also have been hiring external employees through different recruitment processes. In order to determine the number of new employees, we consider both our business needs and our current vacancies. In 2022, 7,143 open positions and 6,408 were filled internally, representing 89.7% of the total amount of vacancies.

In 2021 we launched a Public Recruitment Process ("PSP"), which received more than 160,000 applications to fill 757 vacancies, guaranteeing at least 8% of vacancies for people with disabilities and 20% for black candidates. This last selection process had a totally digital admission process (paperless) and a structured onboarding process, which resulted in a 97% satisfaction rate among new employees. As a result of this process, in 2022, a total of 735 employees were hired, of which 92.38% were hired through the PSP.

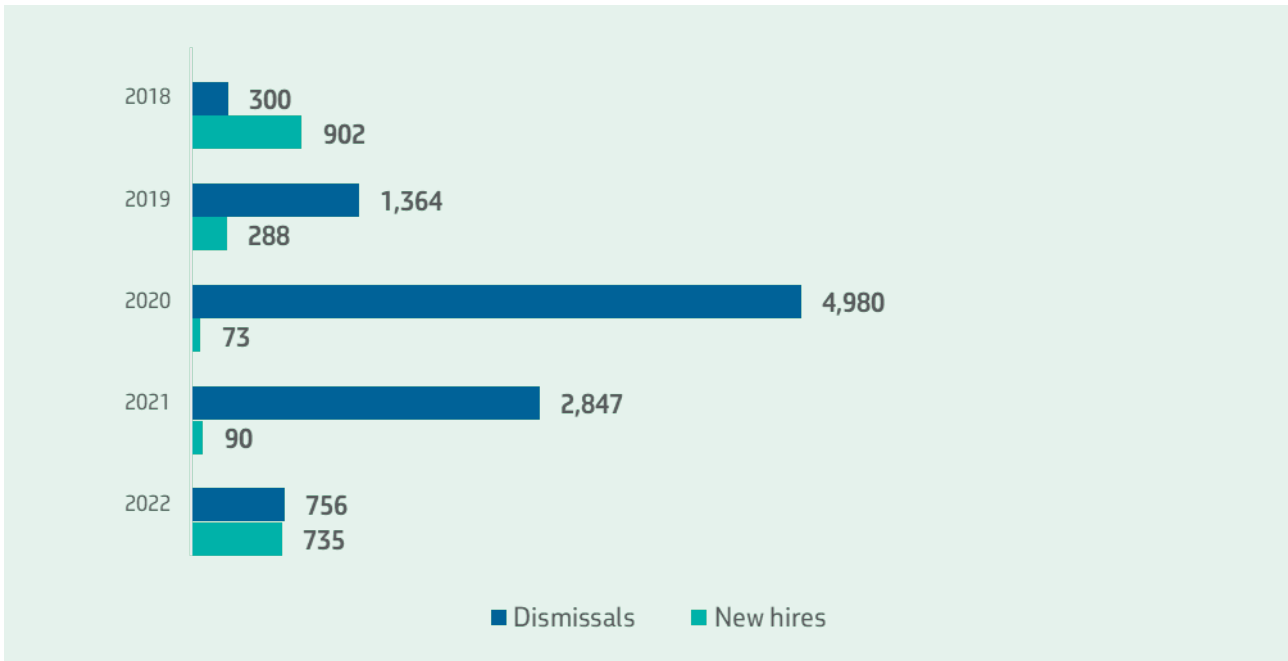
In addition to changes to the admissions and onboarding processes, the workforce was impacted by the dismissal of employees enrolled in new iterations of the Voluntary Severance Programs ("PDVs") that were introduced through 2019. In 2022, 402 employees left our company through the Incentive Retirement Program ("PAI") and the three PDVs, differentiated by target audience: (i) PDV 2019, focused on retired employees, (ii) a PDV for employees of certain areas undergoing divestment processes and (iii) a PDV for administrative employees.

In total, 756 employees left us in 2022, of which 533 were voluntary dismissals (includes PDVs and other types of dismissals).

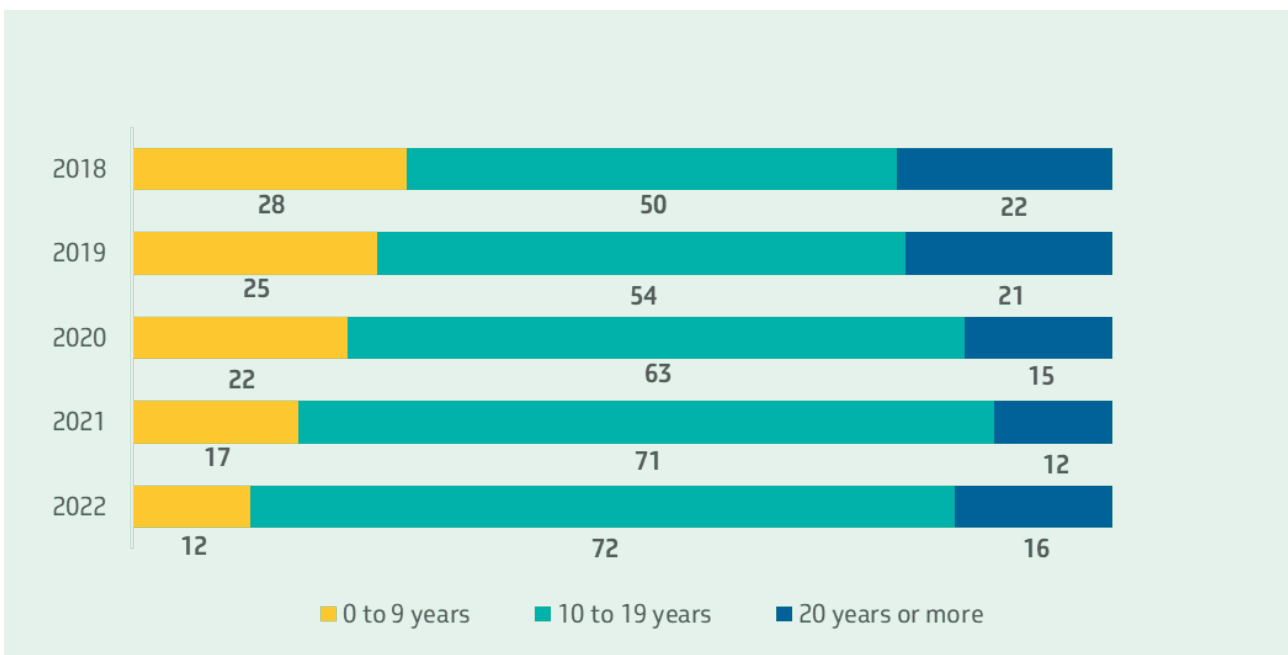
Hiring new employees through the PSP and dismissals contributed to a slight change in the range distribution of our employees by time spent at our company, as well as the age pyramid. The employees that were hired in 2022 support our current Strategic Plan and enable workforce renewal. We believe that our growth helps ensure competitive advantage and value to our business, in terms of knowledge and talent management.



OUR TURNOVER (not including our subsidiaries, joint operations or structure entities)



TIME IN PETROBRAS (not including our subsidiaries, joint operations or structure entities) (%)



Labor Relations

We respect the freedom of association and recognize the right to collective bargaining, as recommended by United Nations Global Pact. This commitment is reinforced by our Human Resources Policy, which determines the implementation of sustainable agreements built through dialogue, ethics and transparency with employee representatives, and by our Code of Ethical Conduct which ensures freedom of union association. We also follow the International Labor Organization (“ILO”) conventions ratified by Brazil.



According to Brazilian legislation, all of our employees are represented by unions. We maintain relationships with 17 trade unions and two federations (i.e., a top-level union entity) of oil workers, as well as six unions and one federation of maritime workers. We value our relationships with all our stakeholders. For this reason, we invest in open and permanent dialogue with trade unions. As of December 31, 2022, 42% of our employees were unionized.

We have a Collective Bargaining Agreement (“2022-2023 CBA”) with the oil and maritime trade unions, valid for one year, until August 2023. These agreements include economic and social provisions relating to work, safety conditions, benefits, and other matters.

We also set several Individual Employment Agreements with employees who desire this format of agreement and meet the minimum requirements determined by law. We have offered a one-year term Individual Employment Agreement that covers the same conditions offered in our CBA.

Our agreements seek to be aligned with the UN Sustainable Development Goals, contributing mainly to decent work and gender equality.

Currently, 96% of our employees are covered by Collective Bargaining Agreements and 4% of our employees are under Individual Employment Agreements.

In 2022, we increased the salaries and benefits of oil and maritime employees by 8.73% and 6.47%, respectively, according to the conditions negotiated and established in the 2022-2023 CBA.

We also have a Profit Sharing Program (“PLR”) Agreement valid for 2021 and 2022, which determines the rules regarding profit sharing payment.

Another right defined in Brazilian legislation is the power of employees to embrace their causes and promote strikes under the principles defined by law. We respect the right to strike, but we maintain our activities in full operation using contingency plans. The contingency plans are the way we can deal with several types of situations by being backup plans for operational continuity and safety we can use in case of unexpected situations.

Benefits

Employees Variable Compensation

We adopt a compensation policy in line with market practices in which we operate.

Performance Award Program

Since 2019, we have used the Performance Award Program (“PPP”), a variable remuneration model for all employees. In line with our Strategic Plan, the PPP aims to align the interest between shareholders, executives, career and non-career employees, encourage result-oriented behavior, variable compensation based on results achieved, variable remuneration for task delivery and contributes to attracting and retaining talent.

In the 2021 fiscal year, the PPP was triggered after the fulfillment of the minimum prerequisites established:

- Declaration and payment of dividends to our shareholders, for such fiscal year, approved by our Board of Directors; and
- Obtaining a positive net profit for the year.

As a result, US\$443.78 (R\$2,292) million was paid throughout 2022, after approval in our Annual General Meeting.



During 2022, the scorecards of the organizational units continued to be considered as input for the assessment of members of the board, executive managers and other members of our general structure, which are reflected in the calculation of variable remuneration, and include the following items: (i) the results of our main metrics such as: Gross Debt (corresponds to the total outstanding balance of contracted debts), Delta EVA® (Economic Value Added – measures the economic profit in a given period minus the cost of invested capital from its operating profit), IAGEE and VAZO; (ii) the scores of specific metrics of each executive scorecard (represented by specific indicators and strategic initiatives that address economic, environmental and social factors); and (iii) discretionary assessment made by the immediate superior according to the employee's profile and performance. The higher the hierarchical level, the greater the weight of the top metrics and, therefore, the multiple remunerations associated with the award reflecting the greater degree of responsibility of the manager in relation to the metrics of his or her area and to our performance metrics.

As approved by our Board of Directors and SEST, program payments must be deferred over five years as a long-term incentive ("LTI") for members of the Executive Board (President and Directors) and, since the 2020 fiscal year, for our Executive Managers and General Managers. The value of such payments are based on the market value of our shares without factoring in any option to buy our shares. Consequently, Executive Board and Management payments must be carried out as follows: 60% of the value of the Program must be paid in a cash installment while 40% of the balance must be settled in four annual deferred installments, the value of which must be symbolically converted into the corresponding number of our common shares (PETR3), using as a base value their weighted average during the last 60 trading sessions of the applicable fiscal year. The President, Executive Director, Executive Managers or General Managers may exercise the right to receive deferred installments after the established grace periods have been fulfilled. The value of each installment must be equivalent to the conversion of symbolic shares into cash value based on the weighted average of our common shares during the last 20 trading sessions prior to the request date.

Profit Sharing Program ("PLR")

We also have a Profit Sharing Program ("PLR") agreement for the 2021–2022 period for all employees who do not hold leadership and specialist roles (i.e., it would not include individuals holding positions such as managers, specialists and supervisors). The amount provisioned for fiscal year 2022 is equivalent to US\$123.97 million (R\$646.85 million) and will be paid in 2023.

For the payment of the PLR to occur, the following conditions must be met:

- Dividend distribution approval by the Annual General Meeting;
- Net income calculation of the reference year; and
- Achievement of an average percentage (weighted) of at least 80% for target indicators established by the Board of Directors in the PLR agreement.

As a result, in 2022 US\$114.7 (R\$592.6) million was paid corresponding to the results obtained in the 2021 fiscal year.

Main Benefits Granted to Employees

We offer benefits that are commensurate with our size and seek to value our employees. All of our employees are entitled to the same benefits, regardless of their positions or duties. There are no differences between the benefit plans of the highest governance body, senior executives and all other employees. We offer complementary pension plans, medical assistance and pharmacy benefits. In addition, some of our consolidated subsidiaries have their own benefit plans.



Pension Plans

Until March 2018, we sponsored two pension plans: (i) the Plano Petros do Sistema Petrobras (“PPSP”), a defined-benefit plan closed to new members, and (ii) the Petros-2 Plan (“Petros 2”), a variable contribution plan (mixed type plan that combines defined benefit and defined contribution characteristics), open and active since 2007, and managed by Petrobras Social Security Foundation – Petros.

In April 2018, the PPSP was split up into two plans: (i) one made up of employees and pensioners, who adhered to the new rules of the plan in 2006, 2007 and 2012 (“PPSP-Renegotiated”) and (ii) one for those employees and pensioners that did not adhere (“PPSP-Not Renegotiated”). In December 2019, once again, the PPSP-Renegotiated and PPSP-Not Renegotiated plans were each split into two new plans: (i) one for employees and pensioners who joined the plan before 1970 and (ii) one for employees and pensioners who joined the plan after 1970.

In August 2021, Petros, after attesting to its economic viability, started the operation of the new Petros-3 Plan (“Petros 3”). This is a defined contribution plan, originated from the voluntary option of the PPSP-Renegotiated and PPSP-Not Renegotiated plans participants both for employees and retired employees who joined the PPSP plan after 1970. At the end of the option process, the Petros 3 plan had a total of 2,174 participants.

Thus, there are currently six pension plans in place: four defined-benefit plans, one variable contribution plan and one defined contribution plan which, together, cover 96% of our employees.



Equalization of Petros Plans

The main purpose of our pension plans is to supplement the social security pension benefits of our retired employees. Thus, our employees make mandatory monthly contributions as participants of our plans, and we do the same as sponsors.

In March 2020, our Board of Directors deliberated on a new equalization plan (“New DEP” at its launch, now named “DEP 2018”) of the PPSP-Renegotiated and PPSP-Not Renegotiated, managed by Petros and in compliance with Brazilian social security legislation.

The DEP 2018, approved in May 2020 by PREVIC and SEST, came into effect in June 2020. It replaced the DEP 2015, mitigated the deficit registered in 2018, considered the utilization of the plans’ actuarial results achieved in 2019, and the actuarial impacts related to changes in PPSP-Renegotiated and PPSP-Not Renegotiated plans regulations, which allowed the deficit to be refinanced for a new term, throughout the life of the plans.

The remaining balance related to Petrobras to be settled by the extraordinary contributions contracted through the DEP 2018 in the PPSP-Renegotiated and PPSP-Not Renegotiated plans was US\$2.8 billion as of December 31, 2022, as recorded in Petros plans balance sheets at present value.

In 2021, due to the adverse economic scenario, our pension plans generally had investment returns below actuarial targets, causing new deficit results in certain plans.

Therefore, in November 2022, we and Petros approved the plan to resolve the deficit registered by the PPSP-Renegotiated in 2021 (“DEP 2021 PPSP-R”), which was submitted to SEST.

The DEP 2021 PPSP-R provides for the equation of the total amount of the deficit uncovered registered in 2021, of US\$1.6 billion, as recorded in Petros plans balance sheets at present value. The collection of extraordinary contributions is expected to start in April 2023, in addition to the ordinary and extraordinary contributions already provided for in the plan.



Pursuant to Brazilian social security legislation, the deficit must be balanced equally between the sponsors (Petrobras, Vibra Energia and Petros) and the participants, as well as assisted by the PPSP-Renegotiated. Therefore, we will be responsible for contributing, at present value in the fourth quarter of 2022, an additional permanent cash flow totaling US\$0.8 billion of extraordinary contributions, as recorded in Petros plans balance sheets at present value.

According to our liability management process, which seeks to reduce interest expenses and the amount of real guarantees, in addition to improving liquidity of our plans PPSP-R, PPSP-R Pré-70 and PPSP-NR Pré-70, in February 2022 we also promoted the early partial settlement of the contracts signed in 2008 with Petros named "Term of Financial Commitment Pre-70" and "Term of Financial Commitment Difference of Pension", in the amount of US\$1.3 billion.

In addition, in October 2022, we signed a Private Debt Confession Instrument in the amount of US\$0.2 billion, as recorded in Petros plans balance sheets at present value, which formalizes our commitment to pay for the extraordinary employer contributions of the DEP 2015 not collected by Petros for the period of July 2020 to September 2022, which were pending due to judicial suspension.

The effects of the DEP 2021 PPSP-R on our financial statements were reflected in the fourth quarter of 2022.

For more information on the DEP 2021 PPSP-R, see Note 17.3 to our audited consolidated financial statements.

The table below presents the benefits paid, contributions made, and outstanding pension liabilities for the years ended December 31, 2022, 2021 and 2020:

	US\$ million		
	2022	2021	2020
Total benefits paid – pension plans	1,539	1,336	1,185
Total contributions – pension plans ⁽¹⁾	1,945	2,100	917
Net actuarial liabilities ⁽²⁾	5,433	5,395	10,286

(1) Contributions of sponsors, including defined contributions recognized in the statement of income (PP-2 and PP-3).

(2) Unfunded pension plans obligations.

For more information on the Petros plan, see "Risks – Risk Factors" in this annual report and Notes 4.3 and 17 to our audited consolidated financial statements.

Health and Pharmacy Benefit Plan

We offer a supplementary health care plan, the "AMS" or "Saúde Petrobras", which provides for medical, hospital and dental care services to all active and retired employees and their dependents. During 2022, we had to absorb 60% of the health care costs and 40% should be paid by health insurance associates. The agreement settled with unions that represents our employees provides that this cost ratio will be maintained until a new agreement is established.



An independent actuary consultant calculates our commitment related to future benefits for plan participants on an annual basis, based on the projected unit credit method. The health care plan is not funded or otherwise collateralized by assets. Instead, we make benefit payments based on annual costs incurred by plan participants.

The *Saúde Petrobras* benefit also offers coverage of complementary programs, such as the *Benefício Farmácia* program. This program only covers drugs with a unit cost over R\$150.00 and drugs of any value used in the treatment of certain non-transmissible chronic diseases. By choosing to use the *Benefício Farmácia*, the beneficiary must incur costs as determined by the co-participation system.

The table below shows the post-employment benefits paid and outstanding medical liabilities for the years ended December 31, 2022, 2021 and 2020:

	US\$ million		
	2022	2021	2020
Total benefits paid – medical plan ⁽¹⁾	384	309	310
Net actuarial liabilities ⁽²⁾	5,813	4,485	5,356

(1) Composed of *Saúde Petrobras* and *Benefício Farmácia* amounts.

(2) Unfunded medical plan obligations.

For more information on our employee benefits, see Notes 4.3 and 17 to our audited consolidated financial statements and “Risks – Risk Factors” in this annual report.



Compliance and Internal Controls



Compliance

Ethical principles guide our business and our relations with third parties. Our activities follow clearly articulated policies, standards, and procedures that have been formally established by us. These policies and procedures are communicated to all employees and accessible from any company device, with our main corporate policies also available on our website. The information on our website is not and shall not be deemed to be incorporated into this annual report.

Our activities are subject to national and international laws aimed at preventing fraud and corruption, money laundering, trade sanctions, conflicts of interest and antitrust violations, such as the Brazilian Anti-Corruption Law (Law 12,846/13), the U.S. Foreign Corrupt Practices Act (FCPA), and the UK Bribery Act.

In addition, we continually work to strengthen our integrity system. We have a Code of Ethical Conduct that provides guidance on the commitments and conduct that we require from our personnel and counterparties. The Code of Ethical Conduct increases the focus on our values and commitments, providing tools for self-reflection to help employees to comply with our ethical principles while performing their duties.

In order to further integrate and strengthen our integrity system, we highlight our corporate Compliance Policy, our Guide to Ethical Conduct for Suppliers and our Compliance Program.

Also, our Competitive Compliance Guidelines guide our workforce on the rules that regulate free competition in order to prevent and mitigate violations of Law No. 12,529/2011 (the Competition Defense Law) and provide mechanisms to detect and address any instances of anticompetitive practices.

To ensure an ethical environment for our business, we work (i) to promote a culture of integrity; (ii) prevent, detect and correct incidents of fraud, corruption, conflicts of interest and money laundering; and (iii) manage our internal controls and the integrity analysis of managers and counterparts.

We offer training for all our employees, particularly employees working on activities with greater exposure to compliance risks, as well as the members of our Board of Executive Officers and our Board of Directors.

In 2022, we launched an e-learning course on Law No. 13,709/2018 – *Lei Geral de Proteção de Dados Pessoais* (General Personal Data Protection Law - "LGPD") to teach our employees the principles of privacy and data protection. Through practical examples and real cases, the training helps employees routinely identify and prevent issues related to data and privacy. Training is mandatory for all employees, including our management and executive board. As of December 31, 2022, 38,388 employees or 99.2% of our personnel completed this e-learning course.

In 2022, we also provided training sessions to directors and executive officers, covering mainly the following topics:

- Code of Ethical Conduct;
- Our corporate governance and decision-making process;
- Compliance, internal controls and related party transactions;
- Risk management;
- Business performance;
- Brazilian anti-corruption law;
- ESG in the business strategy;
- Sustainability risk management; and
- The future for oil and energy.



Code of Ethical Conduct

Our Code of Ethical Conduct defines the ethical principles that guide our system's actions and our conduct commitments, both corporate and that of our employees, explaining the ethical sense of our mission, of our vision, and of our Strategic Plan.

The Code of Ethical Conduct also applies to the members of the Board of Directors and its advisory committees, members of the Fiscal Council, members of the Executive Board, employees, interns, service providers and anyone acting on our behalf, including our subsidiaries in Brazil and abroad.

The Code of Ethical Conduct is aligned with the best corporate integrity practices and represents another step towards strengthening our integrity culture. It is based on our values such as respect for life, people and the environment, ethics and transparency, resilience and trust, market orientation and results. Based on these values, the three main principles that support the guidelines of the Code of Ethical Conduct are:

- Respect for life, people and the environment;
- Integrity, transparency and meritocracy; and
- Value addition.

Our commitments of conduct are: example, accountability, trust, courage, union, cooperation, innovation, continuous improvement, results, reputation and transparency.

Our Code of Ethical Conduct is available on our website. The information on our website is not and shall not be deemed to be incorporated into this annual report.

Compliance Policy

The purpose of the Compliance Policy is to ensure that we comply with the laws and rules of regulatory bodies, acting to correct and prevent misconduct.

Drafted in 2014, the Compliance Policy was updated in 2018, 2020 and 2022 with principles and guidelines approved by our Board of Directors. The six principles that guide our compliance actions are:

- All of our activities and relations with our stakeholders must be based on ethics, integrity, and transparency, in compliance with the applicable national and international standards, to provide a safe environment for decision making.
- Our priority is the active prevention of any violations of rules and regulations in order to mitigate compliance risks.
- All indications of misconduct and harmful actions must be investigated and measures shall be adopted for the immediate interruption and repair of any damage to us, and proportional consequences will be imposed on those responsible.
- Retaliation against whistleblowers is forbidden and we ensure privacy, confidentiality, and institutional protection to such persons.
- Our directors and managers are responsible for unequivocally and continuously supporting the development and improvement of our culture of integrity.
- We must encourage an increasingly ethical business environment with integrity and transparency, setting a positive example for our stakeholders.



Ethical Conduct Guide for Suppliers

Created in 2020, our Ethical Conduct Guide for Suppliers is the first document exclusively aimed at our suppliers, with guidelines on expected values and ethical behavior. It applies to all suppliers, in Brazil or abroad, that are involved in business processes and have signed contracts, agreements and terms of cooperation with us. The Ethical Conduct Guide for Suppliers reaffirms our zero tolerance for any form of fraud and corruption, demanding the same stance from our supply chain, and was elaborated in accordance with the best international practices and is aligned with the guidelines of the Dow Jones Sustainability Index, the B3 Corporate Sustainability Index and the Corporate Human Rights Benchmark. The Ethical Conduct Guide for Suppliers reinforces that suppliers must promote decent and safe working conditions for their employees, combat child and slavery labor and respect the environment. It also determines that suppliers must promote diversity, gender and racial equality and the inclusion of people with disabilities. The Ethical Conduct Guide for Suppliers brings an evolution by consolidating the principles and ethical guidelines applicable to suppliers in a single document. The observance of this Ethical Conduct Guide by all suppliers is crucial for us to achieve our goals in an ethical and transparent way and is aligned with our ESG standards. Therefore, we monitor suppliers' compliance through the performance management system, as reinforced in our Quality Guide for Suppliers which can be found at <https://canalfornecedor.petrobras.com.br/en>. The information on this website is not and shall not be deemed to be incorporated by reference into this annual report.

Petrobras Compliance Program

The Petrobras Compliance Program is the set of mechanisms intended to prevent, detect and remedy any misconduct and harmful acts carried out against us, including acts related to fraud and corruption, money laundering, conflicts of interest and antitrust violations.

The Governance and Compliance Officer is responsible for both the Petrobras Compliance Program and our integrity practices.

The Petrobras Compliance Program is intended for our various stakeholders, including senior management, employees, subsidiaries and affiliates, clients, suppliers, investors, partners, public authorities and all those who relate with or represent our interests in our operations.

Ethics Commission

Our ethics commission acts as a forum for discussion of subjects related to ethics. It also serves in an advisory capacity to our management and workforce, providing recommendations with respect to topics related to ethics management issues, proposing rules for the incorporation of new concepts, and adopting measures to comply with legislation and following best practices that reinforce our zero tolerance approach to acts of misconduct.

Our ethics commission is composed of employees appointed after an internal selection process consisting of background checks and interviews. Our Board of Directors and our Board of Executive Officers approve each new appointment.

Anti-Money Laundering and Sanctions

Our Guidelines for the Anti-Money Laundering and Sanctions, as approved by our Chief Governance & Compliance Officer, are composed of specific requirements to minimize the risk of money laundering and violations of sanctions regulations.



The principles that guide our sanctions policy are:

- Before initiating a transaction with any counterparty, our organizational areas should consult the most recent Trade Sanctions List made available by Compliance.
- If the relevant organizational area identifies that the intended counterparty is sanctioned, it must consult the Compliance department regarding the applicability and any restrictions of the sanction before moving forward with the transaction. Compliance, with the support of our Legal department, advises the area on how to proceed.
- The method used to identify sanctioned counterparties can be adapted depending on the specific situation.
- Members of our senior management, managers and workforce must report irregularities related to money laundering and sanctions violations through our whistleblower channel.
- We adopted rules and procedures for the Compliance department to monitor transactions and subsequently identify situations that may create the risk of money laundering or sanctions violations.

Below is the list of sanctions we and our subsidiaries must observe:

Country	Organization	List
United States	Trade Department	Consolidated Screening List
United States	Office of Foreign Assets Control	Non-SDN – Non-Specially Designated Nationals
United States	Office of Foreign Assets Control	SDN – Specially Designated Nationals
United States	System for Award Management	Excluded Parties List
European Union	European External Action Service	Consolidated List of Persons, Groups and Entities Subject to EU Financial Sanctions
United Nations	United Nations Security Council	United Nations Security Council Consolidated List
World Bank	World Bank	Debarred & Cross-Debarred Firms & Individuals / Other Sanctions
United Kingdom	Office of Financial Sanctions Implementation	Consolidated List of Financial Sanction Targets
Canada	Global Affairs Canada	Consolidated Canadian Autonomous Sanctions List
France	Direction Générale du Trésor	Liste Unique de Gels de la Direction Générale du Trésor
Switzerland	State Secretariat for Economic Affairs - SECO	Sanctions de la Suisse
United Arab Emirates	The Committee for Goods and Materials Subject to Import and Export - CGMSIEC	UAE National List of Terrorist Individuals and Entities

In view of the sanctions imposed on Iran, we do not conduct business with Iranian entities or companies.



Related Party Transactions

In November 2022, in order to comply with Brazilian legislation, as Law No. 13,303/16, Decree No. 8,945/16 and the CVM regulation, our Board of Directors approved the annual review of our policy for related party transactions, aiming at fostering transparency in our procedures, conducting better corporate governance practices. This policy also aims to guarantee the adequate and diligent decision-making process by our management, observing market conditions or appropriate compensatory payment, in the event of potential conflicts of interest.

Any related-party transaction in which we are involved and that meets the criteria established in our policy, must be previously analyzed by our audit committee, which has to report its conclusions to our Board of Directors on a monthly basis.

Our policy provides for a strict governance procedure for proposed transactions directly or indirectly involving our controlling shareholder. In the specific case of transactions with related parties involving the Federal government, its autarchies, foundations and federal state-owned companies, the latter when classified as outside our normal course of business by our audit committee, which are within the scope of approval of our Board of Directors, must observe the following special procedure: (i) be analyzed by the audit committee and by the minority committee prior to submission to our Board of Directors, (ii) fall within the purview of our Board of Directors for approval. Any such transaction must be approved by two-thirds of the members present at our Board of Directors meeting.

For additional information regarding our outstanding related party transactions as of and for the year-ended December 31, 2022, see Note 35 to our audited consolidated financial statements.

Transactions with our Board of Directors or Executive Officers

Direct transactions with the companies of members of our Board of Directors or our executive officers must follow the conditions of a commercial transaction and market practice guiding transactions with third parties. None of our Board of Directors members, our executive officers or close members of their families has had any direct interest in any transaction we effected that is or was unusual in its nature or conditions, or material to our business during the year, and which remains in any way outstanding or unperformed. From the preceding financial year until February 28, 2023, we have not entered into any transaction with related parties which is or was unusual in its nature or conditions. We have no outstanding loans or guarantees to the members of our board of directors, executive officers, key management personnel or any close member of their families.

For a description of the shares beneficially held by the members of our board of directors and close members of their families, see "Management and Employees – Management – Additional Information on our Board of Directors and Board of Executive Officers – Share Ownership" in this annual report.

Transactions with the Brazilian Federal Government

We have engaged, and expect to continue to engage, in the ordinary course of business in numerous transactions with our controlling shareholder, the Brazilian federal government, and with banks and other entities under its control, including financing and banking, asset management and other transactions. These transactions resulted in a US\$14,160 million asset and a US\$3,117 million liability with the Brazilian federal government and other entities under its control as of December 31, 2022.



On November 30, 2020, there was a final decision in relation to the Petroleum and Alcohol Account lawsuit filed in 2011. As of December 31, 2022, this receivable amounted to US\$602 million. We expect to receive these amounts between 2023 and 2027, according to the constitutional amendments of December 2021, which established limits for disbursements by the Brazilian federal government for each fiscal year.

In addition, we are allowed to invest in securities issued by the Brazilian federal government, provided that the legal and regulatory requirements are met and we have taken into consideration market's best practices and the conservatism that should guide our investments.

As of December 31, 2022, the balance of securities issued by the Brazilian federal government that have been directly acquired and held by us amounted to US\$1,689 million.

For further information on related party transactions, see Note 35 to our audited consolidated financial statements.

Transactions with associates

On December 23, 2022, we signed a contract with UEG Araucária S.A. in the amount of US\$925 million, for the sale of 2,150,000 m³/d of interruptible gas, to supply energy generation electricity by UTE Araucária. The contract is in effect from January 1, 2023 to December 31, 2023.



Controls and Procedures

Disclosure Controls and Procedures

We, together with our CEO and CFO, have evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2022. Our CEO and CFO concluded that our disclosure controls and procedures were effective to provide reasonable assurance that the information we are required to disclose in the reports that we file or submit under the Exchange Act was being recorded, processed, summarized and reported within the time periods specified in the applicable rules and forms. They also concluded that such disclosure was compiled for and communicated to our management, including our CEO and CFO, as appropriate, to allow for timely decisions regarding the required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing, adequately maintaining and assessing the effectiveness of internal control over financial reporting. Such internal control is a process designed by, or under the supervision of our CEO and CFO, and effected by our board of directors, management and other employees.

The internal control over financial reporting is designed to provide reasonable assurances regarding the reliability of financial reporting and of the preparation of our consolidated financial statements for external purposes, in accordance with IFRS, as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk of becoming inadequate because of changes in its conditions and assumptions.

Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2022 based on the criteria established in "Internal Controls – Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of Treadway Commission ("COSO"). Our management has concluded that our internal control over financial reporting was effective.

Audit of the Effectiveness of Internal Control over Financial Reporting

Our independent registered accounting firm has audited the effectiveness of our internal control over financial reporting as of December 31, 2022, as stated in their report, which is included herein.

Changes in Internal Control over Financial Reporting

In 2022, we updated to a new version of our main Enterprise Resource Planning ("ERP") and, as a consequence, we monitored its impact on operational and financial processes as well related controls once some became automated. We concluded that our new ERP had no impact on our internal control over financial reporting.

There were no other significant changes during the fiscal year 2022 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.



Ombudsman and Internal Investigations

Our general ombudsman office provides channels for receiving comments from our internal and external audience, such as claims, requests for information, general requests, suggestions, compliments and complaints, including reports of discrimination and all kinds of harassment.

In order to receive complaints, we provide a specific whistleblower channel, operated by an independent external company, and allowing for anonymity of the informants.

All complaints received through the whistleblower channel are forwarded to the ombudsman's office, which analyzes, classifies, and directs them to the relevant office for follow-up. Allegations regarding compliance issues (fraud, corruption and other matters) and violence in the workplace (moral or sexual harassment, discrimination and retaliation) are sent to the governance and compliance office, which has full access, independence, qualification and autonomy to thoroughly investigate allegations of this nature.

Upon the conclusion of each investigation, we use any material findings to improve our compliance efforts. If the findings in some instances indicate that any of our current or former employees did not comply with certain internal policies, the matter is submitted to the integrity committee, a collegial body that acts independently and reports to the Board of Directors, and appropriate disciplinary measures and remedial actions may apply (or are taken, according with applicable labor laws and internal policies).

We continue to allocate significant resources to investigating allegations of misconduct and responding appropriately to investigative findings, and to improve our internal investigation procedures to ensure that investigations are conducted completely and efficiently and that disciplinary measures are imposed fairly, uniformly and promptly. We remain cooperative with the authorities, in an effort to uncover wrongdoing and hold those responsible accountable.

Irrespective of the findings of our internal investigations, in order to mitigate potential risks of further non-compliance with our internal policies, we continue to develop and implement a number of measures aimed at improving corporate governance, our management of processes and risk management and controls, including those related to fraud and corruption.











Shareholder Information



Listing

We are a publicly traded company and we are listed in Brazil and abroad, as follows:

-  COMMON SHARES
-  PREFERRED SHARES

STOCK* EXCHANGE	BRAZIL	USA
		
	CAPITAL MARKET REGULAIOR CVM	CAPITAL MARKET REGULAIOR SEC
		
CORPORATE GOVERNANCE	LEVEL 2	LEVEL 3
SHARES AND ISIN CODES	 PETR3 BRPETRACNOR9  PETR4 BRPETRACNPR6	PBR US71654V408 PBRA US71654V101
CLOSING PRICE DECEMBER 31, 2022	PETR3 R\$ 28.04 PETR4 R\$ 24.50	PBR US\$ 10.65 PBRA US\$ 9.29
TOTAL NUMBER OF SHARES** DECEMBER 31, 2022	13,044,201,261	
	PETR3: 5,304,901,220 PETR4: 5,019,519,787	PBR: 2,137,330,162 PBRA: 582,450,092

* Additionally, our common (XPBR) and preferred (XPBRA) shares have been traded on the LATIBEX, Spain, since 2002 under ISIN codes BRPETRACNOR9 and BRPETRACNPR6, respectively. The LATIBEX is an electronic market created in 1999 by the Madrid Stock Exchange in order to enable trading of Euro-denominated Latin American equity securities.

** The total number of shares does not include 295,669 shares in treasury, of which 222,760 are common shares and 72,909 are preferred shares.

*** On December 31, 2022, the controlling group was composed of the Brazilian federal government, BNDES and BNDESPar.





Corporate Governance of B3 – Level 2

Since 2018, we have been listed in the corporate governance Level 2 listing segment of the B3. Below are some of our corporate governance practices due to our listing on the Level 2 listing segment:

- the attributions of our minority committee are expanded;
- our Board of Directors is composed of at least 40% independent members;
- we disclose an annual calendar of corporate events;
- we must assure 100% of tag along to holders of our preferred shares – under the same conditions granted to holders of our common shares; and
- we provide an arbitration procedure for matters arising from, and relating to, Level 2 rules and regulation.



Shares and Shareholders

Our capital stock is composed of common and preferred shares, all without par value and denominated in *reais*. Under Brazilian Corporate Law, the number of our preferred shares may not exceed two-thirds of the total number of our shares.

Our shares are negotiated on the B3 and registered in book-entry form. Banco Bradesco performs services of safekeeping and transfer of shares.

Holders of our common shares are entitled to one voting right for each unit of common shares held. Holders of our preferred shares are not entitled to voting rights, except for: (i) the right to appoint one member of our Board of Directors and one member of our Fiscal Council; and (ii) certain matters relating to preferred shares (such as creation, increasing, changes in the preferences or creation of a new class), whenever rights of holders of preferred shares are adversely affected.

In the U.S., our common or preferred shares, which are evidenced by ADRs, are listed in the form of ADSs on the NYSE. The ADSs are registered and delivered by a depositary bank, JPMorgan Chase Bank, N.A (“JPMorgan” or “Depositary”) which, since January 2, 2020, acts as the depositary for both of our common and preferred ADSs. The ratio of ADR to our common and preferred shares is two shares to one ADR.

The rights of ADS holders differ from shareholders’ rights. With respect to voting rights, ADS holders may only vote by means of proxy voting cards mailed to the ADR depositary bank while shareholders have the right to vote directly at the shareholders’ meeting.

On December 31, 2022, there were 2,137,330,162 outstanding common shares and 582,450,092 outstanding preferred shares represented by ADSs. There has been no change in the past five fiscal years in the amount of our issued share capital, as well as in the number of our common and preferred shares or in the voting rights of our common and preferred shares. See Exhibit 1.1 to this annual report for a copy of our Bylaws.

Additionally, our common (XPBR) and preferred (XPBRA) shares have been traded on the LATIBEX, Spain, since 2002 under ISIN codes BRPETRACNOR9 and BRPETRACNPR6, respectively. The LATIBEX is an electronic market created in 1999 by the Madrid Stock Exchange in order to enable trading of Euro-denominated Latin American equity securities.

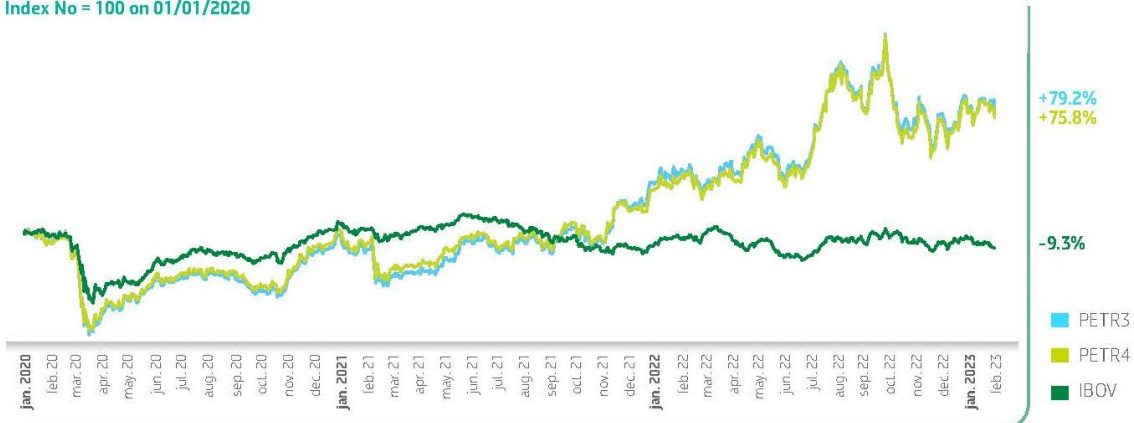
In the beginning of 2023, our stock value¹ decreased, and as of March 28, 2023, our stock price was US\$10.21 (PBR) and US\$9.17 (PBR/A). In 2022, our stock outperformed IBOV at B3 and ARCA OIL (former AMEXOIL) at NYSE. In 2021, our stock outperformed IBOV at B3 and underperformed ARCA OIL (former AMEXOIL) at NYSE. In 2020, our stock value was affected by the impact of Covid-19 pandemic and Brent prices reduction, underperforming the IBOV at the B3.

¹ Source: Bloomberg. The stock values in this paragraph consider the dividends adjustment.



STOCK PERFORMANCE SINCE 2020¹

Index No = 100 on 01/01/2020



	Common Shares (PETR3):	Preferred Shares (PETR4):	Market value ² : R\$ 355.4 billion / -22.9%
Appreciation in 2022:	+47.2%	+47.1%	IBOV ² -7.3%
Stock Value on February 28, 2023:	R\$ 28.75	R\$ 25.24	
Appreciation in LTM of February 28, 2023:	+27.4%	+26.8%	

ADR PERFORMANCE SINCE 2020¹

Index No = 100 on 01/01/2020



	ADRs representing Common Shares (PBR):	ADRs representing Preferred Shares (PBR/A):	Market value ² : US\$ 68.6 billion / -23.6%
Appreciation in 2022:	+54.8%	+53.3%	ARCA OIL ² +18.6%
Value on February 28, 2023:	US\$ 11.09	US\$ 9.76	BRENT OIL ² -16.9%
Appreciation in LTM of February 28, 2023:	+23.8%	+24.4%	

1) Considers dividends adjustment.
2) Information regarding LTM of February 28, 2023.
Source: Bloomberg



The following table sets forth information concerning the ownership of our common and preferred shares as of February 28, 2023, by the Brazilian federal government and certain public sector entities:

Shareholders	Common Shares	%	Preferred Shares	%	Total Shares	%
Brazilian federal government	3,740,470,811	50.26	-	-	3,740,470,811	28.67
BNDES	-	-	135,248,258	2.41	135,248,258	1.04
BNDES Participações S.A. – BNDESPar	-	-	900,210,496	16.07	900,210,496	6.90
All members of our Board of Directors, Executive Officers and members of our Fiscal Council (permanent and alternate) (28 people in total)	-	-	64,213	0.00	64,213	0.00
Others	3,701,983,331	49.74	4,566,519,821	81.52	8,268,503,152	63.39
TOTAL	7,442,454,142	100.00	5,602,042,788	100.00	13,044,496,930	100.00

For detailed information on the shares held by the members of our Board of Directors, Executive Officers and members of our Fiscal Council, see “Management and Employees” in this annual report.

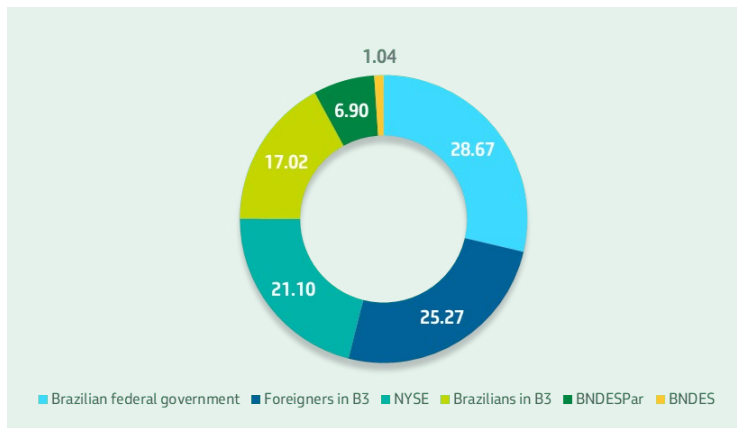
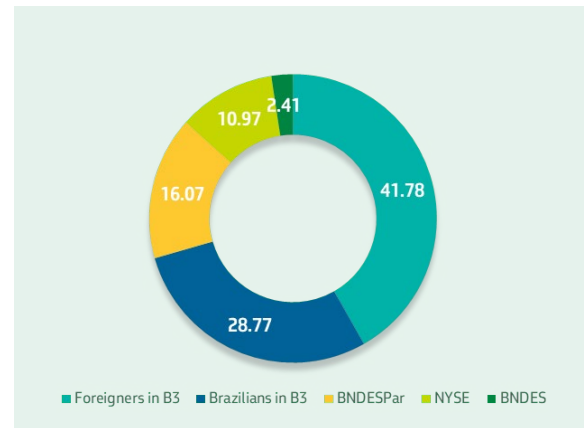
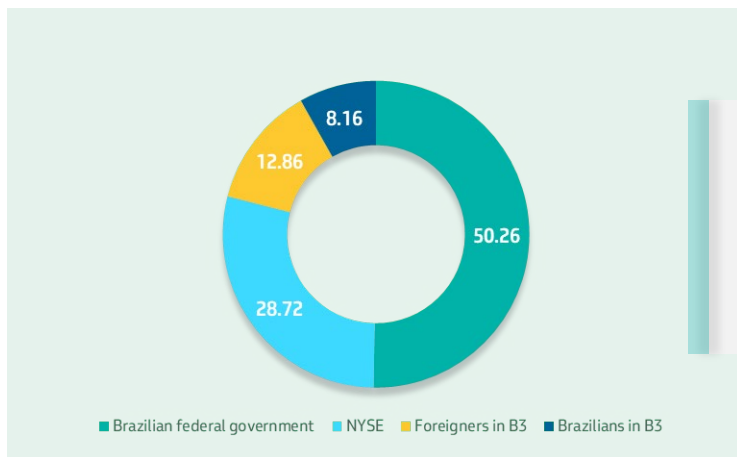
Under Brazilian Corporate Law and Law No. 13,303/16, the Brazilian federal government is required to own at least a majority of our voting shares.

Although the Brazilian federal government does not have different voting rights than our other shareholders, as long as it holds a majority of our voting share, any change in our control would require a change in applicable laws. Our Bylaws also provide for rules applicable to any eventual transfer of control of our major shareholders.

The majority of our voting shares also gives the Brazilian federal government the right to elect a majority of our directors, regardless of the rights our minority shareholders may have to such election according to our Bylaws.

Additionally, our Bylaws clearly state that we may have our activities guided by the Brazilian federal government in order to contribute to the public interest that justified our creation. However, if the Brazilian federal government’s guidelines lead us to undertake obligations and responsibilities under conditions different from those of any other company in the private sector that operates in the same market, such obligations and responsibilities shall be defined in law or regulation and shall have their costs and revenues broken down and disclosed. In addition, the Brazilian federal government shall compensate us, at each fiscal year, for the difference between market conditions and the operational result or economic return from such obligation.

Our shareholding base includes over 1,000,000 shareholders at the B3 and ADR accounts at the NYSE.

**TOTAL CAPITAL ⁽¹⁾ (%)****NON-VOTING CAPITAL ⁽¹⁾ (%)****VOTING CAPITAL ⁽¹⁾ (%)**

The majority of our voting rights are held by the Brazilian federal government, which holds 50.26% of our shares with voting rights.

(1) Information about our shareholders as of February 28, 2023.

Pursuant to CVM rules, any (i) direct or indirect controlling shareholder, (ii) shareholder who has elected members of a Brazilian public company's Board of Directors or Fiscal Council, and (iii) person or group of persons representing the same interest, in each case that has directly or indirectly acquired or sold an interest that exceeds (either upward or downward) the threshold of 5%, or any multiple thereof, of the total number of shares of any type or class, must be disclosed by such Brazilian public company, immediately after the acquisition or sale of shares, to the CVM and the B3.

Self-Dealing Restrictions

In accordance with our Relevant Act or Fact Disclosure and Negotiation of Securities Policy, the trading by us or any related party of securities issued by us, our subsidiaries or our associates (that are public companies) is forbidden, in the following periods:

- (i) 15 days before the disclosure of our quarterly information and annual information, with the exception of the provisions on individual investment/divestment plans in our Policy and in CVM Resolution 44/2021; and
- (ii) in the period between the decision taken by the competent corporate body to increase or reduce the share capital, to distribute dividends, bonus shares or issue other securities by us, and the publication of the respective notices or announcements.



Our directors, the members of our audit committee, their respective alternates and members with any technical or advisory functions created by provisions of our Bylaws, are obligated to inform us in the event of any ownership and trading of securities issued by us or our subsidiaries, which are public companies. They should also indicate the securities issued by us and/or our subsidiaries, which are public companies, owned by related persons.

Dispute Resolution

As a company listed on the B3's Level 2, our Bylaws provide for mandatory dispute resolution, by means of arbitration before the *Câmara de Arbitragem do Mercado*, or the Market Arbitration Chamber, concerning any dispute or controversies that may arise among us, our shareholders, our management and members of our Fiscal Council, related to or arising from the application, validity, effectiveness, interpretation, violation and effects of the provisions contained in the applicable Brazilian law, regulations and our Bylaws.

Entities that are part of the direct and indirect public administration, as our company and our controlling shareholder, may use arbitration as a dispute resolution mechanism only for disputes involving negotiable economic rights. As a result, such entities cannot submit to arbitration any rights deemed non-negotiable under Brazilian law (*direitos indisponíveis*), such as those deemed to relate to public interest. Therefore, decisions of the Brazilian federal government exercised at any general shareholders' meeting, if based or related to public interest, will not be subject to an arbitration proceeding.



Shareholders' Rights

Shareholders' Meetings and Voting Rights

Our shareholders have voting rights at the shareholders' meeting to decide on any matters related to our corporate purposes and to pass any resolutions they deem necessary for our protection and development, except for certain matters whose authority to resolve are exclusively held by our corporate governing bodies.

Our annual shareholders' meeting takes place at our headquarters, in Rio de Janeiro, Brazil, in April of each year. Additionally, our Board of Directors or, in some specific situations set forth in Brazilian Corporate Law, our shareholders or Fiscal Council, may call our extraordinary shareholders' meetings. Since 2020, our annual shareholders' meeting has been exclusively held virtually (via videoconference), as permitted by Resolution CVM No. 81/2022.

The notice of the annual shareholders' meeting and related documents must be published at least 30 calendar days prior to the scheduled meeting date.

For ADS holders, we are required to provide notice to the ADS depository at least 30 calendar days prior to a shareholders' meeting. Upon receipt of our shareholders' meeting notice, the depository must fix the ADS record date and distribute to ADS holders a notice. This notice must contain (i) final information particular to such vote and meeting and any solicitation materials, (ii) a statement that each holder on the record date set by the depository will be entitled to instruct the depository as to the exercise of the voting rights, subject to any applicable provisions of Brazilian law as well as our Bylaws, and (iii) a statement as to the manner in which these instructions can be given, including instructions to give a discretionary proxy to a person designated by us. Our shareholders may vote in person, at the meeting, or remotely, prior to the date of the meeting. Electronic participation in shareholders' meetings is not available to ADS holders, which may only vote by means of proxy voting cards mailed to the ADR depository bank.

Quorum

Attendance quorum. In order to start, shareholders representing at least one-fourth of our issued and outstanding common shares must attend our shareholders' meeting, except when the matter to be decided aims to amend our Bylaws. In this case, a valid meeting requires the attendance of shareholders representing at least two-thirds of our issued and outstanding common shares. If the required quorum is not reached, our Board of Directors may call a second meeting by sending a notice at least eight calendar days prior to the new scheduled meeting. The attendance quorum requirements will not apply to such second meeting, but the voting quorum requirements described below shall be observed.

Voting quorum. Matters to be approved at our shareholders' meeting must be approved by the quorums specified below.

**Matter approved by majority vote (of holders of common shares attending the meeting):**

- amend our Bylaws;
- approve any capital change;
- elect or dismiss members of our Board of Directors and Fiscal Council (and its respective alternates), subject to the right of our preferred shareholders to elect or dismiss one member of our Board of Directors and to elect one member of our Fiscal Council (and its respective alternates) and to the right of our employees to elect or dismiss one member of our Board of Directors;
- receive the yearly financial statements prepared by our management and accept or reject management's financial statements, including the allocation of net income for payment of the mandatory dividend and allocation to the various reserve accounts;
- authorize the issuance of debentures, except for the issuance of non-convertible unsecured debentures or the sale of such debentures when in treasury, which may be approved by our Board of Directors;
- accept or reject the valuation of assets contributed by a shareholder in consideration for increase of capital stock;
- approve the disposal of convertible debentures issued by our wholly-owned subsidiaries and held by us;
- establish the compensation of the former members of our Board of Executive Officers, our Board of Directors, our Fiscal Council, including the compensation due during the period of six months of forfeiture provided for in our Bylaws, and of advisory committees to our Board of Directors;
- approve the cancellation of our registration as a publicly-traded company;
- approve the requirements of our nomination policy, in addition to the requirements provided by law applicable to boards of directors and fiscal councils; and
- approve in the case of publicly-traded company, the execution of transactions with related parties, and the sale or contribution of assets to another company, if the value of the transaction corresponds to more than 50% of the value of the total assets listed in the last approved balance sheet.

Matter approved by at least one-half of the common shares of our total capital stock:

- reduce of the mandatory dividend distribution;
- merge into another company or consolidate with another company, subject to the conditions set forth in Brazilian Corporate Law;
- participate in a group of companies subject to the conditions set forth in Brazilian Corporate Law;
- change our corporate purpose, which must be preceded by an amendment to our Bylaws by federal law, as we are controlled by the Brazilian federal government and our corporate purpose is established by law;
- spin-off of a portion of us, subject to the conditions set forth in Brazilian Corporate Law;
- waive the right to subscribe to shares or convertible debentures issued by our wholly-owned subsidiaries or associate;
- decide on our dissolution;
- create preferred shares or increase the existing classes of preferred shares, without preserving the proportions to any other class of preferred shares, except as set forth in or authorized by our Bylaws;
- change the preferences, privileges or redemption or amortization conditions of any class of preferred shares; and
- create new class of preferred shares entitled to more favorable conditions than the existing classes.

**Matter approved by a special quorum:**

- select a specialized company to work out the appraisal of our shares by economic value in the event of the cancellation of our registry as a publicly-traded company, which matter must be approved by the majority of votes from the holders of the outstanding shares that are present at the meeting. According to B3's Level 2 regulation, outstanding shares means all the shares issued by a company, except for the shares held by the controlling shareholder, by persons linked to such controlling shareholder and by our managers, as well as those shares in treasury and special class of preferred shares which purpose is to guarantee differentiated political rights and, be non-transferable and exclusive property of the privatizing entity. This matter must only be discussed in a shareholders' meeting installed with the presence of at least 20% of the holders of the outstanding shares in a first call, or the presence of any number of holders of the outstanding shares in a second call.

Pursuant to Law No. 13,303/16, no decision taken at any shareholders' meeting can change the corporate status of our company (i.e. *sociedade anônima*).

Under Brazilian Corporate Law, if a shareholder has a conflict of interest with a company in connection with any proposed transaction, the shareholder may not vote in any decision regarding such transaction. Any transaction approved with the vote of a shareholder having a conflict of interest may be annulled and such shareholder may be liable for any damages caused and be required to return to us any gain it may have obtained as a result of the transaction.

Also under Brazilian Corporate Law, minority shareholders representing at least 10% of our voting capital have the right to demand that a cumulative voting procedure be adopted to entitle each common share to as many votes as there are board members and to give each common share the right to vote cumulatively for only one candidate of our Board of Directors or to distribute its votes among several candidates. Pursuant to regulations promulgated by the CVM, the 10% threshold requirement for the exercise of cumulative voting procedures may be reduced depending on the amount of capital stock we possess. For a company like us, the threshold is 5%. Thus, shareholders representing 5% of our voting capital may demand the adoption of the cumulative voting procedure.

Regarding the right to appoint members of our Board of Directors and our Fiscal Council, the following should be highlighted:

- our minority preferred shareholders that together hold at least 10% of the total capital stock (excluding the shares held by our controlling shareholder) have the right to elect and remove one member to our Board of Directors at a shareholders' meeting, by a separate voting procedure;
- our minority common shareholders have the right to elect and remove one member to our Board of Directors, if a greater number of directors is not elected by such minority shareholders by means of the cumulative voting procedure;
- our employees have the right to directly elect one member to our Board of Directors by means of a separate voting procedure, pursuant to Law No. 12,353/10; and
- subject to the provisions of applicable law, the Brazilian Minister of Economy has the right to elect and remove one member of our Board of Directors.

Brazilian Corporate Law and our Bylaws provide that, regardless of the exercise by our minority shareholders of the rights related to the cumulative voting process, the Brazilian federal government always has the right to appoint the majority members of our directors and our Fiscal Council.



Other Shareholders' Rights

In addition to their voting rights, shareholders have the following rights:

Preemptive rights: Each of our shareholders has a general preemptive right to subscribe for shares or securities convertible into shares in any capital increase, in proportion to his or her shareholding. A minimum period of 30 days following the publication of notice of a capital increase is assured for the exercise of the right, and the right is transferable. Under our Bylaws and Brazilian Corporate Law, and subject to the requirement for shareholder approval of any necessary increase to our authorized share capital, our Board of Directors may decide not to extend preemptive rights to our shareholders, or to reduce the 30-day period for the exercise of preemptive rights, in each case with respect to any issuance of shares, debentures convertible into shares or warrants in the context of a public offering.

In the event of a capital increase by means of the issuance of new shares, holders of ADSs and holders of common or preferred shares would have, except under circumstances described above, preemptive rights to subscribe for any class of our newly issued shares. However, holders of ADSs may not be able to exercise the preemptive rights relating to the common and preferred shares underlying their ADSs unless a registration statement under the Securities Act is effective with respect to those rights or an exemption from the registration requirements of the Securities Act is available.

For more information, see "Risks – Risk Factors – Equity and Debt Securities Risks" in this annual report.

Redemption and rights of withdrawal: Brazilian Corporate Law provides that, under limited circumstances, shareholders have the right to withdraw their equity interest from a company and to receive payment for the portion of shareholder's equity attributable to their equity interest.

This right of withdrawal may be exercised by the holders of the adversely affected common or preferred shares, provided that certain conditions set forth in Brazilian Corporate Law are met, in the event that we decide to:

- increase the existing classes of preferred shares, without preserving the proportions to any other class of preferred shares;
- change the preferences, privileges, redemption or amortization conditions of any class of preferred shares or to create a new class of preferred shares entitled to more favorable conditions than the existing classes;
- merge into another company or to consolidate with another company;
- participate in a centralized group of companies as defined under Brazilian Corporate Law;
- reduce the mandatory distribution of dividends;
- change our corporate purposes;
- spin-off a portion of us;
- transfer all of our shares to another company or to receive shares of another company in order to make us, whose shares are transferred a wholly-owned subsidiary, known in Brazil as *incorporação de ações*; or
- acquire control of another company at a price that exceeds the limits set forth in Brazilian Corporate Law.

This right of withdrawal may also be exercised in the event that the entity resulting from a merger, consolidation or spin-off of a listed company and us do not negotiate new shares in the secondary market, within 120 days from the date of the shareholders' meeting approving the transaction, in accordance with the applicable SEC regulations.



Considering that our Bylaws do not provide for rules to determine any value for redemption, under Brazilian Corporate Law, any redemption of shares arising out of the exercise of such withdrawal rights would be made based on the book value per share, determined on the basis of the last balance sheet approved by our shareholders. However, if a shareholders' meeting giving rise to redemption rights occurred more than 60 days after the date of the last approved balance sheet, a shareholder would be entitled to demand that his or her shares be valued on the basis of a new balance sheet dated within 60 days of such shareholders' meeting. In this case, we would immediately pay 80% of the amount of reimbursement calculated based on the last balance sheet and, after the special balance sheet has been drawn up, we would pay the balance within 120 days from the date of the shareholders' meeting resolution. The right of withdrawal lapses 30 days after publication of the minutes of the shareholders' meeting that approved the matters described above. We would be entitled to reconsider any action giving rise to withdrawal rights within ten days following the publication of the minutes of the meeting ratifying the decision if the payment of the price of reimbursement of the shares to the dissenting shareholders would jeopardize our financial stability.

Liquidation: In the event of a liquidation, holders of preferred shares are entitled to receive, prior to any distribution to shareholders, payment for the portion of shareholder's equity attributable to their equity interest.

Conversion rights: Our common shares are not convertible into preferred shares, nor are preferred shares convertible into common shares.

Liability of our shareholders for further capital calls: Neither Brazilian Corporate Law nor our Bylaws provide liability for our shareholders for further capital calls. Our shareholders' liability for capital stock is limited to the payment of the issuance price of the shares subscribed or acquired.

Rights not subject to waiver: According to Brazilian Corporate Law, neither a company's Bylaws nor decisions taken at a shareholders' meeting may deprive a shareholder of some specific rights, such as the right to:

- participate in the distribution of profits;
- participate in any remaining residual assets in the event of our liquidation;
- supervise the management of the corporate business as specified in Brazilian Corporate Law;
- exercise preemptive rights in the event of a subscription of shares, debentures convertible into shares or subscription warrants (other than with respect to a public offering of such securities, as may be set out in the Bylaws); and
- withdraw from our company in the cases specified in Brazilian Corporate Law.



Dividends

Payment of Dividends and Interest on Capital

Our dividend payments are subject to the provisions of Brazilian Corporate Law and applicable local laws and regulations, our Bylaws and our dividend distribution policy.

Our distributions can include dividends and/or interest on capital (*juros sobre capital próprio*). The payment of interest on capital to our shareholders is subject to withholding income tax, pursuant to the Brazilian tax laws, which is not levied upon payments of dividends. The holders of ADSs are also subject to withholding income tax, unless provided otherwise by their applicable law.

Dividend payments for each fiscal year must be approved by our shareholders at the annual general meeting of shareholders. The profits are distributed to outstanding shares in proportion to the number of shares owned by each shareholder on the applicable record date. Our preferred shares have preference in the distribution of dividends and interest on capital. Thus, the payment of dividends to holders of common shares is subject to the right to dividend distributions held by the holders of preferred shares.

Since 2021, our current dividend policy provides the following parameters for the distribution of dividends, which should be followed in the decisions of the Board of Directors and in the Management proposals to the Annual General Meeting:

- 1. We established a minimum annual compensation of US\$4 billion for fiscal years in which the average price of Brent is above US\$40/bbl, which may be distributed regardless of our level of indebtedness, as long as the principles set forth in the policy are observed.
- 1.1 The minimum annual compensation should be the same for common shares and preferred shares, provided that it exceeds the minimum amount for preferred shares set forth in our Bylaws.
- 2. In case of Gross Debt equal to or less than US\$65 billion and positive net income for the year, to be verified in the last quarterly result and approved by the Board of Directors, we should distribute to our shareholders 60% of the difference, calculated in Brazilian *reais*, between Net cash provided by operating activities and acquisition of property, plant and equipment ("PP&E") and intangibles assets, according to the equation below, provided that the result of this formula is higher than the amount provided in item 1 and does not compromise our financial sustainability:

$$\text{Shareholder remuneration} = 60\% \times (\text{Net cash from operating activities} - \text{Acquisition of PP\&E and intangible asset})$$

- 3. Regardless of our level of indebtedness, we may, in exceptional cases, pay extraordinary dividends, exceeding the minimum legal mandatory dividend and/or the amounts established in items 1 and 2, as long as our financial sustainability is preserved.

We have established the optimal gross debt level of US\$60 billion, including commitments related to commercial leases. Subject to certain circumstances established in its dividends policy, we will adopt a more flexible parameter, including applying the gross debt optimal of US\$65 billion as the criterion for defining how to determine the remuneration to be distributed. Additionally, we defined that dividend distribution payments should be made quarterly. The acquisition of PP&E and intangibles assets of the original free cash flow formula was also adjusted to include the signing bonus from the bidding rounds. Additionally, the improvement had a goal of simplifying the dividend policy and establishing an annual minimum remuneration, promoting greater predictability to the cash flow payments to shareholders.



Furthermore, we may exceptionally approve the distribution of extraordinary dividends even in the event of no net income, as long as the rules regarding dividends set forth in Law No. 6,404/76 are complied with and the criteria defined in the dividend policy are observed. In all distribution scenarios, the remuneration to shareholders must follow the rules set forth in Law 6,404/76 (e.g., Articles 201 to 205: mandatory dividend; dividends on preferred shares; interim dividends; payment of dividends) in our Bylaws, and must not compromise our short, medium, and long-term financial sustainability.

Pursuant to our Bylaws, intermediate and interim dividends and interest on capital shall be allocated as minimum mandatory dividend as set forth by the Brazilian Corporate Law, including for the purpose of paying the minimum priority dividends of preferred shares.

Law No. 9,249/95, as amended, provides for distribution of interest on capital to shareholders as an alternative form of distribution. Such interest is limited to the daily pro rata variation of the TJLP interest rate. The effective payment or credit of interest on capital depends on the existence of profits, calculated before deducting interest, or accumulated profits and profit reserves, in an amount equal to or greater than twice the amount of the interest to be paid or credited.

We may treat these payments of interest on capital as a deductible expense for calculating real profit, but the deduction cannot exceed the greater of:

- 50% of net income before taking into account such distribution, in case these are considered expenses, based on the calculated profit after taking into account any deductions for social contributions on net income and before deducting income tax for the period in respect of which the payment is made; or
- 50% of retained earnings and profit reserves.

With respect to the payment of dividends, our shareholder must also consider the following:

- **Taxation:** Any payment of interest on capital to ADS holders or shareholders, whether or not they are Brazilian residents, is subject to Brazilian withholding taxes at the rate of 15% or 25%, subject to possible reduction by an applicable tax treaty. The 25% rate applies only if the beneficiary is resident in a tax haven. The amount paid to shareholders as interest on capital, net of any withholding tax, may be included as part of any mandatory distribution of dividends. Under Brazilian Corporate Law, we are required to distribute to shareholders an amount sufficient to ensure that the net amount received, after payment by us of applicable Brazilian withholding taxes in respect of the distribution of interest on capital, is at least equal to the minimum mandatory dividend as set forth by the Brazilian law.
 - For more information on Brazilian taxation of ADSs and our shares, see “Legal and Tax – Taxation Relating to the ADSs and our Common and Preferred Shares” in this annual report.
- **Date of payment:** Under Brazilian Corporate Law and our Bylaws, dividends are generally required to be paid within 60 days following the date they are declared, unless a shareholders’ resolution sets forth for another date of payment, which, in any case, must occur prior to the end of the fiscal year in which the dividend was declared.
- **Adjustments:** Our Board of Directors may approve the payment of anticipated dividends or interest on capital to our shareholders which amount is subject to financial charges at the SELIC rate from the end of each fiscal year through the date we actually pay such dividends or interest on capital.
- **Unclaimed dividends:** Shareholders have a three-year period from the dividend payment date to claim dividends or interest on capital payments with respect to their shares, after which the amount of the unclaimed dividends reverts to us.

Our total distributions to shareholders for 2022 are expected to be US\$ 43,187 million and will be voted on at our shareholder’s annual general meeting to be held in April 2023. For further information, see Note 33.5 to our audited consolidated financial statements.



Mandatory distribution

Pursuant to Brazilian Corporate Law and our Bylaws, we must comply with two minimum mandatory distributions of dividends, both of which are provided in our dividend policy.

- We must pay at least 25% of our adjusted net income, after deducting allocations to the legal reserve and further allocations eventually required by Brazilian Corporate Law; and
- Holders of our preferred shares have priority to receive the mandatory dividend amount, as well as to receive a payment in the event of reimbursement of capital. They are also entitled to minimum annual non-cumulative preferential dividends in case we declare dividends equal to the higher of (a) 5% of their pro rata share of our paid-in capital, or (b) 3% of the book value of their preferred shares.

To the extent that we declare dividends on our common shares in any particular year in an amount that exceeds the minimum preferential dividends, holders of preferred shares are entitled to an additional dividend amount per share in the same amount per share paid to holders of common shares. Holders of preferred shares also participate equally with common shareholders in share capital increases derived from the incorporation of reserves and profits.

Brazilian Corporate Law, however, permits a publicly held company such as ours to suspend the minimum mandatory distribution of dividends in case our Board of Directors and our Fiscal Council report to the annual general shareholders' meeting that the distribution would not be advisable due to our financial condition. In this case, our Board of Directors must file with the CVM an explanation for suspending the dividend distribution. Profits not distributed due to such suspension must be allocated to a special reserve and, if not absorbed by subsequent losses, must be distributed as soon as our financial condition allows such payments.

Allocation of net income

At each annual general shareholders' meeting, our Board of Directors and Board of Executive Officers are required to recommend how to allocate net income for the preceding fiscal year. The General Shareholders' Meeting may disagree with such recommendation and decide for other allocations, such as for the creation of new statutory reserves. Under Brazilian Corporate Law, net income is obtained after deducting statutory holdings of the employees, managers and beneficiary parties.

In accordance with Brazilian Corporate Law, an amount equal to our net profits, as further reduced by amounts allocated to the legal reserve, to the fiscal incentive investment reserve, to the contingency reserve or to the unrealized income reserve established by us in compliance with applicable law (discussed below) and increased by reversals of reserves constituted in prior years, is available for distribution to shareholders in any given year. After the distribution of preferred dividends, a percentage of net income may be allocated to a contingency reserve for anticipated losses that are deemed probable for future years. Any amount so allocated in a prior year must be either (i) reversed in the fiscal year in which the reasons justifying the reserve cease to exist, or (ii) written off in the event that the anticipated loss occurs.

A portion of the net income from donations or government grants for investments may also be allocated to the creation of a tax incentive reserve.



If the mandatory distribution amount, determined without deducting the amount of unrealized profits from its calculation basis, exceeds the sum of realized net income in a given year, this excess may be allocated to an unrealized revenue reserve. Brazilian Corporate Law defines realized net income as the amount of net income that exceeds the sum of the net positive result of equity adjustments and profits or revenues from operations whose financial results take place after the end of the next succeeding fiscal year. As long as we are able to make the minimum mandatory distribution described below, we must allocate an amount equivalent to 0.5% of subscribed and fully paid-in capital at year-end to a statutory reserve. The reserve is used to fund the costs of research and technological development programs. The accumulated balance of this reserve cannot exceed 5% of the subscribed and fully paid-in capital stock.

Brazilian Corporate Law also provides for the retention of profits, which cannot be approved in the event there is mandatory dividend distribution and must be in accordance with the terms of our capital budget previously approved by the shareholders' meeting.

A portion of our net income that exceeds the minimum mandatory distribution may be allocated to fund working capital needs and investment projects, as long as such allocation is based on a capital budget previously approved by our shareholders. Capital budgets for more than one year must be reviewed at each annual shareholder meeting.

The creation of statutory reserves and the retention of profits cannot be approved to the detriment of the mandatory dividend.



Additional Information for Non-Brazilian Shareholders

Foreign investors may trade their shares directly on the B3 (non-Brazilian holders) or through ADSs on the NYSE. There are no restrictions on ownership of our common or preferred shares in Brazil by individuals or legal entities domiciled outside Brazil and all of them are entitled to the rights and preferences of our common or preferred shares, as the case may be.

The ability to convert dividend payments and proceeds from the sale of common or preferred shares or preemptive rights into foreign currency and to remit such amounts outside Brazil is subject to restrictions under foreign investment legislation (Brazilian foreign exchange controls). However, if foreign investors are registered with the CVM, in accordance with CMN Resolution No. 4,373, they may use the dividend payments and proceeds from the sale of shares to buy and sell securities directly on the B3, which generally requires, among other steps, the registration of the relevant investment with the Central Bank of Brazil. Nonetheless, any non-Brazilian holder who registers with the CVM in accordance with CMN Resolution No. 4,373 may buy and sell securities directly on the B3. Such non-Brazilian holders must appoint a local representative in Brazil who will be required, among other duties, to register and keep updated with the Central Bank of Brazil the record of all transactions of such investors on the B3.

The right to convert dividend payments and proceeds from the sale of shares into foreign currency and to remit such amounts outside Brazil may also be subject to restrictions under foreign investment legislation. If any restrictions are imposed on the remittance of foreign capital abroad, they could hinder or prevent the *Central Depositária*, as custodian for the common and preferred shares represented by the ADSs, or registered holders who have exchanged ADSs for common or preferred shares, from converting dividends, distributions or the proceeds from any sale of such common or preferred shares, as the case may be, into U.S. dollars and remitting the U.S. dollars abroad.

Non-Brazilian Holders on B3

Under CMN Resolution No. 4,373, foreign investors may invest in almost all financial assets and engage in almost all transactions available in the Brazilian financial and capital markets, provided that certain requirements are fulfilled. Therefore, a foreign investor must:

- appoint at least one representative in Brazil, with powers to perform actions relating to the investor's investment;
- register as a foreign investor with the CVM;
- appoint at least one authorized custodian in Brazil for the investor's investments;
- register all portfolio investments of the foreign investor in Brazil, through the investor's representative, with the Central Bank of Brazil; and
- comply with other requirements provided for under CVM Resolution No. 13/20.

After the fulfillment of these requirements, the foreign investor will be able to trade in the Brazilian financial and capital markets.

Securities and other financial assets held by investors under CMN Resolution No. 4,373 must be registered or maintained in deposit accounts or under the custody of an entity duly licensed by the Central Bank of Brazil or the CVM. In addition, any transfer of securities held under CMN Resolution No. 4,373 and CVM Resolution No. 13/20 must be carried out in the stock exchanges or through organized over-the-counter markets licensed by the CVM, except for transfers resulting from private transactions.



ADS Holders

CMN Resolution No. 4,373 allows Brazilian companies to issue depositary receipts in foreign exchange markets. We currently have an ADR program for our common and preferred shares duly registered with the CVM and the Central Bank of Brazil. The proceeds from the sale of ADSs by holders outside Brazil are free of Brazilian foreign exchange controls.

JPMorgan is the depositary for both of our common and preferred ADSs since January 2, 2020. The Depositary will register and deliver the ADSs, each of which currently represents (i) two shares (or a right to receive two shares) deposited with an agent of the Depositary acting as custodian, and (ii) any other securities, cash or other property which may be held by the Depositary. The Depositary's corporate trust office at which the ADSs will be administered is located at 383 Madison Avenue, Floor 11, New York, New York 10179, United States.

The Depositary has obtained from the Central Bank of Brazil an electronic certificate of registration with respect to our existing ADR programs. Pursuant to the registration, the custodian and the Depositary will be able to convert dividends and other distributions with respect to the relevant shares represented by ADSs into foreign currency and to remit the proceeds outside Brazil.

In the event that an ADS holder exchanges ADSs for the underlying common or preferred shares, the holder will be required to obtain registration as a foreign investor in Brazil pursuant to CMN Resolution No. 4,373 by appointing a local representative and obtaining a certificate of registration from the Central Bank of Brazil. Failure to take these measures may subject the holder to the inability of converting the proceeds from the disposition of, or distributions with respect to, the relevant shares, into foreign currency and to remit proceeds outside of Brazil. Additionally, the holder may be subjected to a less favorable Brazilian tax treatment than a holder of ADSs. If the foreign investor resides in a tax haven jurisdiction, the investor will also be subject to less favorable tax treatment.

For more information, see "Risks – Risk Factors – Equity and Debt Securities Risks" and "Legal and Tax – Tax – Taxation Relating to Our ADSs and Common and Preferred Shares" in this annual report.

Fees Payable by ADS holders

ADS holders are required to pay various fees to the Depositary, including: (i) an annual fee of US\$0.05 (or less) per ADS for administering the ADR program, and (ii) amounts in respect of expenses incurred by the Depositary or its agents on behalf of ADS holders, including expenses arising from compliance with applicable law, taxes or other governmental charges, facsimile transmission, or conversion of foreign currency into U.S. dollars. In both cases, the Depositary may decide in its sole discretion to seek payment by directly billing investors or by deducting the applicable amount from cash distributions. ADS holders may also be required to pay additional fees for certain services provided by the Depositary, as set forth in the table below.

Depositary Services	Fees Payable by ADS Holders
Issuance and delivery of ADSs, including issuances resulting from a distribution of shares or rights or other property	US\$5.00 (or less) per 100 ADSs (or portion thereof)
Distribution of dividends	US\$0.05 (or less) per ADS per year
Cancellation of ADSs for the purpose of withdrawal	US\$5.00 (or less) per 100 ADSs (or portion thereof)



Fees Payable by the Depositary

The Depositary reimburses us for certain expenses we incur in connection with the administration and maintenance of the ADR program. These reimbursable expenses comprise, among others, investor relations expenses, listing fees and legal fees.



Purchases of equity securities by the issuer and affiliated purchasers

During the fiscal year ended December 31, 2022, neither any “affiliated purchaser,” as defined in Rule 10b-18(a)(3) under the Exchange Act, nor we, have purchased any of our equity securities.



Legal and Tax



Regulation

Business Regulation

Exploration & Production

Under Brazilian law, the federal government owns all crude oil and natural gas subsoil accumulations in Brazil, and any state- or privately-owned company can carry out the exploration and production of such oil and natural gas accumulations in the country. There are three different types of E&P contracts: (i) Concession Regime; (ii) Production Sharing; and (iii) Transfer of Rights.

Concession Regime

Until 1997, we were the Brazilian federal government's exclusive agent to carry out exploration and production of oil and gas in Brazil.

In 1997, the Brazilian federal government established a concession-based regulatory framework and created an independent regulatory agency to regulate the oil, natural gas and renewable fuel industry in Brazil, namely the ANP. This framework and the ANP created a competitive environment in the oil and gas sector.

The concession-based regulatory framework granted us the right to explore crude oil reserves in each of our already existing producing fields under concession contracts for an initial term of 27 years from the date when they were declared commercially profitable. These are known as the "Round Zero" concession agreements. This initial 27-year period for production can be extended at the request of the concessionaire, subject to approval from the ANP.

Starting in 1999, all areas that were not already subject to concessions became available for public bidding conducted by the ANP. We participated in these biddings both independently or through partnerships with private companies (as operator or as non-operator, in a case-by-case analysis).

According to Law No. 9,478/1997, and as per our concession agreements for exploration and production activities, we are entitled to the oil and gas exploited from the concession areas and we are required to distribute to the Brazilian federal government a portion of the corresponding proceeds.

For information related to Taxation under Concession Regime for Oil and Gas, see item "Legal and Tax – Tax" in this annual report.

Production-Sharing Contract Regime for Unlicensed Pre-Salt and Potentially Strategic Areas

Discoveries of large oil and natural gas reserves in the pre-salt areas of the Campos Basin and the Santos Basin prompted a change in the legislation regarding oil and gas exploration and production activities. In 2010, laws were enacted to regulate contracts under a production-sharing regime in the pre-salt area, as defined under Law No. 12,351/2010 and in potentially strategic areas. The enacted legislation did not impact the concession contracts.

We are not required to be the exclusive operator of the pre-salt areas, but prior to any bid round, the Brazilian federal government must offer us the right to express our interest to exercise the preemption right to operate the blocks under production-sharing regime with minimum 30% of participating interest. Should there be no proposal for the areas to which we have expressed such interest that area will not be



awarded and therefore, we have no remaining obligations. The preemption right only becomes effective in (i) cases of winning proposals above the minimum profit oil, should we decide to be part of such consortium and have previously expressed interest and (ii) cases in which the winning proposal is in the minimum profit oil, then we are required to be the operator, with minimum 30% of participating interest, as applicable according to the relevant Governmental Resolution. Regardless of whether we exercise our preemption right, we will also be able to participate, at our discretion, in the bidding process to increase our interest in any of the pre-salt areas.

The winning bidder will be the company that offers to the Brazilian federal government the highest percentage of “profit oil,” which is the gross revenue of the production of a certain field after deduction of royalties and “cost oil,” which is the cost associated with oil production. The royalty rate is 15% applicable to the gross production of oil and natural gas and there is no other government fee payable to the Brazilian federal government.

The production-sharing contracts are executed by and between the private companies that are winning bidders, the state-owned non-operating company PPSA, which represents the interests of the Brazilian federal government in the production-sharing contracts and manages the Brazilian federal government’s share of the profit oil, and the ANP. The PPSA participates in operational committees, with a casting vote and veto powers and manages and controls the relevant costs, all of it according to each specific production-sharing contract.

Transfer of Rights (*Cessão Onerosa*)

In 2010, we entered into an agreement with the Brazilian federal government under which the government assigned to us the right to conduct activities for the exploration and production of oil, natural gas and other fluid hydrocarbons in specified pre-salt areas, subject to a maximum production of five bnboe. The initial contract price for our rights under the Transfer of Rights Agreement was US\$14,395 million, as of December 31, 2020, which was paid in full in 2010. See “Material Contracts” in this annual report.

Both Law No. 12,276/2010 (the “Transfer of Rights Law”) and the Transfer of Rights Agreement provide for a review procedure. The main purpose of the review procedure is to verify whether the price paid to the Brazilian federal government by us in 2010 was appropriate in relation to the price for granting us the rights to explore and produce five billion barrels of oil equivalent in certain pre-salt areas.

According to the Transfer of Rights Agreement, the review must be based on technical reports prepared by independent certifying entities to be contracted by the ANP and the assignee, which shall consider the best practices of the oil industry, including the following items: (a) information contained in the final report of the mandatory exploration program (as such term is defined in the Transfer of Rights Agreement); (b) the market prices of oil and natural gas; and (c) specification of the product being produced. In addition, as provided in the Transfer of Rights Agreement, the review must follow the assumptions set forth in such agreement.

An internal committee to negotiate the revision of the Transfer of Rights Agreement with representatives of the Brazilian federal government (i.e. representatives of the MME, the Ministry of Finance, and the ANP) was created. The negotiations resulted in a revision of the Transfer of Rights Agreement that was submitted to the TCU for analysis, by recommendation of the MME.

In 2019, the amendment to the Transfer of Rights Agreement was approved by us, the TCU and the National Council for Energy Policy.

The amendment consolidates one of several scenarios discussed among the Brazilian federal government and our commissions and resulted in a credit of US\$9.058 billion in our favor, that was fully paid in December 2019. Additionally, the amendment establishes new percentages for local content: 25% for well construction; 40% for production collection and disposal system; and 25% for stationary production unit. For information related to the new taxation model for the oil and gas industry (“Repetro”) see “Legal and Tax – Tax” in this annual report.



Refining, Transportation and Marketing

Regarding oil refining, by the Resolution No. 852/2021, the ANP requires a specific notification before starting the construction of a new process unit, product treatment unit and/or ancillary unit of an oil refinery and a specific authorization for operation of each of the process units, product treatment units and ancillary units of an oil refinery (ANP Resolution No. 852/2021 replaced ANP Resolution No. 16/2010 on September 23, 2021). The oil products commercialization is subject to compliance with the specifications established by the ANP for each product (e.g. gasoline, diesel, jet fuel, liquefied petroleum gas).

The ANP requires information on import, export, production, processing, handling, transportation and transfer, storage and distribution of oil, oil products, natural gas products and shale products activities on a monthly basis.

Regarding fuel storage, the ANP, through Resolution No. 868/2022, established that information must be provided both daily and monthly by us and other agents.

Since 2013, the ANP requires oil product producers (refineries and other agents) and fuel distributors to ensure minimum inventories of gasoline and diesel. In 2015, the ANP established the same obligation for producers of LPG and jet fuel.

The ANP also requires that refineries and importers of oil products publicly release their price lists electronically (standard prices) as well as the prices for the previous 12 months, with a description of the specific commercial terms for: (i) regular and premium gasoline; (ii) diesel oil and marine diesel; (iii) jet fuel; (iv) LPG; (v) fuel oil; and (vi) asphalt.

Failure to comply with the ANP rules can lead to a range of fines and penalties, including the revocation of the authorization.

In December 2016, the Brazilian federal government launched the “*RenovaBio*” program to stimulate the production of biofuels in the local market, namely ethanol, biodiesel, biogas and biojet fuel. In June 2019, the CNPE fixed the mandatory annual reduction of carbon emission targets and the ANP established (i) the individualization of the annual mandatory greenhouse gas emission reduction targets for the commercialization of fuels (Resolution No. 791/2019) and (ii) the procedures for the primary emission of carbon emission reduction credits (Resolution No. 802/2019).

In June 2017, the CNPE established strategic guidelines for the development of the local market for fuels, other oil products and biofuels. As part of the guidelines, the MME launched the “*Abastece Brasil*” program on April 24, 2019, which aims to develop Brazil’s local fuel market, promote competition in the sector, diversification of players, new investments in refining and logistics, and combating tax evasion and adulteration of fuels.

Our oil and natural gas refining area is also subject to the preventive and stringent control of CADE.

In June 2019, we signed a commitment with CADE (*termo de cessação de conduta*) that consolidates our understanding on the divestment of refining assets in Brazil.

In October 2021, in accordance with the guidelines established by the CNPE in Resolution No. 14/2020, the ANP established the new marketing model for biodiesel acquisition to substitute the relevant bidding procedure that will be in force by January 2022 (Resolution No. 857/2021). Consequently, biodiesel producers may be sold directly to distributors in order to observe the mandatory percentage of biodiesel in diesel and there is no other regulatory requirement for us to intermediate this commercial relationship. For more information on our agreement with CADE regarding our divestments in refining assets, see “Risks – Risk Factors – Operational Risks” and “Portfolio Management” in this annual report.



Gas and Power

Natural Gas Laws

In March 2009, the Brazilian Congress enacted Law No. 11,909, or “Gas Law” which was regulated by Decree No. 7,382, enacted in December 2010.

In 2011, ANP Resolution No. 52 was enacted, which (i) establishes that the ANP is responsible for authorizing the activity of commercialization of natural gas, within the competence of the Brazilian federal government; (ii) regulates the registration of the gas seller agent; and (iii) regulates the registration of gas sales and purchase agreements. This resolution was modified in July 2019 by Resolution No. 794/2019, which requires the publication, by the ANP, of all natural gas sales and purchase agreements signed with local gas distributors to attend captive markets.

In June 2016, the MME created the program Gas to Grow, or *Gás para Crescer*, which aims to promote a competitive market environment to achieve the effective development of gas trading in Brazil, enabling the entry of new agents into the gas market.

In December 2018, Decree No. 9,616 amended Decree No. 7,382/2010 to allow the change of gas transmission system from capacity hired under the point-to-point system on long-term contracts to an entry-exit system.

In June 2019, the CNPE established guidelines for promoting competition in the natural gas market (CNPE Resolution No. 16/2019), and in July 2019, the New Gas Market program, or *Novo Mercado de Gás*, was created and Decree No. 9,934 was signed. This decree establishes a committee that monitors the implementation of the actions required for the entry of new agents into the natural gas market.

In July 2019, we signed an agreement with CADE (*termo de compromisso de cessação*), which consolidates understandings between the parties on the promotion of competition in the natural gas industry in Brazil. This agreement includes the sale of shareholdings in gas transportation and distribution companies and, among other matters, establishes measures to release capacity in gas transportation pipelines and includes our commitment to negotiate, in good faith, third party access to our processing plants. The purpose of the agreement is to preserve and protect the competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to enter this market, as well as suspending administrative procedures established by CADE to investigate our natural gas business.

In 2021, the Brazilian Congress enacted Law No. 14,134, the so-called “New Gas Law”, which revoked the Law No. 11,909 and represents a new regulatory framework for the Brazilian natural gas market, introducing relevant legal innovations.

Among other matters, the New Gas Law provides: (i) negotiated access to flow pipelines, natural gas processing units (UPGNs) and LNG Terminals; (ii) the implementation of the entry and exit model for the transport of natural gas; (iii) the change in the regime of use of transportation pipelines and storage facilities (from concession to authorization); (iv) the unbundling of the natural gas transportation and distribution segments; and (v) the change of competence to approve the import and export of natural gas (from the MME to the ANP).

In addition, the New Gas Law will ensure legal certainty for administrative rules that arose from the “New Gas Market” Program, instituted by the Brazilian federal government in mid 2019.

Also in 2021, Decree No. 10,712 / 2021 was published, which regulates the New Gas Law, and formally revokes Decree No. 7,382 and Decree No. 9,616.

In 2022 the CNPE published Resolution No. 3, establishing (i) the strategic guidelines for the new natural gas market, (ii) the improvement of energy policies related to free competition in this market, (iii) the fundamentals of the transition period, and (iv) the revocation, among others, of the CNPE Resolution No. 4/2019.



Despite the significance of the publication of the New Gas Law, we expect further action by the ANP to establish measures that will be necessary to implement most of the changes brought about by the new law. For more information on our agreement with CADE, see “Our Business – Portfolio Management” and “Risks—Risk Factors—Operational Risks” in this annual report.

Price Regulation

Until 1997, the Brazilian federal government had the power to regulate all aspects of the pricing of crude oil, oil products, ethanol, natural gas, electric power and other energy sources. In 2002, the Brazilian federal government eliminated price controls for crude oil and oil products, although it retained regulation over certain existing natural gas sales agreements and electricity agreements (specifically the electric power trade contracts in the regulated market – CCEAR).

For information on our price policy, see “Our Business – Refining, Transportation and Marketing” in this annual report.

Environmental Regulation

All phases of the crude oil and natural gas business present environmental risks and hazards. Our facilities in Brazil are subject to a wide range of federal, state and local laws, regulations and permit requirements relating to the protection of human health and the environment, and they fall under the regulatory authority of CONAMA.

Our offshore activities are subject to the administrative authority of IBAMA, which issues operating and drilling licenses. We are required to submit reports on a regular basis, including safety and pollution monitoring reports to IBAMA and third-party environmental audits in order to maintain our licenses. This way, we maintain an ongoing communication channel with the environmental authorities, in order to improve issues connected with the environmental management of our exploration, production and refining processes of oil and natural gas. In 2018, we designed actions and measures, together with IBAMA, to adjust the treatment and discharge of produced water in some of our offshore platforms in order to accommodate recently issued requirements by IBAMA. All of these actions are being met by us within the timeframes defined with IBAMA.

Costs related to these actions increased to US\$471 million. From this total amount, US\$403 million has already been spent since 2018 and US\$68 million will be used according to the progress of the realization of the contractual commitments and guidelines of IBAMA. The main ones are:

- Operational, technological or process adequacy adjustments in 28 marine production platforms for the disposal of produced water, to be framed according to the measurement method of TOG SM 5520-B;
- Hiring of third-party laboratory for TOG analysis;
- Installation of radars on eight platforms;
- Providing air and orbital monitoring;
- Vessel supply for monitoring; and
- Payment of compensatory measure.

In addition, in order to help ensuring the safety of navigation, the Brazilian maritime authority also works towards the prevention of environmental pollution, with random or periodic surveys of offshore units.

Most of the onshore environmental, health and safety conditions are controlled either at the federal or the state level depending on where our facilities are located and the type of activity under development.



However, it is also possible for these conditions to be controlled on a local basis whenever the activities generate a local impact or are established in a county conservation unit. Under Brazilian law, there is strict and joint liability for environmental damage, mechanisms for enforcement of environmental standards and licensing requirements for polluting activities.

Individuals or entities whose conduct or activities cause harm to the environment are subject to criminal, civil and administrative sanctions. Government environmental protection agencies may also impose administrative sanctions for noncompliance with environmental laws and regulations, including:

- fines;
- partial or total suspension of activities;
- requirements to fund reclamation and environmental projects;
- forfeiture or restriction of tax incentives or benefits;
- closing of establishments or operations; and
- forfeiture or suspension of participation in credit lines with official credit establishments.

Government Regulation

As a federal state-owned company, we are subject to certain rules that limit our investments, and we are required to submit our annual capital expenditures budget (*Orçamento Anual de Investimentos*, or OAI) to the ME and the MME. Following the review by these governmental authorities, the Brazilian Congress must approve our budget. Thus, there may be a reduction or change in our planned investments. As a result, we may not be able to implement all of our planned investments, including those related to the expansion and development of our oil and natural gas fields, which may adversely affect our results of operation and financial condition.

All medium and long-term debt incurred by us or our subsidiaries requires the approval of the Finance Executive Manager jointly with another Executive Manager within the parameters established by our Board of Executive Offices and the Board of Directors.

The exceptions are the issuance of public debt in the capital markets and collateralized debt obligations, which require the approval of our Board of Executive Officers, within the parameters established by our Board of Directors, and the issuance of debentures, which requires the approval of our Board of Directors.

In addition, Law No. 13,303/16 requires us to define in our Bylaws the public interest we pursue and which publicly-oriented actions we are allowed to take in the pursuit of such public interest. In order to comply with Law No. 13,303/16, we amended our Bylaws to include the definition of public interest and to state that the Brazilian federal government may orient our activities to pursue the public interest under certain circumstances, which distinguishes us from any other private company operating in the oil and gas market. See "Risks – Risk Factors – 2.a) *The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us*" in this annual report" in this annual report.

More specifically, the Brazilian federal government may guide us to take publicly-oriented obligations or responsibilities, including executing investment projects and undertaking certain operating costs, when two conditions are met: (i) the undertaking of obligations or responsibilities must be defined by law or regulation and provided for in a contract or agreement entered into with any public entity with powers to negotiate such contract or agreement; and (ii) the investment projects must have their cost and revenues broken down and disclosed in a transparent manner.



Our financial committee and our minority committee, exercising their advisory role to our Board of Directors, are in charge of evaluating whether the obligations and responsibilities undertaken by us, in connection with the pursuit of the public interest, are different from those of any other private company operating in the oil and gas market. The evaluation by our committees is based on certain technical and economic aspects of the planned investment projects and on the analysis of certain operating costs previously adopted by our management.



Material Contracts

Production-Sharing Agreements

(*Contratos de Partilha de Produção*)

First Production Sharing Agreement – First Production Sharing Bidding Round

In 2013, a consortium formed by us (with a 40% interest), Shell (with a 20% interest), Total S.A (with a 20% interest), CNODC Brasil Petróleo e Gás Ltda. (with a 10% interest) and CNOOC Petroleum Brasil Ltda. (with a 10% interest) (the “Libra Consortium”), entered into a production sharing agreement with the Brazilian federal government, which holds 41.65% of the Libra Consortium’s profit oil, the ANP, as regulator and supervisor, and PPSA, as manager (the “First Production Sharing Agreement”). Under the First Production Sharing Agreement, the Libra Consortium was awarded the rights and obligations to operate and explore a strategic pre-salt area known as Libra block, located in the ultra-deepwaters of the Santos Basin. For further information on the Production Sharing Agreement, see Exhibit 2.18 to this annual report.

Second and Third Production Sharing Agreements – Second and Third Production Sharing Bidding Rounds

In 2017, we acquired, in partnership with other international oil companies, three offshore blocks in the second and third bidding rounds under the production sharing system held by the ANP. We are the operator of these blocks (“Second and Third Production Sharing Agreements”). In January 2018, together with our partners, the ANP, PPSA and the Brazilian federal government, we signed the Second and Third Production Sharing Agreements for exploration and production of oil and natural gas.

Under the production sharing system, the consortium submits to the government a percentage of the so-called “surplus in oil profit for the Brazilian federal government,” which is applied to revenue discounted of the production costs and royalties. The only criteria adopted by the ANP to define the winning bidder was the amount of profit oil to the Brazilian federal government, since the bidding rules provided for the fixed value of the signing bonus, the minimum exploratory program and the local content commitments.

The following table summarizes the blocks we acquired, in partnership, in the second and third bidding rounds as part of the production sharing system:

Area	Consortium composition	Petrobras Bonus (R\$ million)	Surplus in profit oil (%)
Entorno de Sapinhoá	Petrobras (45%) Shell (30%) Repsol Sinopec (25%)	90	80.00
Peroba	Petrobras (40%) BP (40%) CNODC (20%)	800	76.96
Alto de Cabo Frio Central	Petrobras (50%) BP (50%)	250	75.86



Fourth and Fifth Production Sharing Agreements – Fourth and Fifth Production Sharing Bidding Rounds

On June 7, 2018, we acquired, together with other international companies, three offshore blocks: (i) Dois Irmãos, (ii) Três Marias and (iii) Uirapuru (“Fourth Production Sharing Agreements”) and, together with the First Production Sharing Agreement and the Second and Third Production Sharing Agreements, the “Production Sharing Agreements”). We will be the operator of these three additional blocks under the production sharing regime. According to the regime, the consortium submits to the Brazilian federal government a percentage of the “surplus in oil profit for the Brazilian federal government.” Again, the only criteria adopted by the ANP to define the winning bidder was the amount of oil profit to the Brazilian federal government.

The bidding rules established the fixed value of the signing bonus, the minimum exploratory program, and the local content commitments.

On September 28, 2018, we acquired the block Sudoeste de Tartaruga Verde under the production sharing regime and, as a result, we will be the operator of the corresponding agreement.

Sixth Production Sharing Agreement and First Transfer of Rights Surplus Production Sharing Agreements – Sixth Production Sharing Bidding Round and First ToR Surplus Production Sharing Bidding Rounds

On November 6, 2019, we acquired, together with other international companies, the Búzios block, and with 100% of participation, the Itapu block.

On November 7, 2019, we acquired, together with another international company, the Aram block, and we will be the operator of such block.

The resulting three production-sharing agreements were all signed on March 30, 2020. We will be the operator of these blocks under the production-sharing regime. According to the relevant production-sharing agreements, the appointed operator, on behalf of the parties, offers to the Brazilian federal government a percentage of the surplus in oil profit. The only criteria adopted by the ANP to define the winning bidder was the amount of oil profit to the Brazilian federal government, since the bidding rules provided for the fixed value of the signing bonus, the compensation, the minimum exploratory program and the local content commitments.

Second ToR Surplus Production Sharing Bidding Round

On December 17, 2021, we acquired, together with other international companies, the exploration and production rights over the surplus volumes in the Atapu and Sépia blocks. The production-sharing agreements were signed on April, 27 2022 and we will be the operator of these blocks under the production-sharing regime.

According to the relevant production-sharing agreements, the appointed operator, on behalf of the parties, offers to the Brazilian federal government a percentage of the surplus in oil profit. The only criteria adopted by the ANP to define the winning bidder was the amount of oil profit to the Brazilian federal government, since the bidding rules provided for the fixed value of the signing bonus, the minimum exploratory program and the local content commitments.

**Basic Terms:**

Operating committee. The Production Sharing Agreement Consortia are managed by an operating committee in which we, our partners and PPSA all participate. PPSA represents the interests of the Brazilian federal government and although it will not invest in the blocks, Pré-Sal Petróleo S.A. (“PPSA”) holds 50% of the operating committee voting rights and also has a casting vote and veto powers, as defined in the Production Sharing Agreements.

Risks, Costs and Compensation. All exploration, development and production activities under the Production Sharing Agreements will be conducted at the expense and risk of the members of the consortium. For commercial discoveries of crude oil and/or natural gas in the blocks, the consortium will be entitled to recover, on a monthly basis, (i) a portion of the production of oil and gas in the block corresponding to its royalty expenses and (ii) the “cost oil” corresponding to costs incurred (which is the amount associated with capital expenditures incurred and operating costs of the consortium’s exploration and production activities), subject to the conditions, proportions and terms set forth in the Production Sharing Agreements. In addition, for each commercial discovery, the consortia are entitled to receive, on a monthly basis, their share of “profit oil” as defined under the Production Sharing Agreements.

Duration:

The term of the Production Sharing Agreements is 35 years.

Phases:

Our activities under the Production Sharing Agreements are divided into two phases, as follows:

Exploration phase. This phase comprises appraisal activities for purposes of determining the commerciality of any discoveries of crude oil and natural gas. The exploration phase begins upon the execution of the Production Sharing Agreements and will end for each discovery upon the declaration of commerciality. We will have four years (which may be extended upon the ANP’s prior approval) to comply with the minimum work program and other ANP-approved activities provided for in the Production Sharing Agreements.

Production Phase. The production phase for each particular discovery begins as of the date of the declaration of commerciality by the consortia to the ANP, and lasts until the termination of the Production Sharing Agreements. It comprises a development period, during which we will carry out activities pursuant to a development plan approved by the ANP.

Minimum Work Program:

During the exploration phase, we are required to undertake a minimum work program, as specified in the Production Sharing Agreements. We may perform other activities outside the scope of the minimum work program, provided that such activities are approved by the ANP.

Unitization:

A reservoir covered by a block granted to us in the Production Sharing Agreements may extend to adjacent areas outside the block. In such case, we must notify the ANP immediately after identifying the extension and we will be prevented from performing development and production activities within such block, until we have negotiated unitization agreement with the third-party concessionaire or contractor who has rights over such adjacent area, unless otherwise authorized by the ANP. The ANP will determine the deadline for the execution of unitization agreement by the parties. If the adjacent area is not licensed (i.e., not granted for E&P activities to any other party), the Brazilian federal government, represented by PPSA or by the ANP, shall negotiate with us.



If the parties are unable to reach an agreement within a deadline established by the ANP, the ANP will determine the terms and obligations related to such unitization, on the basis of an expert report, and will also notify us and the third-party or the Brazilian federal government representative, as applicable, of such determination. Until the unitization agreement is approved by the ANP, operations for the development and production of such reservoir must remain suspended, unless otherwise authorized by the ANP. The refusal of any party to execute the unitization agreement will result in the termination of the Production Sharing Agreements and the return to the Brazilian federal government of the area subject to the unitization process.

Environmental:

We are required to preserve the environment and protect the ecosystem in the area subject to the Production Sharing Agreements and to avoid harming local fauna, flora and natural resources. We will be liable for damages to the environment resulting from our operations, including costs related to any remediation measures.

Brazilian Content:

The Production Sharing Agreements specify certain equipment, goods and services, as well as different levels of required local content, in accordance with the different phases under the Production Sharing Agreements. If we fail to comply with the Brazilian content obligations, we may be subject to fines imposed by the ANP.

The original Libra Production Sharing Agreement (“Production Sharing Bidding Round One”) gave the Libra consortium the right to waive the local content obligations in terms of technology, price and schedule. This right was used once, and the ANP conceded waiver to the hull items and certain items of the process plants. By Resolution No. 726/2018, the ANP gave the Libra consortium the possibility of changing the local content requirements to lower levels, but the possibility of waiver was excluded.

On the Production Sharing Bidding Round Two, the fields bid on had the same local content requirements of their adjacent fields contracts, according to the CNPE Resolution No. 7/2017. Such resolution established new local content levels for the Production Sharing Agreements, and the Bidding Rounds Three, Four, Five and Six used those levels.

Royalties and Expenses with Research and Development:

Once we begin production in each field, members of the consortia (other than PPSA) will be required to pay monthly royalties of 15% of the oil and natural gas production, to be recovered from a portion of the production of oil and gas in the block. All members of the consortia (other than PPSA) will also be required to invest 1.0% of their annual gross revenues from crude oil and natural gas production under the Production Sharing Agreements in research and development activities related to the oil, gas and biofuel sectors.

Miscellaneous Provisions:

Under the Brazilian production-sharing regime, we can assign our rights and obligations inherent to our participation above 30% in the areas in which we exercised our preemptive right to be the operator.

All members of the consortia (other than PPSA) have a right of first refusal with respect to an assignment of rights and obligations by any other member of the consortium (other than PPSA).

The Production Sharing Agreements shall be terminated in the following circumstances: (i) the expiration of their terms; (ii) if the minimum work program has not been completed by the end of the exploration phase; (iii) if there has not been any commercial discovery by the end of the exploration phase; (iv) if the consortium members (other than PPSA) exercise their withdrawal rights during the exploration phase; (v) if



the consortium refuses to execute a unitization agreement after the ANP makes such determination (which termination may be complete or partial) and (vi) any other basis for termination described in the Production Sharing Agreements.

Any breach of the Production Sharing Agreements or of any regulations issued by the ANP may result in sanctions and fines imposed by the ANP on the relevant party, in accordance with applicable legislation and the terms of the Production Sharing Agreements. If any breach of the Production Sharing Agreements is considered by the Brazilian federal government not to be significant, intentional, or a result of negligence, imprudence or recklessness, or it is proved that the consortium has worked diligently to cure such breach, the Brazilian federal government may, instead of terminating the Production Sharing Agreements, propose that the ANP apply designated sanctions on the relevant parties.

We and other consortium members will use our best efforts to settle any disputes. If we are unable to do so, any consortium member may submit such dispute or controversy to an ad hoc arbitration following the rules established by the UNCITRAL, or by the consent of the parties in interest, to the ICC, or any other well-regarded arbitration chamber. If a dispute involves only public administration entities, it may be submitted to conciliation service of the *Câmara de Conciliação e Arbitragem da Administração Federal*, or CCAF, under the AGU. In the event of a dispute involving non-negotiable rights, the parties shall submit the dispute to the federal courts in Brasília, Brazil.

The Production Sharing Agreements are governed by Brazilian law.

Amendment to the Transfer of Rights Agreement

The Transfer of Rights Agreement was executed in 2010. Its amendment was approved in 2019 by the TCU and the CNPE and our governing bodies.

The parties involved discussed several scenarios about the revision of the original agreement, as both of them could be simultaneously creditor and/or debtor. The amendment consolidates one such scenario, resulting in a credit of US\$9,058 billion in our favor, which was fully paid in December 2019.

In addition to such credit, the main changes as a result of the amendment to the Transfer of Rights Agreement were (i) the local content clauses that lowered the local content requirements for the production phase (development and production stages) and (ii) the dispute resolution provisions that became similar to the provisions of the Production Sharing Agreements of the latest ANP bid rounds.

For more information concerning our other material contracts, see “Our Business” and “Operating and Financial Review and Prospects” in this annual report.



Legal Proceedings

We are currently party to numerous legal proceedings relating to civil, administrative, tax, labor, criminal, environmental and corporate issues arising in the normal course of our business. These proceedings involve claims for substantial amounts of money and other remedies. Several individual disputes account for a significant part of the total amount of claims against us. Our audited consolidated financial statements only include provisions for probable and reasonably estimable losses and expenses we may incur in connection with pending proceedings.

Some of our main legal proceedings are listed below.

Lava Jato Investigation

In 2009, the Brazilian federal police began an investigation aimed at criminal organizations engaged in money laundering in several Brazilian states, known as Operation “Car Wash” (“Lava Jato”). The Lava Jato investigation is extremely broad and comprises numerous investigations into several criminal practices, spanning crimes and conduct committed by individuals in different parts of the country and different sectors of the Brazilian economy. In 2014, Lava Jato started to focus part of its investigation on irregularities involving our contractors and suppliers and uncovered a broad payment scheme that involved a wide range of participants, including our former personnel. It is possible that further information damaging us and our interests will come to light in the course of the ongoing investigations of corruption by Brazilian authorities.

We are not a target of the Lava Jato investigation and we are formally recognized, by the Brazilian authorities, as a victim of the improper payments scheme. We will continue to pursue legal measures against companies and individuals, including former employees and politicians, who have caused financial and image damages to us. We have been working together with the Brazilian Federal Prosecutor’s Office, the Brazilian federal police, the Federal Revenue Services and other competent authorities since the beginning of the investigation. The total amount of restitution paid to us since the beginning of Lava Jato through December 31, 2022 was US\$1.618 billion (most recently, US\$96 million, US\$235 million and US\$155 million in 2022, 2021 and 2020, respectively).

In 2021, the Brazilian Supreme Court started to decide cases brought by criminal defendants in Lava Jato proceedings aimed at nullifying criminal convictions relating to the investigation. These cases are still in progress and their outcomes may affect our interests.

For further information regarding Lava Jato and its impacts on us, see “Risks–Risk Factors—We may face additional proceedings related to the Lava Jato investigation” and Note 21 to our audited consolidated financial statements.

Investigations Carried out by Authorities

Brazil: Prosecutor’s Office

In 2015, the state of São Paulo Prosecutor’s Office established a civil proceeding to investigate the existence of potential damages caused by us to investors listed in the Brazilian stock market. However, the Brazilian Federal Prosecutor’s Office assessed this civil proceeding and determined that the São Paulo Public Prosecutor’s Office has no authority over this matter, which must be presided over by the Brazilian Federal Prosecutor’s Office. We have provided all relevant information required by the authorities. In May 2022, we became aware that this classified civil proceeding was dismissed in February 2021.



Investor Claims

Netherlands: Collective action in the Netherlands

On January 23, 2017, the Stichting Petrobras Compensation Foundation (“Foundation”) filed an action before the district court in Rotterdam, in the Netherlands, against us and our subsidiaries Petrobras International Braspetro B.V. (PIBBV), Petrobras Global Finance B.V. (PGF BV), our former joint venture PO&G Petrobras Oil & Gas B.V. (PO&G) and some of our former officers.

The Foundation allegedly represents the interests of an unidentified group of investors and alleges that, based on the facts uncovered by the Lava Jato investigation, the defendants acted unlawfully towards investors. Based on the allegations, the Foundation seeks declaratory relief rulings from the Dutch court.

On May 26, 2021, after a number of prior interim judgments in which the Court accepted jurisdiction over most of the seven claims of the Foundation, the Court decided that the collective action shall continue and that the arbitration clause of our bylaws does not bar our shareholders from access to the Dutch courts and that the Foundation can represent the interests of these shareholders. Notwithstanding the foregoing, the Court decided that our investors who have commenced arbitration proceedings, as well as our investors who have commenced proceedings in which the independent public court has ruled by final decision that they are bound by the arbitration clause, are excluded from the collective action.

In 2021 and 2022, the parties presented their written submissions regarding the merits of the case. The Court scheduled hearings for the oral arguments, which occurred on January 17 and 24, 2023. At these hearings, the Court did not provide any indication of the contents of its forthcoming decision on the merits yet. We, along with other defendants filed an additional court brief on February 22, 2023, after which the court aims to render judgment on July 26, 2023. Such deadlines are indicative that the decision may be postponed or perhaps rendered earlier.

This collective action involves complex issues that are subject to substantial uncertainties and depend on a number of factors such as the scope of the arbitration clause in our bylaws, jurisdiction of the Dutch courts, the scope of the United States Class Settlement, the standing of the Foundation as the alleged representative of the investors' interests, the various applicable laws to this complaint, the information produced during the evidentiary phase of the proceedings, analysis by experts, the timing of court decisions and rulings by the court on key issues, possible appeal and Supreme Court appeal proceedings, and the fact that the Foundation only seeks declaratory relief in this collective action. Currently, it is not possible to determine if we will be found responsible for the payment of compensation in subsequent individual complaints after this action as this assessment depends on the outcome of these complex issues. Moreover, it is uncertain which investors will be able to file subsequent individual complaints related to this matter against us.

In addition, the allegations asserted are broad, span a multi-year period and involve a wide range of activities, and, at the current stage, the impacts of such allegations are highly uncertain. The uncertainties inherent in all such matters affect the amount and timing of the ultimate resolution of these actions. As a result, we are unable to make a reliable estimate of eventual loss arising from this action. We are a victim of the corruption scheme uncovered by the Lava Jato investigation and aim to prove this before the Dutch Court.

The uncertainties inherent in all such matters do not enable us to make a reliable estimate of an eventual loss arising from this action. Compensation for the alleged damages will only be determined by court rulings on complaints to be filed by individual investors. The Foundation is not able to demand compensation for damages.

We deny the allegations presented by the Foundation and will continue to defend ourselves vigorously.



Other Related Investor Claims

Arbitration in Brazil

We are also currently a party to seven arbitration proceedings brought by Brazilian and foreign investors that purchased our shares traded on the B3, alleging financial losses caused by facts uncovered in Lava Jato.

Due to substantial uncertainties inherent to these kinds of proceedings and the highly uncertain impacts of such allegations, it is not possible for us to identify possible risks related to this action and to produce a reliable estimate of eventual loss.

Depending on the outcome of these claims, we may have to pay substantial amounts, which may have a significant effect on our financial condition.

Most of these arbitrations are far from a definitive judgment by the respective arbitral tribunals. However, in one of the arbitrations, proposed by two institutional investors, on May 26, 2020, a partial arbitration award has been issued. The partial award indicates our liability, but does not determine our payment of amounts, nor does it end the procedure. This arbitration is confidential, as well as the others in progress, and the partial award represents only the position of the three arbitrators of such arbitration panel and it is not extendable to the other existing arbitrations. On July 20, 2020, we filed a lawsuit for the annulment of this partial arbitration award, considering our view that it contains serious flaws and improprieties. On November 10, 2020, the first level judge of Rio de Janeiro state court declared the partial award null. The appeals against this decision are pending. In compliance with CAM rules, the lawsuit is confidential. We reiterate that we will continue to defend ourselves vigorously, out of respect for our current shareholders, in all arbitrations to which we are a party.

Arbitration in Argentina

In 2018, we were served with an arbitral claim filed by Consumidores Financieros Asociación Civil para su Defensa, currently named Consumidores Damnificados Asociación Civil, (the "Association") against us and other individuals and legal entities, before the "Tribunal de Arbitraje General de la Bolsa de Comercio de Buenos Aires" ("Arbitral Tribunal").

Among other issues, the Association alleged our liability for a supposed loss of market value of our shares in Argentina, due to proceedings related to Lava Jato.

In June 2019, the Arbitral Tribunal decided that the arbitral claim should be considered withdrawn due to the lack of payment of the arbitral fee by the Association. The Association has filed appeals that were rejected by the court of appeals on November 20, 2019. The Association has appealed to the Argentinian Supreme Court, and a final decision is still pending.

Criminal Actions in Argentina

We were accused of these two criminal actions in Argentina, as described below:

- Criminal action alleging non-compliance by us with the obligation to publish as "relevant fact" in the Argentine market the existence of a class action claim filed by the Association, before the Judicial Commercial Courts (Judicial Commercial Claim), pursuant to provisions of Argentine capital market law. It is worth mentioning that the Judicial Commercial Claim had never been served to us. On March 4, 2021, the court (Room A of the Economic Criminal Chamber) decided that this criminal action should be transferred from the Criminal Economic Court No. 3 of the city of Buenos Aires to the Criminal Economic Court No. 2 of the same city. We have filed procedural defenses before the criminal court and some of them are still pending.



- Criminal action alleging fraudulent offer of securities aggravated by allegedly having stated false data in our financial statements issued in 2015. We have filed preliminary defense on the merits, which has not yet been considered by the judge, in addition to procedural defenses that are currently the subject of appeals in the appellate courts of the Argentine Justice. On October 21, 2021, after an appeal by the Association, the Court of Appeals revoked the lower court decision that had recognized our immunity from jurisdiction and recommended that the lower court take steps to certify whether we could be considered criminally immune in Argentina for further reassessment of the issue. We appealed this decision before the Court of Cassation, and our appeal was denied. After the lower court denied our immunity from jurisdiction, we appealed to the Court. On December 27, 2022, the Court again considered the first instance decision to be premature, determining that a third decision be issued, which is still pending as of the date of this annual report. On another procedural front, on September 14, 2022, the decision that had recognized that the Association could not act as a representative of financial consumers was reformed by the Court of Cassation after an appeal by the Association. On November 2, 2022, we have filed an appeal against this decision before the Argentine Supreme Court, which is still pending judgment. This criminal action is pending before the Criminal Economic Court No. 2 of the city of Buenos Aires.

Sete Brasil's Investor Claim and Mediation Procedure

We are currently a party to a lawsuit in the District Court for the District of Columbia in Washington, D.C. (the "D.C. District Court") filed by EIG in 2016, concerning its indirect purchase of equity interests in Sete Brasil, a company created in order to build rigs with high local content. In this proceeding, EIG alleges that we induced investors to invest in Sete Brasil and that we were among the parties responsible for the financial crisis of Sete Brasil, which filed judicial recovery proceedings ("*recuperação judicial*"), in Brazil.

The D.C. District Court denied our motion to dismiss on various grounds including sovereign immunity and ruled that the claims could proceed to discovery, which is the exchange of legal information and known facts of a case between the parties. During 2020 and 2021, the parties engaged in extensive fact and expert Discovery, and filed motions for summary judgment.

On August 8, 2022, the D.C. District Court issued a ruling holding us liable for the plaintiffs' claims but denied the plaintiffs' summary judgment motion with respect to damages, and any award of damages on these claims will have to be proven by EIG at trial. In the same ruling, the D.C. District Court denied our motion for summary judgment to dismiss all of the plaintiffs' claims due to our immunity from jurisdiction and deferred ruling on two procedural issues. On August 18, 2022, we filed a notice of appeal to inform the Court that we intend to appeal the denial of our motion to dismiss.

On August 26, 2022, we requested a stay of the lawsuit until the judgment of the aforementioned appeal, and the stay was granted by the judge on October 26, 2022.

On August 26, 2022, EIG attached certain of our assets in the Netherlands. Leave to make such pre-judgment attachments was granted by the Amsterdam District Court on a summary judgment basis and serves to guarantee the satisfaction of EIG's claims in the aforementioned U.S. proceedings. For the sole purpose of granting leave to make these attachments, the Amsterdam District Court estimated the claims of EIG at US\$297.2 million in total, although the D.C. District Court ruled that any award of damages on these claims will have to be proven by EIG at trial as set out above. There is some debate on the scope of assets attached by EIG but there are no pending proceedings by EIG in the Netherlands. Such pre-judgment attachments do not prevent us and our Dutch subsidiaries from fulfilling obligations towards third parties.

We were also a party to arbitrations in Brazil filed by investors of Sete Brasil, which concluded in 2020 when a favorable arbitration award was granted to us. On April 1, 2020, July 29, 2020, and on December 17, 2020, we disclosed the settlement of three other arbitrations related to the investment in Sete Brasil.



In addition, as result of an extrajudicial mediation initiated in 2017 in Brazil, in 2019 our Board of Directors approved the final terms of an agreement to be executed between us and Sete Brasil, the key terms of which include: (i) maintenance of charter and operation contracts referring to four drilling rigs, with termination of signed contracts in relation to the other twenty-four drilling rigs; (ii) the contracts shall have effect for ten years, with a daily rate of US\$299 thousand, including the chartering and operation of the units; (iii) and our removal and the removal of our subsidiaries from the shareholding structure of the companies of Grupo Sete Brasil and FIP Sondagens until we no longer hold any shares in such company; and (iv) the resulting dissolution of all other contracts that are not compatible with the terms of the agreement. Magni Partners shall charter the rigs to us and the rigs shall be operated by Etesco.

In 2020, the settlement agreement was executed by PNBV, Sete Brasil, other group companies and us, however Sete Brasil notified us in late January 2021 that certain required conditions would not be fulfilled prior to the deadline of January 31, 2021. As a result, our Executive Board authorized the beginning of a new negotiation with Sete Brasil, which is still ongoing.

We no longer hold any direct or indirect equity in the companies of the Sete Brasil Group.

Other Legal proceedings

Legal Proceedings and Preliminary Procedure on TCU – Divestments

There are some judicial proceedings (mainly civil suits), which allege a supposed lack of publicity and competitiveness in our proceedings, and in some cases the purchase price, for the sale of participation shares in controlled companies and assets, such as exploration and production rights in oil & gas fields (“Divestment Bids”). Some bids were suspended due to injunctions granted under preliminary analysis, which were reversed after we presented our statement of defense and/or appeals. Although the aforementioned court proceedings are still pending on the final awards, there is no injunction preventing any Divestment Bid.

There are constitutional actions filed before the Brazilian Supreme Court challenging the constitutionality of the Decree No. 9,188/2017, which sets forth rules for divestment of assets and controlled affiliates by federal mixed-capital corporations, including us. Due to the preliminary injunction granted on June 27, 2018 by the Supreme Court’s Minister Ricardo Lewandowski in Direct Unconstitutionality Action – ADI 5624 MC/DF, which presumably could affect its Divestments, we have suspended some sales, according to the press release dated July 3, 2018. On June 6, 2019, the court partially revised the injunction to the extent that state-owned companies are allowed to sell their corporate control in affiliates’ companies provided that such state-owned companies were granted a general authorization to do so by their law of incorporation and that the sale process is competitive and executed in accordance with the constitutional principles applicable to the public administration, pursuant to Federal Decree No. 9,188/2017. Hence, we may seek the divestment of assets and controlled affiliates, without any constraint. Another constitutional action (Direct Unconstitutionality Action 5841), with the same purpose, was filed and the Brazilian Supreme Court has denied the injunction in virtual sessions held in December 2020. As of December 2021, the final decision of both constitutional procedures are still pending.

Also, there is a Direct Unconstitutionality Action filed against Federal Decree No. 9,355/18 (“Federal Decree”) that aims at the immediate suspension of its effects and a declaration of unconstitutionality for allegedly disregarding the provisions of articles 28 to 84 of Law No. 13,303/16 and the principles of legality, morality, impersonality and efficiency (Direct Unconstitutionality Action – ADI -5942).

On December 19, 2018, a preliminary injunction was granted to suspend the effectiveness of the Federal Decree and order us to follow the rules of Law No. 13,303/16 in relation to the procedures for the assignment of exploration and production rights in Brazil (“Decision”). On January 11, 2019, the President of the Supreme Court granted a preliminary injunction to suspend the effects of the Decision until the judgment by the plenary of the court, which occurred in virtual sessions in October, 2020. The court has ruled the claim groundless by a decision published in the Federal Official Gazette on February 8, 2021.



With respect to TCU, all projects included in our divestment portfolio (excluding partnerships and acquisitions, subject to another set of rules) follow the methodology deemed appropriate by TCU under administrative procedure TC-013.056/2016 -6. Our divestment process methodology was reviewed and forwarded to TCU under administrative procedure TC-009.508/2019-8. The most up-to-date methodology took effect on August 12, 2021.

Labor Proceedings

RMNR

There are a number of lawsuits relating to Minimum Compensation per Level and Working Regime (“RMNR”) with the purpose to review its calculating criteria.

The RMNR consists of a minimum compensation guaranteed to the workforce, based on the salary level, the work regime and condition and the geographic location. This compensation policy was created and implemented in 2007 as a result of collective bargaining with union representatives and approval in employee assemblies, and it was only challenged three years after its implementation. The matter at dispute is whether to include additional working arrangements and special working conditions as a complement to RMNR.

In 2018, the Brazilian Superior Labor Court (“TST”) ruled against us and we filed an appeal against its decision. The Brazilian Supreme Court (“STF”) suspended the effects of the decision issued by the TST and called for the national suspension of the ongoing proceedings relating to RMNR.

In 2021, the Justice Rapporteur of STF recognized the validity of the collective bargaining agreement freely entered into between us and the unions, reversing the Superior Labor Court decision. An appeal was filed against Reporting Justice’s decision.

The judgment of the appeals filed by the plaintiff and by several *amici curiae* against the decision of the Justice Rapporteur is in progress at the first chamber of STF, formed by five Justices. To date, three Justices deliberated in our favor, one Justice recused himself from the case and one Justice requested to see the case records. Judgment of this appeal is therefore still pending.

Applicable rate

Since several judges were considering the application of the rate provided for by the law (“*Taxa Referencial*”) to be unconstitutional, the matter was referred to the STF. In December 2020, the STF decided that, in labor litigation, the IPCA-E rate should be applied up until the date that the process is initiated, and the SELIC rate should be applied as of the date that the process has been initiated. The effect on our largest provisions, including RMNR provisions, is already taken into account in our results.

Unification of Fields

We filed four arbitrations under the ICC administration challenging the ANP’s decision to unify our unconnected oil fields (Parque das Baleias, Tupi and Cernambi; Baúna and Piracaba; Tartaruga Verde and Tartaruga Mestiça). The Parque das Baleias arbitration was terminated by means of an agreement executed by the parties.

In the case of the Tartaruga Mestiça and Tartaruga Verde arbitration, the arbitral tribunal recognized its competence to decide on the unification of such fields. The ANP filed a lawsuit in order to annul the arbitral award, and, the Federal Court of Rio de Janeiro has allowed the arbitration to continue until the hearing.

In relation to the Baúna and Piracaba arbitration, a judicial injunction is keeping it suspended. We filed an appeal in the Brazilian Superior Court (“STJ”).



In addition, the BM-S-11 consortium, formed with Shell and Petrogal, of which we are the operator, challenged the ANP's decision on unifying Tupi and Cernambi fields. The arbitration remains suspended due to a judicial injunction. Currently, the Brazilian Superior Court will decide which court (the state court or arbitral tribunal) should decide the merits of the case.

Petros

Since 2013, lawsuits classified as "Petros Class Actions" were filed by unions and associations related to Fundação Petrobrás de Seguridade Social (Petros), whereby we are being sued to contribute directly to the pension plan scheme, suspension of the balancing plan (*plano de equacionamento*), payment of increased benefits to participants and beneficiaries, payment of all actuarial and financial insufficiencies of the plan and estimated economic value of the participants in solving the entity's accumulated deficits based on allegation of fraud and mismanagement of Petros.

There are also lawsuits filed by Petros against us, requesting payment of contributions for a reinstated employee, payment of employer contributions for increased judicial benefits and payment of amounts to restore the mathematical reserve. We filed a lawsuit against PETROS to obtain the reimbursement of amounts paid by us as a consequence of judicial rulings according to which PETROBRAS and PETROS would have a joint and several liability and we also filed an action for accounting due to agreements (*Convênio PETROBRAS x PETROS – 1984 e Convênio PETROBRAS x PETROS – 1986*) signed by us and PETROS.

There are no final decisions on the aforementioned proceedings as of the date of this annual report.

Natural Gas Distributors

Since December 2021, we were sued by some natural gas distributors and/or public entities. The requests in the lawsuit seek the extension of the terms of natural gas supply contracts that would have expired in December 2021. Since the prices of natural gas showed a large increase in the last months of 2021, we offered to the natural gas distributors proposals for new contracts with prices aligned with the current natural gas market. However, some natural gas distributors and/or public entities intend to avoid the adjusted prices alleging that we abused our economic power. In some cases, judges granted the injunction to maintain the previous contracts' prices. We are seeking the reversal of such decisions in the Brazilian Courts. In addition, since the parties had agreed to resolve the disputes by arbitration, we filed arbitration proceedings, which are all confidential. Three cases were settled by means of agreements signed by us and three natural gas distributors.

Environmental

Since 2000, we are party to one public civil action regarding the OSPAR pipeline, related to the obligation to compensate damages and alleged moral damages resulting from the environmental accident that occurred in the state of Paraná in July 2000. In October 2021, we signed an agreement ("*acordo judicial*") to terminate our obligation to pay the damages mentioned above. The agreement has been signed with the Federal Prosecutor's Office, the state of Paraná Prosecutor's Office, the state of Paraná, Brazilian Institute of the Environment and Renewable Natural Resources ("IBAMA"), the state of Paraná Environmental Agency (Instituto Água e Terra - IAT) and Araucária County. The payment of the agreement was completed in July 2022. The judicial procedures follow only to discuss lawyer's fees.

There were also fines issued by IBAMA as a result of the leak of the OSPAR oil pipeline in Paraná in July 2000. After the administrative process, there was a court proceeding, and the current decision was unfavorable to us. We appealed and decision on our appeal to the Superior Courts is pending.

For further information on our material legal proceedings, see Note 18 to our audited consolidated financial statements.



Tax Proceedings

We are currently party to legal proceedings relating to tax claims. For further information on our material tax proceedings, see Note 18 to our audited consolidated financial statements.



Tax

Tax Strategy and Effect of Taxes on Our Income

In January 2023, our Board of Directors approved a Tax Policy, in line with the continuous improvement of our governance. The Tax Policy's guideline aims to comply with the tax legislation of Brazil and of the countries where we operate, defining our strategy based on the technical interpretation of the rules, standards and processes, aligned with our business and tax risk management. We assume the commitment of not holding equity interests in low-tax jurisdictions, as well as observing the transfer pricing rules provided for in Brazil and in the countries where we operate, in relation to all transactions with related or unrelated parties, when required by law.

For further information regarding our Tax Policy, please visit our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.

Our tax strategy outlines the compliance with tax laws of Brazil and other countries, where we operate as a corporation that influences the economic and social environment of which we are part. We also aim at engaging with tax authorities in an ethical and transparent manner. Considering that we are the biggest taxpayers in Brazil, our engagement with tax authorities may result in various effects on tax collection at the federal, state and municipal levels, as well as production taxes under the ANP.

We are subject to tax on our income at a Brazilian statutory corporate rate of 34%, comprising of a 25% rate of income tax and a social contribution tax at a 9% rate. Since 2015, we have been recognizing the accounting results of our foreign subsidiaries for Brazilian income tax purposes based on Brazilian statutory corporate rates as established by Law No. 12,973/2014.

We follow the transfer pricing rules in transactions involving related parties in the countries that we perform our activities.

In addition to taxes paid on behalf of consumers to the Brazilian federal government, as well as state and municipal governments, such as the value-added tax (*Imposto sobre Circulação de Mercadorias e Serviços*, or "ICMS"), we are required to pay three main charges on our oil production activities in Brazil under the scope of the ANP: (i) royalties, (ii) special participation and (iii) retention bonuses. See "Taxation under Concession Regime for Oil and Gas" below and "Risk Factors – 2.a) The Brazilian federal government as our controlling shareholder, may pursue certain macroeconomic and social objectives through us, that may have a material adverse effect on us" in this annual report. These charges imposed by the Brazilian federal government are included in our cost of sales.

Changes to the corporate income tax laws in certain countries that occurred in 2022 may impact our activities and results. As a reference, we perform our activities through the implementation of Pillar II in target-countries that follow the OECD Guidelines (such as USA, the Netherlands, and Spain). In the case of the United States, the Inflation Reduction Act of 2022 introduced a corporate alternative minimum tax of 15% of the "adjusted financial statement income" effective for tax years beginning in 2023. In both Pillar II and CAMT, the countries are seeking a minimum effective tax rate of 15% on the profits generated. In Brazil, we emphasize the recent changes in the transfer price legislation brought by the Provisional Executive Order No. 1,152, published on December 29, 2022, which must be converted into Law within 120 calendar days from the publication date to become effective.

For further information regarding our tax collection disclosed in our Tax Report, please visit our website at www.petrobras.com.br/ir. The information available on our website is not and shall not be deemed to be incorporated by reference to this annual report.



Taxation under Concession Regime for Oil and Gas

According to Law No. 9,478/1997 and under our concession agreements for exploration and production activities with the ANP, we are required to pay the government the following:

- Signing bonuses paid upon the execution of the concession agreement, which are based on the amount of the winning bid, subject to the minimum signing bonuses published in the relevant bidding guidelines (*edital de licitação*);
- Annual retention bonuses for the occupation or retention of areas available for exploration and production, at a rate established by the ANP in the relevant bidding guidelines based on the size, location and geological characteristics of the concession block;
- Special participation charges at a rate ranging from zero to 40% of the net income derived from the production of fields that reach high production volumes or profitability, according to the criteria established in the applicable legislation. Net revenues are gross revenues, based on reference prices for crude oil or natural gas established by Decree No. 2,705 and ANP regulatory acts, less royalties paid, investments in exploration, operational costs and depreciation adjustments and applicable taxes. In 2022, we paid this government take on 15 of our fields, namely Barracuda, Jubarte, Leste do Urucu, Marlim Leste, Marlim Sul, Mexilhão, Rio Urucu, Roncador, Sapinhoá, Tartaruga Verde, Albacora Leste, Tupi and Berbigão; and
- Royalties to be established in the concession contracts at a rate ranging between 5% and 10% of gross revenues from production, based on reference prices for crude oil or natural gas established in its regulatory acts. In establishing royalty rates in the concession contracts, the ANP also takes into consideration the geological risks and expected productivity levels for each concession. Most of our crude oil production is currently paid at the maximum royalty rate.

Law No. 9,478/1997 also requires concessionaires of onshore fields to pay to the owner of the land a participation fee that varies between 0.5% and 1.0% of the sales revenues derived from the production of the field.

Taxation Model for the Oil and Gas Industry (Repetro-SPED)

On December 28, 2017, the Brazilian federal government enacted Law No. 13,586, which outlined a new taxation model for the oil and gas industry and, along with the Decree No. 9,128/2017, established a new special regime for exploration, development and production of oil, gas and other liquid hydrocarbons named Repetro-Sped, which will expire in December 2040.

This regime provides for the continuation of total tax relief over goods imported with temporary permanence in Brazil, as previously established by the former Repetro (special customs regime for the export and import of goods designated to exploration and production of oil and natural gas reserves), and adds this relief to goods permanently held in Brazil. This benefit allowed for the migration of all the goods acquired in the former Repetro to the Repetro-Sped.

In 2018, we started to transfer the ownership of oil and gas assets under this regime from our foreign subsidiaries to our parent company and the joint ventures (consortia) in Brazil. The transfer was completed in 2020.

In addition, the legislation prescribes the Repetro-*Industrialização*, a special tax regime, regulated in 2019, which exempts acquisitions from the oil and gas supply chain established in Brazil.

Following the creation of Repetro-Sped and Repetro-*Industrialização*, some Brazilian states, pursuant to a decision by the Brazilian National Council of Finance Policies ("CONFAZ"), agreed to grant tax incentives relating to the value added tax ("ICMS") over transactions under these regimes to the extent each state enacts its specific regulation providing for the tax relief on the oil and gas industry.



Taxation Relating to the ADSs and our Common and Preferred Shares

The following summary contains a description of material Brazilian and U.S. federal income tax considerations that may be relevant to the purchase, ownership and disposition of preferred or common shares or ADSs by a holder. This summary does not describe any tax consequences arising under the laws of any state, locality or taxing jurisdiction other than Brazil and the United States.

This summary is based upon the tax laws of Brazil and the United States as in effect on the date of this annual report, which are subject to change (possibly with retroactive effect). This summary is also based upon the representations of the depositary and on the assumption that the obligations in the deposit agreement and any related documents will be performed in accordance with their respective terms.

This description is not a comprehensive description of the tax considerations that may be relevant to any particular investor, including tax considerations that arise from rules that are generally applicable to all taxpayers or to certain classes of investors or rules that investors are generally assumed to know. Prospective purchasers of common or preferred shares or ADSs should consult their own tax advisors as to the tax consequences of the acquisition, ownership and disposition of common or preferred shares or ADSs.

There is no income tax treaty between the United States and Brazil. In recent years, the tax authorities of Brazil and the United States have held discussions that may culminate in such a treaty. We cannot predict, however, whether or when a treaty will enter into force or how it will affect the U.S. holders of common or preferred shares or ADSs.

Brazilian Tax Considerations

General

The following discussion summarizes the material Brazilian tax consequences of the acquisition, ownership and disposition of preferred or common shares or ADSs, as the case may be, by a holder that is not deemed to be domiciled in Brazil for purposes of Brazilian taxation, also called a non-Brazilian holder.

Under Brazilian law, investors (non-Brazilian holders) may invest in the preferred or common shares under CMN Resolution No. 4,373 or under Law No. 4,131/1962. The rules of CMN Resolution No. 4,373 allow foreign investors to invest in almost all instruments and to engage in almost all transactions available in the Brazilian financial and capital markets, provided that certain requirements are met. In accordance with CMN Resolution No. 4,373, the definition of foreign investor includes individuals, legal entities, mutual funds and other collective investment entities, domiciled or headquartered abroad.

Pursuant to this rule, foreign investors must: (i) appoint at least one representative in Brazil with powers to perform actions relating to their foreign investment (such as registration and keeping updated records of all transactions with the Central Bank of Brazil); (ii) complete the appropriate foreign investor registration form; (iii) register as a foreign investor with the CVM; and (iv) register the foreign investment with the Central Bank of Brazil.

On October 1, 2020, CMN Resolution No. 4,852 amended Resolution No. 4,373, allowing CVM to release non-resident individual investors from the obligation to obtain registration with CVM.

Securities and other financial assets held by foreign investors pursuant to CMN Resolution No. 4,373 must be registered or maintained in deposit accounts or under the custody of an entity duly licensed by the CVM. In addition, securities trading is restricted to transactions carried out in the stock exchanges or organized over-the-counter markets authorized by the CVM.



Taxation of Dividends

Generally speaking, dividends paid by us, including stock dividends and other dividends paid in property to the Depositary in respect of the ADSs, or to a non-Brazilian holder in respect of the preferred or common shares, are not subject to withholding income tax in Brazil, to the extent that such amounts are related to profits generated after January 1, 1996.

We must pay to our shareholders (including non-Brazilian holders of common or preferred shares or ADSs) interest on the amount of dividends payable to them, updated by the SELIC rate, from the end of each fiscal year through the date of effective payment of those dividends. These interest payments are considered fixed-yield income and are subject to withholding income tax at varying rates depending on the length of period of interest accrual. The tax rate for payments made to beneficiaries resident or domiciled in Brazil varies from 15%, in case of interest accrued for a period greater than 720 days, 17.5% in case of interest accrued for a period between 361 and 720 days, 20% in case of interest accrued for a period between 181 and 360 days, and to 22.5%, in case of interest accrued for a period up to 180 days. However, when the beneficiary is a non-Brazilian holder, under CMN Resolution No. 4,373 rules, the general applicable withholding income tax rate over interest is 15% except in case the beneficiary is resident or domiciled in a country or other jurisdiction that does not impose income tax or imposes it at a maximum income tax rate lower than 17% (a Low or Nil Tax Jurisdiction) or, based on the position of the Brazilian tax authorities, a country or other jurisdiction where the local legislation does not allow access to information related to the shareholding composition of legal entities, to their ownership or to the identity of the effective beneficiary of the income attributed to shareholders (the "Non-Transparency Rule"), when the applicable withholding income tax rate will be 25%. See "Tax – Taxation of Dividends – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction" in this annual report.

Taxation on Interest on Capital

Any payment of interest on capital to holders of ADSs or preferred or common shares, whether or not they are Brazilian residents, is subject to Brazilian withholding income tax at the rate of 15% at the time we record such liability, whether or not the effective payment is made at that time. See "Shareholder Information – Dividends – Payment of Dividends and Interest on Capital" in this annual report. In the case of non-Brazilian residents that are resident in a Low or Nil Tax Jurisdiction (including in the view of Brazilian authorities the jurisdictions to which the Non-Transparency Rule applies), the applicable withholding income tax rate is 25%. See "Tax – Taxation of Dividends – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction" in this annual report. The payment of interest with respect to updating recorded distributions by the SELIC rate that is applicable to payments of dividends applies equally to payments of interest on capital. The determination of whether or not we will make distributions in the form of interest on capital or in the form of dividends is made by our Board of Directors at the time distributions are to be made. We cannot determine how our Board of Directors will make these determinations in connection with future distributions.

Taxation of Gains

For purposes of Brazilian taxation on capital gains, two types of non-Brazilian holders have to be considered: (i) non-Brazilian holders of ADSs, preferred shares or common shares that are not resident or domiciled in a Low or Nil Tax Jurisdiction, and that, in the case of preferred or common shares, have registered before the Central Bank of Brazil and the CVM in accordance with CMN Resolution No. 4,373; and (ii) any other non-Brazilian holder, including non-Brazilian holders who invest in Brazil not in accordance with CMN Resolution No. 4,373 (including registration under Law No. 4,131/1962) and who are resident or domiciled in a Low or Nil Tax Jurisdiction. See "Tax – Taxation of Dividends – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction" in this annual report.



According to Law No. 10,833/2003, capital gains realized on the disposition of assets located in Brazil by non-Brazilian holders, whether or not to other non-residents and whether made outside or within Brazil, may be subject to taxation in Brazil. With respect to the disposition of common or preferred shares, as they are assets located in Brazil, the non-Brazilian holder may be subject to income tax on any gains realized, following the rules described below, regardless of whether the transactions are conducted in Brazil or with a Brazilian resident. It is possible to argue that the ADSs do not fall within the definition of assets located in Brazil for the purposes of this law, but there is still neither pronouncement from tax authorities nor judicial court rulings in this respect. Therefore, we are unable to predict whether such understanding will prevail in the courts of Brazil.

Although there are grounds to sustain otherwise, the deposit of preferred or common shares in exchange for ADSs may be subject to Brazilian taxation on capital gains if the acquisition cost of the preferred or common shares is lower than the average price per preferred or common share.

The difference between the acquisition cost and the market price of the preferred or common shares will be considered realized capital gain that is subject to taxation as described below. There are grounds to sustain that such taxation is not applicable with respect to non-Brazilian holders registered under the rules of CMN Resolution No. 4,373 and not resident or domiciled in a Low or Nil Tax Jurisdiction.

The withdrawal of ADSs in exchange for preferred or common shares should not be considered as giving rise to a capital gain subject to Brazilian income tax, provided that on receipt of the underlying preferred or common shares, the non-Brazilian holder complies with the registration procedure with the Central Bank of Brazil as described below in "Registered Capital."

Capital gains realized by a non-Brazilian holder on a sale or disposition of preferred or common shares carried out on a Brazilian stock exchange (which includes transactions carried out on the organized over-the-counter market) are:

- exempt from income tax when the non-Brazilian holder (i) has registered its investment in accordance with CMN Resolution No. 4,373 and (ii) is not resident or domiciled in a Low or Nil Tax Jurisdiction;
- subject to an income tax at a 25% rate, in cases of gains realized by a non-Brazilian holder resident or domiciled in a Low or Nil Tax Jurisdiction or a jurisdiction to which the Non-Transparency Rule applies. In this case, a withholding income tax at a rate of 0.005% of the sale value is levied on the transaction which can be offset against the eventual income tax due on the capital gain; or
- in all other cases, including a case of capital gains realized by a non-Brazilian holder that is not registered in accordance with CMN Resolution No. 4,373, subject to income tax at the following progressive rates: 15% that do not exceed R\$5 million, 17.5% on the gains between R\$5 million and R\$10 million, 20% on the gains between R\$10 million and R\$30 million and 22.5% on the gains that exceed R\$30 million. In these cases, a withholding income tax at a rate of 0.005% of the sale value is levied on the transaction, which can be offset against the eventual income tax due on the capital gain.

Any capital gains realized on a disposition of preferred or common shares that is carried out outside the Brazilian stock exchange are subject to income tax above rates in case of gains realized by a non-Brazilian holder that is domiciled or resident in a Low or Nil Tax Jurisdiction or a jurisdiction to which the Non-Transparency Rule applies. In this last case, for the capital gains related to transactions conducted on the Brazilian non-organized over-the-counter market with intermediation, the withholding income tax of 0.005% will also apply and can be offset against the eventual income tax due on the capital gain.

In the case of a redemption of preferred or common shares or ADSs or a capital reduction made by us, the positive difference between the amount received by the non-Brazilian holder and the acquisition cost of the preferred or common shares or ADSs redeemed or reduced is treated as capital gain derived from the sale or exchange of shares not carried out on a Brazilian stock exchange market and is therefore generally subject to the above rates. See "Tax – Taxation of Dividends – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction" in this annual report.



Any exercise of preemptive rights relating to the preferred or common shares will not be subject to Brazilian taxation. Any gain on the sale or assignment of preemptive rights will be subject to Brazilian income taxation according to the same rules applicable to the sale or disposition of preferred or common shares.

No assurance can be made that the current preferential treatment of non-Brazilian holders of the ADSs and some non-Brazilian holders of the preferred or common shares under CMN Resolution No. 4,373 will continue to apply in the future.

Additional Rules Regarding Taxation of Gains

On March 16, 2016, the Brazilian federal government converted the Provisional Executive Order (*Medida Provisória*) No. 692 into Law No. 13,259, which established progressive income tax rates applicable to capital gains derived from the disposition of assets by Brazilian individuals. Law No. 13,259 provides for new rates that range from 15% to 22.5% depending on the amount of the gain recognized by the Brazilian individual, as follows: (i) 15% on gains not exceeding R\$5 million; (ii) 17.5% on gains that exceed R\$5 million and do not exceed R\$10 million; (iii) 20% on gains that exceed R\$10 million and do not exceed R\$30 million; and (iv) 22.5% on gains exceeding R\$30 million. Pursuant to Section 18 of Law No. 9,249/95, the tax treatment applicable to capital gains earned by Brazilian individuals also applies to capital gains earned by non-Brazilian residents (except in cases that remain subject to the application of specific rules).

Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction

Law No. 9,779/1999 states that, except for limited prescribed circumstances, income derived from transactions by a person resident or domiciled in a Low or Nil Tax Jurisdiction will be subject to withholding income tax at the rate of 25%. A Low or Nil Tax Jurisdiction is generally considered to be a country or other jurisdiction which does not impose any income tax or which imposes such tax at a maximum rate lower than 17%. Under certain circumstances, the Non-Transparency Rule is also taken into account for determining whether a country or other jurisdiction is a Low or Nil Tax Jurisdiction. In addition, Law No. 11,727/2008 introduced the concept of a "privileged tax regime," which is defined as a tax regime which (i) does not tax income or taxes it at a maximum rate lower than 17%; (ii) grants tax benefits to non-resident entities or individuals (a) without the requirement to carry out a substantial economic activity in the country or other jurisdiction or (b) contingent on the non-exercise of a substantial economic activity in the country or other jurisdiction; (iii) does not tax or that taxes foreign source income at a maximum rate lower than 17%; or (iv) does not provide access to information related to shareholding composition, ownership of assets and rights or economic transactions carried out. We believe that the best interpretation of Law No. 11,727/2008 is that the concept of a "privileged tax regime" will apply solely for purposes of the transfer pricing rules in export and import transactions, deductibility for Brazilian corporate income taxes and the thin capitalization rules and, would therefore generally not have an impact on the taxation of a non-Brazilian holder of preferred or common shares or ADSs, as discussed herein. However, we are unable to ascertain whether the privileged tax regime concept will also apply in the context of the rules applicable to Low or Nil Tax Jurisdictions, although the Brazilian tax authorities appear to agree with our position, in view of the provisions of the Withholding Income Tax Manual (MAFON – 2022), issued by the Brazilian Revenue Service.



Taxation of Foreign Exchange Transactions (IOF/Exchange)

Brazilian law imposes the IOF/Exchange on the conversion of *reais* into foreign currency and on the conversion of foreign currency into *reais*. Currently, for most foreign currency exchange transactions, the rate of IOF/Exchange is 0.38%. However, foreign exchange transactions related to inflows of funds to Brazil for investments made by foreign investors in the Brazilian financial and capital markets are generally subject to IOF/Exchange at a 0% rate. Foreign exchange transactions related to outflows of proceeds from Brazil in connection with investments made by foreign investors in the Brazilian financial and capital markets are also subject to the IOF/Exchange tax at a 0% rate. This 0% rate applies to payments of dividends and interest on capital received by foreign investors with respect to investments in the Brazilian financial and capital markets, such as investments made by a non-Brazilian holder as described in CMN Resolution No. 4,373. The Brazilian tax authorities may increase such rates at any time, up to 25% of the amount of the foreign exchange transaction, but not with retroactive effect.

Taxation on Bonds and Securities Transactions (IOF/Bonds)

Brazilian tax legislation imposes IOF/Bonds on transactions involving equity securities, bonds and other securities, including those carried out on a Brazilian stock exchange. The rate of IOF/Bonds applicable to transactions involving preferred or common shares is currently zero. However, the Brazilian tax authorities may increase such rate at any time up to 1.5% of the transaction amount per day, but the tax increase cannot be applied retroactively.

The IOF on transfer of shares traded on the Brazilian Stock Exchange which have the specific purpose of backing the issuance of depositary receipts traded abroad, have been reduced from 1.5% to zero since December 24, 2013.

Other Brazilian Taxes

There are no Brazilian inheritance, gift or succession taxes applicable to the ownership, transfer or disposition of preferred or common shares or ADSs by a non-Brazilian holder, except for gift and inheritance taxes which are levied by certain states of Brazil on gifts made or inheritances bestowed by a non-Brazilian holder to individuals or entities resident or domiciled within such states in Brazil. There are no Brazilian stamp, issue, registration, or similar taxes or duties payable by holders of preferred or common shares or ADSs.

Registered Capital

The amount of an investment in preferred or common shares held by a non-Brazilian holder who obtains registration under CMN Resolution No. 4,373, or by the depositary representing such holder, is eligible for registration with the Central Bank of Brazil; and such registration allows the remittance outside Brazil of foreign currency, converted at the commercial market rate, acquired with the proceeds of distributions on, and amounts realized with respect to dispositions of, such preferred or common shares. The amount registered ("registered capital") for each preferred or common share purchased as part of the international offering or purchased in Brazil after the date hereof, and deposited with the depositary, will be equal to its purchase price (in U.S. dollars). The registered capital for a preferred or common share that is withdrawn upon surrender of an ADS will be the U.S. dollar equivalent of:

- the average price of a preferred or common share on the Brazilian stock exchange on which the highest volume of such shares were traded on the day of withdrawal; or
- if no preferred or common shares were traded on that day, the average price on the Brazilian stock exchange on which the highest volume of preferred or common shares were traded in the 15 trading sessions immediately preceding the date of such withdrawal.



The U.S. dollar value of the average price of preferred or common shares is determined on the basis of the average of the U.S. dollar/*real* commercial market rates quoted by the Central Bank of Brazil information system on that date (or, if the average price of preferred or common shares is determined under the second option above, price will be determined by the average quoted rates verified on the same 15 preceding trading sessions as described above).

A non-Brazilian holder of preferred or common shares may be subject to delays in effecting such registration, which in turn may delay remittances abroad. Such a delay may adversely affect the amount, in U.S. dollars, received by the non-Brazilian holder. See “Risks – Risk Factors – Equity and Debt Securities Risks” in this annual report.

U.S. Federal Income Tax Considerations

This summary describes material U.S. federal income tax consequences that may be relevant to a U.S. Holder (as defined below) from the ownership and disposition of common or preferred shares or ADSs. This summary is based on the U.S. Internal Revenue Code of 1986, as amended (“the Code”), its legislative history, existing and proposed U.S. Treasury regulations promulgated thereunder, published rulings by the U.S. Internal Revenue Service (“IRS”), and court decisions, all as in effect as of the date hereof, and all of which are subject to change or differing interpretations, possibly with retroactive effect. This summary does not purport to be a comprehensive description of all of the tax consequences that may be relevant to a decision to hold or dispose of common or preferred shares or ADSs. This summary applies only to purchasers of common or preferred shares or ADSs who hold the common or preferred shares or ADSs as “capital assets” (generally, property held for investment), and does not apply to special classes of holders such as dealers or traders in securities or currencies, holders whose functional currency is not the U.S. dollar, holders of 10% or more of our shares, measured by voting power or value (taking into account shares held directly or through depositary arrangements), tax-exempt organizations, partnerships or partners therein, financial institutions, life insurance companies, holders liable for the alternative minimum tax, securities traders who elect to account for their investment in common or preferred shares or ADSs on a mark-to-market basis, persons that enter into a constructive sale transaction with respect to common or preferred shares or ADSs, persons holding common or preferred shares or ADSs in a hedging transaction or as part of a straddle or conversion transaction, or nonresident alien individuals present in the United States for more than 182 days in a taxable year. Moreover, this summary addresses only U.S. federal income tax consequences and does not address state, local or foreign taxes or the U.S. federal estate and gift taxes or the Medicare tax on net investment income.

EACH HOLDER SHOULD CONSULT ITS OWN TAX ADVISOR CONCERNING THE OVERALL TAX CONSEQUENCES IN ITS PARTICULAR CIRCUMSTANCES, INCLUDING THE CONSEQUENCES UNDER LAWS OTHER THAN U.S. FEDERAL INCOME TAX LAWS ADDRESSED HEREIN, OF AN INVESTMENT IN COMMON OR PREFERRED SHARES OR ADSs.

Shares of our preferred stock will be treated as equity for U.S. federal income tax purposes. In general, a holder of an ADS will be treated as the holder of the shares of common or preferred stock represented by those ADSs for U.S. federal income tax purposes, and no gain or loss will be recognized if you exchange ADSs for the shares of common or preferred stock represented by that ADS.

In this discussion, references to ADSs refer to ADSs with respect to both common and preferred shares, and references to a “U.S. Holder” are to a holder of a common or preferred share or ADS that is:

- an individual who is a citizen or resident of the United States;
- a corporation organized under the laws of the United States, any state thereof, or the District of Columbia; or
- otherwise subject to U.S. federal income taxation on a net basis with respect to the share or the ADS.



Taxation of Distributions

A U.S. Holder will recognize ordinary dividend income for U.S. federal income tax purposes in an amount equal to the amount of any cash and the value of any property we distribute as a dividend to the extent that such distribution is paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes, when such distribution is received by the depositary, in the case of ADSs, or by the U.S. Holder in the case of a holder of common or preferred shares. The amount of any distribution will include distributions characterized as interest on capital and the amount of Brazilian tax withheld on the amount distributed, and the amount of a distribution paid in *reais* will be measured by reference to the exchange rate for converting *reais* into U.S. dollars in effect on the date the distribution is received by the depositary, in the case of ADSs, or by a U.S. Holder in the case of a holder of common or preferred shares. If the depositary, in the case of ADSs, or U.S. Holder in the case of a holder of common or preferred shares, does not convert such *reais* into U.S. dollars on the date it receives them, it is possible that the U.S. Holder will recognize foreign currency loss or gain, which would be U.S. source ordinary loss or gain, when the *reais* are converted into U.S. dollars. Dividends paid by us will not be eligible for the dividends received deduction allowed to corporations under the Code.

Subject to certain exceptions for short-term and hedged positions, the U.S. dollar amount of dividends received by a non-corporate U.S. Holder with respect to the ADSs will generally be subject to taxation at preferential rates if the dividends are “qualified dividends.” Dividends paid on the ADSs will be treated as qualified dividends if (i) the ADSs are readily tradable on an established securities market in the United States and (ii) we were not, in the year prior to the year in which the dividend was paid, and are not, in the year in which the dividend is paid, a “passive foreign investment company” as defined for U.S. federal income tax purposes (a PFIC). The ADSs are listed on the NYSE, and will qualify as readily tradable on an established securities market in the United States so long as they are so listed. Based on our audited consolidated financial statements and relevant market and shareholder data, we believe that we should not be treated as a PFIC for U.S. federal income tax purposes with respect to the 2022 or 2021 taxable year. In addition, based on our audited consolidated financial statements and our current expectations regarding the value and nature of our assets, the sources and nature of our income, and relevant market and shareholder data, we do not anticipate becoming a PFIC for our 2023 taxable year. Based on existing guidance, it is not clear whether dividends received with respect to the shares will be treated as qualified dividends, because the shares are not themselves listed on a U.S. exchange. U.S. Holders of our ADSs should consult their own tax advisors regarding the availability of the reduced dividend tax rate in the light of their particular circumstances.

Subject to generally applicable limitations and conditions, Brazilian withholding tax on dividends with respect to the shares or ADSs that is paid at the appropriate rate applicable to the U.S. Holder may be eligible for credit against such U.S. Holder’s U.S. federal income tax liability. These generally applicable limitations and conditions include new requirements recently adopted by the IRS and any Brazilian tax will need to satisfy these requirements in order to be eligible to be a creditable tax for a U.S. Holder. The application of these requirements to the Brazilian tax on dividends is uncertain and we have not determined whether these requirements have been met. If the Brazilian dividend tax is not a creditable tax or the U.S. Holder does not elect to claim a foreign tax credit for any foreign income taxes paid or accrued in the same taxable year, the U.S. Holder may be able to deduct the Brazilian tax in computing such U.S. Holder’s taxable income for U.S. federal income tax purposes. Dividend distributions will constitute income from sources without the United States and, for U.S. Holders that elect to claim foreign tax credits, generally will constitute “passive category income” for foreign tax credit purposes.

The availability and calculation of foreign tax credits and deductions for foreign taxes depend on a U.S. Holder’s particular circumstances and involve the application of complex rules to those circumstances. U.S. Holders should consult their own tax advisors regarding the application of these rules to their particular situations.



Holders of ADSs that are foreign corporations or nonresident alien individuals (non-U.S. Holders) generally will not be subject to U.S. federal income tax, including withholding tax, on distributions with respect to shares or ADSs that are treated as dividend income for U.S. federal income tax purposes unless such dividends are effectively connected with the conduct by the holder of a trade or business in the United States.

Taxation of Capital Gains

Upon the sale or other disposition of a share or an ADS, a U.S. Holder will generally recognize U.S. source capital gain or loss for U.S. federal income tax purposes, equal to the difference between the amount realized on the disposition and the U.S. Holder's tax basis in such share or ADS. Any gain or loss will be long-term capital gain or loss if the shares or ADSs have been held for more than one year. Non-corporate U.S. Holders of shares or ADSs may be eligible for a preferential rate of U.S. federal income tax in respect of long-term capital gains. Capital losses may be deducted from taxable income, subject to certain limitations.

Under the new foreign tax credit requirements recently adopted by the IRS, any Brazilian tax imposed on the sale or other disposition of our shares or ADSs generally will not be treated as a creditable tax for U.S. foreign tax credit purposes. If the Brazilian tax is not a creditable tax for a U.S. holder, the tax would reduce the amount realized on the sale or other disposition of the shares even if the U.S. Holder has elected to claim a foreign tax credit for other taxes in the same year. U.S. Holders should consult their own tax advisors regarding the application of the foreign tax credit rules to a sale or other disposition of the shares and any Brazilian tax imposed on such sale or disposition.

Information Reporting and Backup Withholding

The payment of dividends on, and proceeds from the sale or other disposition of, the ADSs or common or preferred shares to a U.S. Holder within the United States (or through certain U.S. related financial intermediaries) will generally be subject to information reporting, and may be subject to "backup withholding" unless the U.S. Holder (i) is an exempt recipient, and demonstrates this fact when so required, or (ii) timely provides a taxpayer identification number and certifies that no loss of exemption from backup withholding has occurred and otherwise complies with applicable requirements of the backup withholding rules. Backup withholding is not an additional tax. The amount of any backup withholding collected from a payment to a U.S. Holder will be allowed as a credit against the U.S. Holder's U.S. federal income tax liability and may entitle the U.S. Holder to a refund, so long as the required information is furnished to the IRS in a timely manner.

U.S. Holders should consult their own tax advisors about any additional reporting requirements that may arise as a result of their purchasing, holding or disposing of our ADSs, or common or preferred shares.

A non-U.S. Holder generally will be exempt from these information reporting requirements and backup withholding tax, but may be required to comply with certain certification and identification procedures in order to establish its eligibility for such exemption.

Specified Foreign Financial Assets

Certain U.S. Holders that own "specified foreign financial assets" with an aggregate value in excess of US\$50,000 on the last day of the taxable year or US\$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. "Specified foreign financial assets" include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer (which would include our common and preferred shares and ADSs) that are not held in accounts maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or



indirect interests in specified foreign financial assets based on certain objective criteria. U.S. Holders who fail to report the required information could be subject to substantial penalties. In addition, the statute of limitations for assessment of tax would be suspended, in whole or part. Prospective investors should consult their own tax advisors concerning the application of these rules to their investment, including the application of the rules to their particular circumstances.

Taxation Relating to PGF's Notes

The following summary contains a description of material Brazilian, Dutch, European Union and U.S. federal income tax considerations that may be relevant to the purchase, ownership and disposition of PGF's debt securities (the "notes"). This summary does not describe any tax consequences arising under the laws of any state, locality or taxing jurisdiction other than the Netherlands, Brazil and the United States.

This summary is based on the tax laws of the Netherlands, Brazil and the United States as in effect on the date of this annual report, which are subject to change (possibly with retroactive effect). This description is not a comprehensive description of all tax considerations that may be relevant to any particular investor, including tax considerations that arise from rules generally applicable to all taxpayers or to certain classes of investors or that investors are generally assumed to know. Prospective purchasers of notes should consult their own tax advisors regarding the tax consequences of the acquisition, ownership and disposition of the notes.

There is no tax treaty to avoid double taxation between Brazil and the United States. In recent years, the tax authorities of Brazil and the United States have held discussions that may culminate in such a treaty. We cannot predict, however, whether or when a treaty will enter into force or how it will affect the U.S. Holders of notes.

Dutch Taxation

The following is a general summary of certain material Dutch tax consequences to holders of the notes that are not resident nor deemed to be resident of the Netherlands in connection with the acquisition, ownership and disposal of notes in a Dutch company. This summary does not purport to describe all possible Dutch tax considerations or consequences that may be relevant to a holder or prospective holder of the notes and does not purport to deal with the tax consequences applicable to all categories of investors, some of which (such as trusts or similar arrangements) may be subject to special rules. In view of its general nature, this general summary should therefore be treated with appropriate caution.

This summary is based on the tax laws of the Netherlands, published regulations thereunder and published authoritative case law, all as in effect on the date hereof, including the tax rates applicable on the date hereof, and all of which are subject to change or to different interpretation, possibly with retroactive effect. Any such change may invalidate the contents of this section, which will not be updated to reflect such change. Where the text refers to the "Netherlands" or "Dutch", it refers only to the part of the Kingdom of the Netherlands located in Europe. In addition, the summary is based on the assumption that the notes issued by PGF do not qualify as equity of the for Dutch tax purposes.

For Dutch tax purposes, a holder of notes may include, without limitation:

- an owner of one or more notes who, in addition to the title to such notes, has an economic interest in such notes;
- a person who or an entity that holds the entire economic interest in one or more notes;
- a person who or an entity that holds an interest in an entity, such as a partnership or a mutual fund, that is transparent for Dutch tax purposes, the assets of which comprise one or more notes; and
- an individual who or an entity that does not have the legal title to the notes, but to whom the notes are attributed based either on such individual or entity holding a beneficial interest in the notes or



based on specific statutory provisions, including statutory provisions pursuant to which the notes are attributed to an individual who is, or who has directly or indirectly inherited the notes from a person who was, the settlor, grantor or similar originator of a trust, foundation or similar entity that holds the notes.

The discussion below is included for general information purposes only and is not Dutch tax advice or a complete description of all Dutch tax consequences relating to the acquisition, holding and disposal of the notes. Holders or prospective holders of notes should consult their own tax advisers as to the Dutch tax consequences of purchasing, including, without limitation, the consequences of the receipt of interest and the sale or other disposition of notes or coupons, in light of their particular circumstances.

Withholding Tax

All payments of interest and principal made by or on behalf of PGF under the notes to holders of notes may be made free of withholding or deduction of, for or on account of any taxes of any nature imposed, levied, withheld or assessed by the Netherlands or any political subdivision or taxing authority thereof or therein except that Dutch withholding tax at a rate of 25.8% (rate for 2022 and 2023) may apply with respect to payments of interest made or deemed to be made by or on behalf of PGF, if such payments are made or deemed to be made to an entity related (*gelieerd*) to PGF (within the meaning of the Dutch Withholding Tax Act 2021, *Wet Bronbelasting 2021* see below), if such related entity:

- is considered to be resident (*gevestigd*) in a jurisdiction that is listed in the yearly updated Dutch Regulation on low-taxing states and non-cooperative jurisdictions for tax purposes (*Regeling laagbelastende staten en niet-coöperatieve rechtsgebieden voor belastingdoelinden*) (a "Listed Jurisdiction"); or
- has a permanent establishment located in a Listed Jurisdiction to which the interest payment is attributable; or
- is entitled to the interest payment with the main purpose or one of the main purposes of avoiding taxation for another person or entity and there is an artificial arrangement or transaction or a series of artificial arrangements or transactions; or
- is not considered to be the recipient of the interest in its jurisdiction of residence because such jurisdiction treats another entity as the recipient of the interest (a hybrid mismatch); or
- is not resident in any jurisdiction (also a hybrid mismatch); or
- is a reverse hybrid (within the meaning of Article 2(12) of the Dutch Corporate Income Tax Act; *Wet op de vennootschapsbelasting 1969*), if and to the extent (x) there is a participant in the reverse hybrid holding a Qualifying Interest in the reverse hybrid, (y) the jurisdiction of residence of the participant holding the Qualifying Interest in the reverse hybrid treats the reverse hybrid as transparent for tax purposes and (z) such participant would have been subject to Dutch withholding tax in respect of the payments of interest without the interposition of the reverse hybrid,
- all within the meaning of the Dutch Withholding Tax Act 2021.

Related entity

For purposes of the Dutch Withholding Tax Act 2021, an entity is considered a related entity in respect of PGF if:

- such entity has a Qualifying Interest (as defined below) in PGF; or
- PGF has a Qualifying Interest in such entity; or
- a third party has a Qualifying Interest in both PGF and such entity.



The term "Qualifying Interest" means a direct or indirectly held interest – either by an entity individually or jointly if an entity is part of a collaborating group (*samenwerkende groep*) – that enables such entity or such collaborating group to exercise a definite influence over another entity's decisions, such as PGF decisions, and allows it to determine the other entity's activities (within the meaning of case law of the European Court of Justice on the right of freedom of establishment (*vrijheid van vestiging*)).

Taxes on Income and Capital Gains

Please note that the summary in this section does not describe the Dutch tax considerations for:

- holders of the notes if such holders, and in the case of an individual, his or her partner or certain of his or her relatives by blood or marriage in the direct line (including foster children), have a substantial interest (*aanmerkelijk belang*) or deemed substantial interest (*fictief aanmerkelijk belang*) in PGF under the Dutch Income Tax Act 2001 (*Wet inkomstenbelasting 2001*). Generally speaking, a holder of notes has a substantial interest in PGF if it has, directly or indirectly (and, in the case of an individual, alone or together with certain relatives) (i) the ownership of, a right to acquire the ownership of, or certain rights over, shares representing 5% or more of either the total issued and outstanding capital of PGF or the issued and outstanding capital of any class of shares of PGF, or (ii) the ownership of, or certain rights over, profit participating certificates (*winstbewijzen*) that relate to 5% or more of either the annual profit or the liquidation proceeds of PGF. A deemed substantial interest may arise if a substantial interest (or part thereof) has been disposed of, or is deemed to have been disposed of, on a non-recognition basis;
- pension funds, investment institutions (*fiscale beleggingsinstellingen*), exempt investment institutions (*vrijgestelde beleggingsinstellingen*) (as defined in the Dutch Corporate Income Tax Act 1969 (*Wet op de vennootschapsbelasting 1969*)) and other entities that are, in whole or in part, not subject to or exempt from Dutch corporate income tax; and
- holders of notes who are individuals and for whom the notes or any benefit derived from the notes are a remuneration or deemed to be a remuneration for activities performed by such holders or certain individuals related to such holders (as defined in the Dutch Income Tax Act 2001).

A holder of notes will not be subject to any Dutch taxes on income or capital gains in respect of the notes, including such tax on any payment under the notes or in respect of any gain realized on the disposal, deemed disposal, redemption or exchange of the notes, provided that:

- such holder is neither a resident nor deemed to be a resident of the Netherlands;
- such holder does not have, and is not deemed to have, an enterprise or an interest in an enterprise (as defined in the Dutch Income Tax Act 2001 and the Dutch Corporate Income Tax Act 1969, as applicable) that, in whole or in part, is either effectively managed in the Netherlands or carried on through a (deemed) permanent establishment (*vaste inrichting*) or a permanent representative (*vaste vertegenwoordiger*) in the Netherlands and to which enterprise or part of an enterprise the notes are attributable;
- if such holder is an individual, such income or capital gains do not form "benefits from miscellaneous activities in the Netherlands" (*resultaat uit overige werkzaamheden in Nederland*), including without limitation activities in the Netherlands with respect to the notes that exceed "normal asset management" (*normaal, actief vermogensbeheer*);
- if such holder is an entity, the holder is not entitled to a share in the profits of an enterprise nor a co-entitlement to the net worth of an enterprise, which is effectively managed in the Netherlands, other than by way of securities, and to which enterprise the notes are attributable; and
- if such holder is an individual, the holder is not entitled to a share in the profits of an enterprise that is effectively managed in the Netherlands, other than by way of securities, and to which enterprise the notes are attributable.



A holder of notes will not be treated as a resident of the Netherlands by reason only of the execution, delivery or enforcement of its rights and obligations connected to the notes, the issue of the notes or the performance by PGF of its obligations under the notes.

Gift and Inheritance Taxes

No gift or inheritance taxes will arise in the Netherlands with respect to an acquisition or deemed acquisition of notes by way of a gift by, or on the death of, a holder of notes who is neither resident nor deemed to be resident in the Netherlands for the relevant provisions, unless:

- in case of a gift of the notes under a suspensive condition by an individual who at the date of the gift was neither resident nor deemed to be resident in the Netherlands, such individual is resident or deemed to be resident in the Netherlands at the date of (i) the fulfillment of the condition or (ii) his/her death and the condition of the gift is fulfilled after the date of his/her death; or
- in case of a gift of notes by an individual who at the date of the gift or, in case of a gift under a suspensive condition, at the date of the fulfillment of the condition was neither resident nor deemed to be resident in the Netherlands, such individual dies within 180 days after the date of the gift or fulfillment of the condition, while being resident or deemed to be resident in the Netherlands.

For purposes of Dutch gift and inheritance taxes, amongst others, a person who holds the Dutch nationality will be deemed to be resident in the Netherlands if such person has been resident in the Netherlands at any time during the ten years preceding the date of the gift or such person's death. Additionally, for purposes of Dutch gift tax, amongst others, a person not holding the Dutch nationality will be deemed to be resident in the Netherlands if such person has been resident in the Netherlands at any time during the twelve months preceding the date of the gift.

Value added tax (VAT)

No Dutch VAT will be payable by a holder of the notes in respect of any payment in consideration for the issue of the notes or with respect to any payment by PGF of principal, interest or premium (if any) on the notes.

Other Taxes and Duties

No other Dutch registration taxes, or any other similar taxes of a documentary nature, such as capital tax or stamp duty, will be payable in the Netherlands by or on behalf of a holder of the notes by reason only of the purchase, ownership and disposal of the notes.

Brazilian Taxation

The following discussion is a summary of the Brazilian tax considerations relating to an investment in the notes by a non-resident of Brazil. The discussion is based on the tax laws of Brazil as in effect on the date hereof and is subject to any change in Brazilian law that may come into effect after such date. The information set forth below is intended to be a general discussion only and does not address all possible consequences relating to an investment in the notes.

INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISERS AS TO THE CONSEQUENCES OF PURCHASING THE NOTES, INCLUDING, WITHOUT LIMITATION, THE CONSEQUENCES OF THE RECEIPT OF INTEREST AND THE SALE, REDEMPTION OR REPAYMENT OF THE NOTES OR COUPONS.



Generally, an individual, entity, trust or organization domiciled for tax purposes outside Brazil, or a “Nonresident,” is taxed in Brazil only when income is derived from Brazilian sources or when the transaction giving rise to such earnings involves assets in Brazil. Therefore, any gains or interest (including original issue discount), fees, commissions, expenses and any other income paid by PGF in respect of the notes issued by them in favor of non-resident holders are not subject to Brazilian taxes.

Interest, fees, commissions, expenses and any other income payable by us as guarantor resident in Brazil to a non-resident are generally subject to income tax withheld at source. The rate of withholding income tax in respect of interest payments is generally (in case of fixed yields – See “Taxation of Dividends”) 15%, unless (i) the holder of the notes is resident or domiciled in a “tax haven jurisdiction” (that is deemed to be a country or jurisdiction which does not impose any tax on income or which imposes such tax at a maximum effective rate lower than 17% or where the local legislation imposes restrictions on disclosing the identities of shareholders, the ownership of investments, or the ultimate beneficiary of earnings distributed to the non-resident – “tax haven jurisdiction”), in which case the applicable rate is 25% or (ii) such other lower rate as provided for in an applicable tax treaty between Brazil and another country where the beneficiary is domiciled. In case the guarantor is required to assume the obligation to pay the principal amount of the notes, Brazilian tax authorities could attempt to impose withholding income tax at the rate of up to 25% as described above. Although Brazilian legislation does not provide a specific tax rule for such cases and there is no official position from tax authorities or precedents from the Brazilian court regarding the matter, we believe that the remittance of funds by us as a guarantor for the payment of the principal amount of the notes will not be subject to income tax in Brazil, because the mere fact that the guarantor is making the payment does not convert the nature of the principal due under the notes into income of the beneficiary.

If the payments with respect to the notes are made by us, as provided for in the guaranties, the non-resident holders will be indemnified so that, after payment of all applicable Brazilian taxes collectable by withholding, deduction or otherwise, with respect to principal, interest and additional amounts payable with respect to the notes (plus any interest and penalties thereon), a non-resident holder will receive an amount equal to the amount that such non-resident holder would have received as if no such Brazilian taxes (plus interest and penalties thereon) were withheld. The Brazilian obligor will, subject to certain exceptions, pay additional amounts in respect of such withholding or deduction so that the non-resident holder receives the net amount due.

Gains on the sale or other disposition of the notes made outside of Brazil by a non-resident, other than a branch or a subsidiary of Brazilian resident, to another non-resident are not subject to Brazilian income tax.

In addition, payments made from Brazil are subject to the tax on foreign exchange transactions (IOF/Câmbio), which is levied on the conversion of Brazilian currency into foreign currency and on the conversion of foreign currency into Brazilian currency at a general rate of 0.38%. Other IOF/Câmbio rates may apply to specific transactions. In any case, the Brazilian federal government may increase, at any time, such rate up to 25% but only with respect to future transactions.

Generally, there are no inheritance, gift, succession, stamp, or other similar taxes in Brazil with respect to the ownership, transfer, assignment or any other disposition of the notes by a non-resident, except for gift and inheritance taxes imposed by some Brazilian states on gifts or bequests by individuals or entities not domiciled or residing in Brazil to individuals or entities domiciled or residing within such states.



U.S. Federal Income Taxation

The following summary sets forth material United States federal income tax considerations that may be relevant to a holder of a note that is, for U.S. federal income purposes, a citizen or resident of the United States or a domestic corporation or that otherwise is subject to U.S. federal income taxation on a net income basis in respect of the notes (a "U.S. Holder"). This summary is based upon the Code, its legislative history, existing and proposed U.S. Treasury regulations promulgated thereunder, published rulings by the IRS, and court decisions, all as in effect as of the date hereof, all of which are subject to change or differing interpretations, possibly with retroactive effect. This summary does not purport to discuss all aspects of the U.S. federal income taxation which may be relevant to special classes of investors, such as financial institutions, insurance companies, dealers or traders in securities or currencies, securities traders who elect to account for their investment in notes on a mark-to-market basis, regulated investment companies, tax-exempt organizations, partnerships or partners therein, holders that are subject to the alternative minimum tax, certain short-term holders of notes, persons that hedge their exposure in the notes or hold notes as part of a position in a "straddle" or as part of a hedging transaction or "conversion transaction" for U.S. federal tax purposes, persons that enter into a "constructive sale" transaction with respect to the notes, nonresident alien individuals present in the United States for more than 182 days in a taxable year, or U.S. Holders whose functional currency is not the U.S. dollar. U.S. Holders should be aware that the U.S. federal income tax consequences of holding the notes may be materially different for investors described in the prior sentence.

In addition, this summary addresses only U.S. federal income tax consequences and does not discuss any foreign, state or local tax considerations or the Medicare tax on net investment income or under special timing rules prescribed under section 451(b) of the U.S. Internal Revenue Code. This summary only applies to original purchasers of notes who have purchased notes at the original issue price and hold the notes as "capital assets" (generally, property held for investment). U.S. Holders of notes denominated in a currency other than US\$ should consult their tax advisors regarding the application of foreign currency gain or loss rules to the notes and the treatment of any foreign currency received in respect of the notes.

EACH INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR CONCERNING THE OVERALL TAX CONSEQUENCES IN ITS PARTICULAR CIRCUMSTANCES, INCLUDING THE CONSEQUENCES UNDER LAWS OTHER THAN U.S. FEDERAL INCOME TAX LAWS ADDRESSED HEREIN, OF AN INVESTMENT IN THE NOTES.

Payments of Interest

Payment of "qualified stated interest," as defined below, on a note (including additional amounts, if any) generally will be taxable to a U.S. Holder as ordinary interest income when such interest is accrued or is actually or constructively received, in accordance with the U.S. Holder's applicable method of accounting for U.S. federal tax purposes. In general, if a note is issued with an "issue price" that is less than its "stated redemption price at maturity" by an amount equal to or greater than a de minimis amount, such note will be considered to have "original issue discount," or OID. For this purpose, the "issue price" generally is the first price at which a substantial amount of such notes is sold to investors for money. A U.S. Holder should consult its own tax advisors regarding the issue price for a note, in particular where the note has been issued pursuant to an exchange offer or a reopening or the note's terms have been amended. The stated redemption price at maturity of a note generally includes all payments on the note other than payments of qualified stated interest.

In general, each U.S. Holder of a note, whether such holder uses the cash or the accrual method of tax accounting, will be required to include in gross income as ordinary interest income the sum of the "daily portions" of OID on the note, if any, for all days during the taxable year that the U.S. Holder owns the note. The daily portions of OID on a note are determined by allocating to each day in any accrual period a ratable portion of the OID allocable to that accrual period. In general, in the case of an initial holder, the amount of OID on a note allocable to each accrual period is determined by (i) multiplying the "adjusted issue price," as defined below, of the note at the beginning of the accrual period by the yield to maturity of the note, and



(ii) subtracting from that product the amount of qualified stated interest allocable to that accrual period. U.S. Holders should be aware that they generally must include OID in gross income as ordinary interest income for U.S. federal income tax purposes as it accrues, in advance of the receipt of cash attributable to that income. The “adjusted issue price” of a note at the beginning of any accrual period will generally be the sum of its issue price (generally including accrued interest, if any) and the amount of OID allocable to all prior accrual periods, reduced by the amount of all payments other than payments of qualified stated interest (if any) made with respect to such note in all prior accrual periods. The term “qualified stated interest” generally means stated interest that is unconditionally payable in cash or property (other than debt instruments of the issuer) at least annually during the entire term of a note at a single fixed rate of interest, or subject to certain conditions, based on one or more interest indices.

Subject to generally applicable limitations and conditions, Brazilian interest withholding tax paid at the appropriate rate applicable to the U.S. holder may be eligible for credit against such U.S. holder’s U.S. federal income tax liability. These generally applicable limitations and conditions include new requirements recently adopted by the IRS and any Brazilian tax will need to satisfy these requirements in order to be eligible to be a creditable tax for a U.S. holder. The application of these requirements to the Brazilian tax on interest is uncertain and we have not determined whether these requirements have been met. If the Brazilian interest tax is not a creditable tax or the U.S. holder does not elect to claim a foreign tax credit for any foreign income taxes, the U.S. holder may be able to deduct the Brazilian tax in computing such U.S. holder’s taxable income for U.S. federal income tax purposes. Interest and additional amounts will constitute income from sources without the United States and, for U.S. holders that elect to claim foreign tax credits, generally will constitute “passive category income” for foreign tax credit purposes.

Sale or Disposition of Notes

A U.S. Holder generally will recognize capital gain or loss upon the sale, exchange, retirement or other disposition of a note in an amount equal to the difference between the amount realized upon such sale, exchange, retirement or other disposition (other than amounts attributable to accrued qualified stated interest, which will be taxed as such) and such U.S. Holder’s adjusted tax basis in the note. A U.S. Holder’s adjusted tax basis in the note generally will equal the U.S. Holder’s cost for the note increased by any amounts included in gross income by such U.S. Holder as OID, if any, and reduced by any payments other than payments of qualified stated interest on that note. Gain or loss realized by a U.S. Holder on the sale, exchange, retirement or other disposition of a note generally will be U.S. source gain or loss for U.S. federal income tax purposes unless it is attributable to an office or other fixed place of business outside the United States and certain other conditions are met. The gain or loss realized by a U.S. Holder will be capital gain or loss, and will be long-term capital gain or loss if the notes were held for more than one year. The net amount of long-term capital gain recognized by an individual holder generally is subject to taxation at preferential rates. Capital losses may be deducted from taxable income, subject to certain limitations.

Backup Withholding and Information Reporting

A U.S. Holder may, under certain circumstances, be subject to “backup withholding” with respect to certain payments to that U.S. Holder, unless the holder (i) is an exempt recipient, and demonstrates this fact when so required, or (ii) provides a correct taxpayer identification number, certifies that it is not subject to backup withholding and otherwise complies with applicable requirements of the backup withholding rules. Any amount withheld under these rules generally will be creditable against the U.S. Holder’s U.S. federal income tax liability. While non-U.S. Holders generally are exempt from backup withholding, a non-U.S. Holder may, in certain circumstances, be required to comply with certain information and identification procedures in order to prove entitlement to this exemption.

U.S. Holders should consult their own tax advisors about any additional reporting requirements that may arise as a result of their purchasing, holding or disposing of the notes.



Specified Foreign Financial Assets

Certain U.S. Holders that own “specified foreign financial assets” with an aggregate value in excess of US\$50,000 on the last day of the taxable year or US\$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. “Specified foreign financial assets” include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer (which would include the notes) that are not held in accounts maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or indirect interests in specified foreign financial assets based on certain objective criteria. U.S. Holders who fail to report the required information could be subject to substantial penalties. In addition, the statute of limitations for assessment of tax would be suspended, in whole or part. Prospective investors should consult their own tax advisors concerning the application of these rules to their investment in the notes, including the application of the rules to their particular circumstances.



Additional Information



List of Exhibits

No.	Description
1.1	Amended Bylaws of Petróleo Brasileiro S.A.-Petrobras, dated as of November 30, 2020.
2.1	Indenture, dated as of December 15, 2006, between Petrobras International Finance Company and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.9 to the Registration Statement of Petrobras and Petrobras International Finance Company on Form F-3, filed with the Securities and Exchange Commission on December 18, 2006 (File Nos. 333-139459 and 333-139459-01)).
2.2	Fourth Supplemental Indenture, dated as of October 30, 2009, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.875% Global Notes due 2040 (incorporated by reference to Exhibit 2.36 to the Annual Report and Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on May 20, 2010 (File Nos. 001-15106 and 001-33121)).
2.3	Guaranty for the 6.875% Global Notes due 2040, dated as of October 30, 2009, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 2.38 to the Annual Report and Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on May 20, 2010 (File Nos. 001-15106 and 001-33121)).
2.4	Description of Securities.
2.5	Transfer of Rights Agreement, dated as of September 3, 2010, among Petrobras, the Brazilian federal government and the ANP (incorporated by reference to Exhibit 2.47 to the Annual Report and Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on May 26, 2011 (File Nos. 001-15106 and 001-33121)).
2.6	Tenth Supplemental Indenture, dated as of December 12, 2011, among Petrobras International Finance Company, Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as Principal Paying Agent and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg Paying Agent, relating to the 6.250% Global Notes due 2026 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on December 12, 2011 (File Nos. 001-15106 and 001-33121)).
2.7	Guaranty for the 6.250% Global Notes due 2026, dated as of December 12, 2011, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on December 12, 2011 (File Nos. 001-15106 and 001-33121)).
2.8	Further Amended and Restated Deposit Agreement, dated as of January 2, 2020, among Petrobras, JPMorgan Chase Bank, N.A., as depositary, and registered holders and beneficial owners from time to time of the ADSs, representing the common shares of Petrobras, and Form of ADR evidencing ADSs representing the common shares of Petrobras.
2.9	Further Amended and Restated Deposit Agreement, dated as of January 2, 2020, among Petrobras, JPMorgan Chase Bank, N.A., as depositary, and registered holders and beneficial owners from time to time of the ADSs, representing the preferred shares of Petrobras, and Form of ADR evidencing ADSs representing the preferred shares of Petrobras.
2.10	Amended and Restated Seventh Supplemental Indenture, dated as of February 6, 2012, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.750% Global Notes due 2041 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on February 6, 2012 (File Nos. 001-15106 and 001-33121)).



No.	Description
2.11	Amended and Restated Guaranty for the 6.750% Global Notes due 2041, dated as of February 6, 2012, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on February 6, 2012 (File Nos. 001-15106 and 001-33121)).
2.12	Thirteenth Supplemental Indenture, dated as of February 10, 2012, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 2.60 to the Annual Report and Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on April 2, 2012 (File Nos. 001-15106 and 001-33121)).
2.13	Indenture, dated as of August 29, 2012, between Petrobras Global Finance B.V. and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.5 to the Registration Statement on Form F-3 of Petrobras, Petrobras International Finance Company and Petrobras Global Finance B.V., filed with the Securities and Exchange Commission on August 29, 2012 (File Nos. 333-183618, 333-183618-01 and 333-183618-02)).
2.14	Third Supplemental Indenture, dated as of October 1, 2012, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 5.375% Global Notes due 2029 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 1, 2012 (File No. 001-15106)).
2.15	Guaranty for the 5.375% Global Notes due 2029, dated as of October 1, 2012, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 1, 2012 (File No. 001-15106)).
2.16	Seventh Supplemental Indenture, dated as of May 20, 2013, between Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 5.625% Global Notes due 2043 (incorporated by reference to Exhibit 4.11 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 20, 2013 (File No. 001-15106)).
2.17	Guaranty for the 5.625% Global Notes due 2043, dated as of May 20, 2013, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.10 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 20, 2013 (File No. 001-15106)).
2.18	Production Sharing Agreement, dated as of December 2, 2013, among Petrobras, Shell Brasil Petróleo Ltda., Total E&P do Brasil Ltda., CNODC Brasil Petróleo e Gás Ltda. and CNOOC Petroleum Brasil Ltda., the Brazilian federal government, Pré-Sal Petróleo S.A.—PPSA and the ANP (incorporated by reference to the Annual Report on Form 20-F of Petrobras, filed with the Securities and Exchange Commission on April 30, 2014 (File No. 001-15106)).
2.19	Twelfth Supplemental Indenture, dated as of January 14, 2014, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 4.750% Global Notes due 2025 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106)).
2.20	Thirteenth Supplemental Indenture, dated as of January 14, 2014, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 6.625% Global Notes due 2034 (incorporated by reference to Exhibit 4.11 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106)).
2.21	Guaranty for the 4.750% Global Notes due 2025, dated as of January 14, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106)).



No.	Description
2.22	Guaranty for the 6.625% Global Notes due 2034, dated as of January 14, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.10 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106)).
2.23	Sixteenth Supplemental Indenture, dated as of March 17, 2014, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.250% Global Notes due 2024 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106)).
2.24	Seventeenth Supplemental Indenture, dated as of March 17, 2014, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 7.250% Global Notes due 2044 (incorporated by reference to Exhibit 4.11 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106)).
2.25	Guaranty for the 6.250% Global Notes due 2024, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106)).
2.26	Guaranty for the 7.250% Global Notes due 2044, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.10 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106)).
2.27	Seventh Supplemental Indenture, dated as of December 28, 2014, among Petrobras International Finance Company S.A., Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 15, 2015 (File No. 001-15106)).
2.28	Fourteenth Supplemental Indenture, dated as of December 28, 2014, among Petrobras International Finance Company S.A., Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 15, 2015 (File No. 001-15106)).
2.29	First Amendment to the Guaranties, dated as of December 28, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.3 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 15, 2015 (File No. 001-15106)).
2.30	Twentieth Supplemental Indenture, dated as of June 5, 2015, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.850% Global Notes due 2115 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 5, 2015 (File No. 001-15106)).
2.31	Guaranty for the 6.850% Global Notes due 2115, dated as of June 5, 2015, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 5, 2015 (File No. 001-15106)).
2.32	Twenty-Second Supplemental Indenture, dated as of May 23, 2016, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 8.750% Global Notes due 2026 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 23, 2016 (File No. 01-15106)).
2.33	Amended and Restated Twenty-Second Supplemental Indenture, dated as of July 13, 2016, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 8.750% Global Notes due 2026 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 13, 2016 (File No. 01-15106)).
2.34	Twenty-Fourth Supplemental Indenture, dated as of January 17, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 7.375% Global Notes due 2027



No.	Description
	(incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 17, 2017 (File No. 01-15106)).
2.35	Guaranty for the 8.750% Global Notes due 2026, dated as of May 23, 2016, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 23, 2016 (File No. 01-15106)).
2.36	Amended and Restated Guaranty for the 8.750% Global Notes due 2026, dated as of July 13, 2016, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 13, 2016 (File No. 01-15106)).
2.37	Amended and Restated Guaranty for the 7.375% Global Notes due 2027, dated as of May 22, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106)).
2.38	Amended and Restated Twenty-Fourth Supplemental Indenture, dated as of May 22, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 7.375% Global Notes due 2027 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106)).
2.39	Amended and Restated Seventeenth Supplemental Indenture, dated as of May 22, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 7.250% Global Notes due 2044 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106)).
2.40	Indenture, dated as of September 27, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as trustee, relating to the 5.299% Global Notes due 2025.
2.41	Indenture, dated as of September 27, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as trustee, relating to the 5.999% Global Notes due 2028.
2.42	Guaranty for the 5.299% Global Notes due 2025, dated as of September 27, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.96 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 27, 2018 (File No. 333-226375)).
2.43	Guaranty for the 5.999% Global Notes due 2028, dated as of September 27, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.97 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 27, 2018 (File No. 333-226375)).
2.44	Twenty-Fifth Supplemental Indenture, dated as of February 1, 2018, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 5.750% Global Notes due 2029 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on February 1, 2018 (File No. 001-15106)).
2.45	Guaranty for the 5.750% Global Notes due 2029, dated as of February 1, 2018, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on February 1, 2018 (File No. 001-15106)).
2.46	Indenture, dated as of August 28, 2018 between Petrobras and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.3 to the Registration Statement of Petrobras and Petrobras Global Finance on Form F-3, filed with the Securities and Exchange Commission on August 28, 2018 (File Nos. 333-227087 and 333-227087-01)).
2.47	Indenture, dated as of August 28, 2018 between Petrobras Global Finance B.V. and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.4 to the Registration Statement of Petrobras and Petrobras Global Finance B.V. on Form F-3, filed with the Securities and Exchange Commission on August 28, 2018 (File Nos. 333-227087 and 333-227087-01)).



No.	Description
2.48	Amended And Restated Guaranty for the 5.750% Global Notes due 2029, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106).
2.49	Amended And Restated Twenty-Fifth Supplemental Indenture for the 5.750% Global Notes due 2029, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106).
2.50	Guaranty for the 6.90% Global Notes due 2049, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106).
2.51	First Supplemental Indenture for the 6.90% Global Notes due 2049, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.6 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106).
2.52	Amended and Restated Guaranty of the Amended and Restated Guaranty of the 7.250% Global Notes due 2044, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 001-15106)).
2.53	Second Supplemental Indenture for the 5.600% Global Notes due 2031, dated as of June 3, 2020, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 3, 2020 (File No. 001-15106).
2.54	Guaranty for the 5.600% Global Notes due 2031, dated as of June 3, 2020, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 3, 2020 (File No. 001-15106).
2.55	Third Supplemental Indenture for the 6.750% Global Notes due 2050, dated as of June 3, 2020, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 3, 2020 (File No. 001-15106).
2.56	Guaranty for the 6.750% Global Notes due 2050, dated as of June 3, 2020, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 3, 2020 (File No. 001-15106).
2.57	Amended and Restated Second Supplemental Indenture for the 5.600% Global Notes due 2031, dated as of October 21, 2020, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 21, 2020 (File No. 001-15106).
2.58	Amended and Restated Guaranty for the 5.600% Global Notes due 2031, dated as of October 21, 2020, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 21, 2020 (File No. 001-15106).
2.59	Indenture, dated as of September 18, 2019 between Petrobras Global Finance B.V. and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.75 to the Registration Statement of Petrobras and Petrobras Global Finance B.V. on Form F-4, filed with the Securities and Exchange Commission on July 6, 2020 (as amended on July 28, 2020) (File Nos. 333-239714 and 333-239714-01).
2.60	Guaranty for the 5.093% Global Notes due 2030, dated as of September 18, 2019, between Petrobras and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.73 to Petrobras'



No.	Description
	Registration Statement on Form F-4, filed with the SEC on July 6, 2020 (as amended on July 28, 2020) (File No. 333-239714).
2.61	Fourth Supplemental Indenture for the 5.500% Global Notes due 2051, dated as of June 10, 2021, between Petrobras, PGF and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 10, 2020 (File No. 001-15106).
2.62	Guaranty for the 5.500% Global Notes due 2051, dated as of June 10, 2021, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.3 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 10, 2020 (File No. 001-15106).
4.1	Form of Concession Agreement for Exploration, Development and Production of crude oil and natural gas executed between Petrobras and the ANP (incorporated by reference to Exhibit 10.1 of Petrobras' Registration Statement on Form F-1 filed with the Securities and Exchange Commission on July 14, 2000 (File No. 333-12298)). This was a paper filing, and is not available on the SEC website.
4.2	Purchase and Sale Agreement of natural gas, executed between Petrobras and Yacimientos Petroliferos Fiscales Bolivianos-YPFB (together with and English version) (incorporated by reference to Exhibit 10.2 to Petrobras' Registration Statement on Form F-1 filed with the Securities and Exchange Commission on July 14, 2000 (File No. 333-12298)). This was a paper filing, and is not available on the SEC website. Until the moment eleven GSA Amendments have been signed since the original execution of the GSA on August 16, 1996, so the GSA remains in effect.
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101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.



Signatures

The registrant hereby certifies that it meets all the requirements for filing on Form 20-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rio de Janeiro, on March 29, 2023.

Petróleo Brasileiro S.A. — PETROBRAS

By: /s/ Jean Paul Terra Prates

Name: Jean Paul Terra Prates

Title: Chief Executive Officer

By: /s/ Rodrigo Araujo Alves

Name: Rodrigo Araujo Alves

Title: Chief Financial Officer and Chief Investor
Relations Officer



Abbreviations

bbbl	Barrels
bbbl/d	Barrels per day
bcf	Billion cubic feet
bn	Billion (thousand million)
bnbbbl	Billion barrels
bncf	Billion cubic feet
bnm ³	Billion cubic meters
bnboe	Billion barrels of oil equivalent
boe	Barrels of oil equivalent
boed	Barrels of oil equivalent per day
cf	Cubic feet
cmd	Cubic meters per day
GWh	One gigawatt of power supplied or demanded for one hour
kgCO _{2e} /boe	Kilogram of carbon dioxide equivalent per barrel of oil equivalent
kgCO _{2e} /CWT	Kilogram of carbon dioxide equivalent per complexity weighted ton
km	Kilometer
km ²	Square kilometers
m ³	Cubic meter
mbbl	Thousand barrels
mbbl/d	Thousand barrels per day
mboe	Thousand barrels of oil equivalent
mboed	Thousand barrels of oil equivalent per day
mcf	Thousand cubic feet
mcf/d	Thousand cubic feet per day
mm ³	Thousand cubic meters
mm ³ /d	Thousand cubic meters per day
mm ³ /y	Thousand cubic meter per year
mmbbl	Million barrels



mmbbl/d	Million barrels per day
mboe	Million barrels of oil equivalent
mboed	Million barrels of oil equivalent per day
mmcf	Million cubic feet
mmcf/d	Million cubic feet per day
mmm ³	Million cubic meters
mmm ³ /d	Million cubic meters per day
mnt	Million metric tons
mnt/y	Million metric tons per year
MW	Megawatts
MWavg	Amount of energy (in MWh) divided by the time (in hours) in which such energy is produced or consumed
MWh	One megawatt of power supplied or demanded for one hour
ppm	Parts per million
R\$	Brazilian <i>reais</i>
t	Metric ton
tCO _{2e}	Tonnes of carbon dioxide equivalent
t/d	Metric ton per day
Tcf	Trillion cubic feet
US\$	United States dollars
/d	Per day



Conversion table

1 acre	=	43,560 square feet	=	0.004047 km ²
1 barrel	=	42 U.S. gallons	=	Approximately 0.13 t of oil
1 boe	=	1 barrel of crude oil equivalent	=	6,000 cf of natural gas
1 m ³ of natural gas	=	35.315 cf	=	0.0059 boe
1 km	=	0.6214 miles		
1 meter	=	3.2808 feet		
1 t of crude oil	=	1,000 kilograms of crude oil	=	Approximately 7.5 barrels of crude oil (assuming an atmospheric pressure index gravity of 37°API)



Cross-Reference to Form 20-F

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Financial Statements



Financial Statements 2022

PETRÓLEO BRASILEIRO S.A. - PETROBRAS

December 31, 2022, 2021 and 2020 with report of independent registered public accounting firm

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Consolidated Statements of Financial Position

PETROBRAS

As of December 31, 2022 and December 31, 2021 (Expressed in millions of US Dollars, unless otherwise indicated)

Assets	Note	12.31.2022	12.31.2021
Cash and cash equivalents	7.1	7,996	10,467
Marketable securities	7.2	2,773	650
Trade and other receivables	13.1	5,010	6,368
Inventories	14	8,779	7,255
Recoverable income taxes	16.1	165	163
Other recoverable taxes	16.2	1,142	1,183
Others	20	1,777	1,573
		27,642	27,659
Assets classified as held for sale	30	3,608	2,490
Current assets		31,250	30,149
Trade and other receivables	13.1	2,440	1,900
Marketable securities	7.2	1,564	44
Judicial deposits	18.2	11,053	8,038
Deferred income taxes	16.1	832	604
Other recoverable taxes	16.2	3,778	3,261
Others	20	1,553	487
Long-term receivables		21,220	14,334
Investments	29	1,566	1,510
Property, plant and equipment	23	130,169	125,330
Intangible assets	24	2,986	3,025
Non-current assets		155,941	144,199
Total assets		187,191	174,348
Liabilities	Note	12.31.2022	12.31.2021
Trade payables	15	5,464	5,483
Finance debt	31.1	3,576	3,641
Lease liability	32	5,557	5,432
Income taxes payable	16.1	2,883	733
Other taxes payable	16.2	3,048	4,001
Dividends payable	33.4	4,171	-
Employee benefits	17	2,215	2,144
Others	20	3,001	1,875
		29,915	23,309
Liabilities related to assets classified as held for sale	30	1,465	867
Current liabilities		31,380	24,176
Finance debt	31.1	26,378	32,059
Lease liability	32	18,288	17,611
Income taxes payable	16.1	302	300
Deferred income taxes	16.1	6,750	1,229
Employee benefits	17	10,675	9,374
Provisions for legal proceedings	18.1	3,010	2,018
Provision for decommissioning costs	19	18,600	15,619
Others	20	1,972	2,150
Non-current liabilities		85,975	80,360
Current and non-current liabilities		117,355	104,536
Share capital (net of share issuance costs)	33.1	107,101	107,101
Capital reserve and capital transactions		1,144	1,143
Profit reserves	33.4	66,434	72,811
Accumulated other comprehensive (deficit)		(105,187)	(111,648)
Attributable to the shareholders of Petrobras		69,492	69,407
Non-controlling interests	29.4	344	405
Equity		69,836	69,812
Total liabilities and equity		187,191	174,348

The notes form an integral part of these financial statements.

Consolidated Statements of Income

PETROBRAS

Years ended December 31, 2022, 2021 and 2020 (Expressed in millions of US Dollars, unless otherwise indicated)

	Note	2022	2021	2020
Sales revenues	8	124,474	83,966	53,683
Cost of sales	9.1	(59,486)	(43,164)	(29,195)
Gross profit		64,988	40,802	24,488
Income (expenses)				
Selling expenses	9.2	(4,931)	(4,229)	(4,884)
General and administrative expenses	9.3	(1,332)	(1,176)	(1,090)
Exploration costs	26	(887)	(687)	(803)
Research and development expenses		(792)	(563)	(355)
Other taxes		(439)	(406)	(952)
Impairment (losses) reversals	25	(1,315)	3,190	(7,339)
Other income and expenses, net	10	1,822	653	998
		(7,874)	(3,218)	(14,425)
Income before net finance expense, results of equity-accounted investments and income taxes		57,114	37,584	10,063
Finance income		1,832	821	551
Finance expenses		(3,500)	(5,150)	(6,004)
Foreign exchange gains (losses) and inflation indexation charges		(2,172)	(6,637)	(4,177)
Net finance expense	11	(3,840)	(10,966)	(9,630)
Results of equity-accounted investments	29	251	1,607	(659)
Net income (loss) before income taxes		53,525	28,225	(226)
Income taxes	16.1	(16,770)	(8,239)	1,174
Net income for the year		36,755	19,986	948
Net income attributable to shareholders of Petrobras		36,623	19,875	1,141
Net income (loss) attributable to non-controlling interests		132	111	(193)
Basic and diluted earnings per common and preferred share - in U.S. dollars	33	2.81	1.52	0.09

The notes form an integral part of these financial statements.

Consolidated Statements of Comprehensive Income

PETROBRAS

Years ended December 31, 2022, 2021 and 2020 (Expressed in millions of US Dollars, unless otherwise indicated)

	2022	2021	2020
Net income for the year	36,755	19,986	948
Items that will not be reclassified to the statement of income:			
Actuarial gains (losses) on post-employment defined benefit plans	17.3		
Recognized in equity	(1,583)	5,169	2,415
Deferred income tax	212	(1,340)	(127)
	(1,371)	3,829	2,288
Unrealized gains (losses) on equity instruments measured at fair value through other comprehensive income			
Recognized in equity	-	-	(2)
Deferred income tax	-	-	1
	-	-	(1)
Share of other comprehensive income in equity-accounted investments	-	-	46
Items that may be reclassified subsequently to the statement of income:			
Unrealized gains (losses) on cash flow hedge - highly probable future exports	34.3		
Recognized in equity	5,223	(3,949)	(21,460)
Reclassified to the statement of income	4,871	4,585	4,720
Deferred income tax	(3,432)	(215)	5,690
	6,662	421	(11,050)
Translation adjustments (*)			
Recognized in equity	975	(1,314)	(5,211)
Reclassified to the statement of income	-	41	-
	975	(1,273)	(5,211)
Share of other comprehensive income (loss) in equity-accounted investments			
Recognized in equity	29.2	219	22
Reclassified to the statement of income	-	-	43
	219	22	(335)
Other comprehensive income (loss)	6,485	2,999	(14,263)
Total comprehensive income (loss)	43,240	22,985	(13,315)
Comprehensive income (loss) attributable to shareholders of Petrobras	43,084	22,961	(13,126)
Comprehensive income (loss) attributable to non-controlling interests	156	24	(189)

(*) It includes cumulative translation adjustments in associates and joint ventures.

The notes form an integral part of these financial statements.

Consolidated Statements of Cash Flows

PETROBRAS

Years ended December 31, 2022, 2021 and 2020 (Expressed in millions of US Dollars, unless otherwise indicated)

	Note	2022	2021	2020
Cash flows from operating activities				
Net income for the year		36,755	19,986	948
Adjustments for:				
Pension and medical benefits - actuarial gains (expense)	17	1,228	2,098	(1,001)
Results of equity-accounted investments	29.3	(251)	(1,607)	659
Depreciation, depletion and amortization	37.1	13,218	11,695	11,445
Impairment of assets (reversals)	25	1,315	(3,190)	7,339
Inventory write-down (write-back) to net realizable value	14	11	(1)	375
Allowance (reversals) for credit loss on trade and other receivables		65	(30)	144
Exploratory expenditure write-offs	26	691	248	456
Disposal/write-offs of assets, remeasurement of investment retained with loss of control and reclassification of CTA		(1,144)	(1,900)	(456)
Foreign exchange, indexation and finance charges		4,557	10,795	11,094
Income taxes	16.1	16,770	8,239	(1,174)
Revision and unwinding of discount on the provision for decommissioning costs	19	745	661	981
PIS and COFINS recovery - exclusion of ICMS (VAT tax) from the basis of calculation		(1)	(986)	(3,173)
Results from co-participation agreements in bid areas	24	(4,286)	(631)	-
Assumption of interest in concessions		-	(164)	-
Early termination and cash outflows revision of lease agreements		(629)	(545)	(276)
(Gains) losses with legal, administrative and arbitration proceedings, net	10	1,362	740	493
Decrease (Increase) in assets				
Trade and other receivables		355	(2,075)	1
Inventories		(1,217)	(2,334)	724
Judicial deposits		(1,709)	(1,141)	(945)
Other assets		(413)	(289)	159
Increase (Decrease) in liabilities				
Trade payables		(359)	1,073	216
Other taxes payable		(2,441)	2,835	2,677
Pension and medical benefits		(2,130)	(2,239)	(1,048)
Provisions for legal proceedings		(380)	(643)	(668)
Short-term benefits		(182)	(312)	781
Provision for decommissioning costs		(602)	(730)	(482)
Other liabilities		(95)	376	(47)
Income taxes paid		(11,516)	(2,138)	(332)
Net cash provided by operating activities		49,717	37,791	28,890
Cash flows from investing activities				
Acquisition of PP&E and intangible assets		(9,581)	(6,325)	(5,874)
Investments in investees		(27)	(24)	(942)
Proceeds from disposal of assets - Divestment		4,846	4,783	1,997
Financial compensation from co-participation agreements	24	7,284	2,938	-
Divestment (Investment) in marketable securities		(3,328)	4	66
Dividends received		374	781	243
Net cash provided by (used in) investing activities		(432)	2,157	(4,510)
Cash flows from financing activities				
Changes in non-controlling interest		63	(24)	(67)
Proceeds from finance debt	31.3	2,880	1,885	17,023
Repayment of principal - finance debt	31.3	(9,334)	(21,413)	(25,727)
Repayment of interest - finance debt	31.3	(1,850)	(2,229)	(3,157)
Repayment of lease liability	32	(5,430)	(5,827)	(5,880)
Dividends paid to Shareholders of Petrobras		(37,701)	(13,078)	(1,367)
Dividends paid to non-controlling interests		(81)	(105)	(84)
Net cash used in financing activities		(51,453)	(40,791)	(19,259)
Effect of exchange rate changes on cash and cash equivalents		(316)	(402)	(773)
Net change in cash and cash equivalents		(2,484)	(1,245)	4,348
Cash and cash equivalents at the beginning of the period		10,480	11,725	7,377
Cash and cash equivalents at the end of the period		7,996	10,480	11,725

The notes form an integral part of these financial statements.

Consolidated Statements of Changes In Shareholders' Equity

PETROBRAS

Years ended December 31, 2022, 2021 and 2020 (Expressed in millions of US Dollars, unless otherwise indicated)

	Share capital (net of share issuance costs)			Accumulated other comprehensive income (deficit) and deemed cost				Profit Reserves								Total consolidated equity
	Share Capital	Share issuance costs	Capital reserve, Capital Transactions and Treasury shares	Cumulative translation adjustments	Cash flow hedge - highly probable future exports	Actuarial gains (losses) on defined benefit pension plans	Other comprehensive income (loss) and deemed cost	Legal	Statutory	Tax incentives	Profit retention	Additional dividends proposed	Retained earnings (losses)	Equity attributable to shareholders of Petrobras	Non-controlling interests	
Balance at January 1, 2020	107,380	(279)	1,064	(68,721)	(13,540)	(17,322)	(886)	8,745	2,702	1,102	53,078	-	-	73,323	892	74,215
		107,101	1,064				(100,469)					65,627	-	73,323	892	74,215
Capital increase with reserves	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(13)	(13)
Realization of deemed cost	-	-	-	-	-	-	2	-	-	-	-	-	(2)	-	-	-
Capital transactions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(81)	(81)
Net income	-	-	-	-	-	-	-	-	-	-	-	-	1,141	1,141	(193)	948
Other comprehensive income (loss)	-	-	-	(5,215)	(11,050)	2,288	(290)	-	-	-	-	-	-	(14,267)	4	(14,263)
Appropriations:																
Transfer to reserves	-	-	-	-	-	-	-	68	198	-	(226)	-	(40)	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	(878)	1,128	(1,099)	(849)	(81)	(930)
Balance at December 31, 2020	107,380	(279)	1,064	(73,936)	(24,590)	(15,034)	(1,174)	8,813	2,900	1,102	51,974	1,128	-	59,348	528	59,876
		107,101	1,064				(114,734)					65,917	-	59,348	528	59,876
Capital increase with reserves	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Capital transactions	-	-	79	-	-	-	-	-	-	-	-	-	-	79	(40)	39
Net income	-	-	-	-	-	-	-	-	-	-	-	-	19,875	19,875	111	19,986
Other comprehensive income (loss)	-	-	-	(1,186)	421	3,829	22	-	-	-	-	-	-	3,086	(87)	2,999
Appropriations:																
Additional dividends proposed last year approved this year	-	-	-	-	-	-	-	-	-	-	-	(1,128)	-	(1,128)	-	(1,128)
Transfer to reserves	-	-	-	-	-	-	-	956	184	118	388	-	(1,646)	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	(312)	6,688	(18,229)	(11,853)	(109)	(11,962)
Balance at December 31, 2021	107,380	(279)	1,143	(75,122)	(24,169)	(11,205)	(1,152)	9,769	3,084	1,220	52,050	6,688	-	69,407	405	69,812
		107,101	1,143				(111,648)					72,811	-	69,407	405	69,812
Capital transactions	-	-	1	-	-	-	-	-	-	-	-	-	-	1	(146)	(145)
Net income	-	-	-	-	-	-	-	-	-	-	-	-	36,623	36,623	132	36,755
Other comprehensive income (loss)	-	-	-	951	6,662	(1,371)	219	-	-	-	-	-	-	6,461	24	6,485
Expired unclaimed dividends	-	-	-	-	-	-	-	-	-	-	-	-	11	11	-	11
Appropriations:																
Additional dividends proposed last year approved this year	-	-	-	-	-	-	-	-	-	-	-	(6,688)	-	(6,688)	-	(6,688)
Transfer to reserves	-	-	-	-	-	-	-	1,805	197	457	71	-	(2,530)	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	(9,083)	6,864	(34,104)	(36,323)	(71)	(36,394)
Balance at December 31, 2022	107,380	(279)	1,144	(74,171)	(17,507)	(12,576)	(933)	11,574	3,281	1,677	43,038	6,864	-	69,492	344	69,836
		107,101	1,144				(105,187)					66,434	-	69,492	344	69,836

The notes form an integral part of these financial statements.

1. The Company and its operations

Petróleo Brasileiro S.A. (Petrobras), hereinafter referred to as “Petrobras” or “Company,” is a partially state-owned enterprise, controlled by the Brazilian Federal Government, of indefinite duration, governed by the terms and conditions under the Brazilian Corporate Law (Law 6,404 of December 15, 1976), Law 13,303 of June 30, 2016 and its Bylaws.

Petrobras’ shares are listed on the Brazilian stock exchange (B3) in the Level 2 of Corporate Governance special listing segment and, therefore, the Company, its shareholders, its managers and fiscal council members are subject to provisions under its regulation (Level 2 Regulation - *Regulamento de Listagem do Nível 2 de Governança Corporativa da Brasil Bolsa Balcão* – B3). The provisions of the Level 2 Regulation shall prevail over statutory provisions in the event of harm to the rights of public offers investors provided for in the Company’s Bylaws, except when otherwise determined by other regulation.

The Company is dedicated to prospecting, drilling, refining, processing, trading and transporting crude oil from producing onshore and offshore oil fields and from shale or other rocks, as well as oil products, natural gas and other liquid hydrocarbons. In addition, Petrobras carries out energy related activities, such as research, development, production, transport, distribution and trading of all forms of energy, as well as other related or similar activities.

Petrobras may perform any of the activities related to its corporate purpose, directly, through its wholly-owned subsidiaries, controlled companies, alone or through joint ventures with third parties, in Brazil or abroad.

The economic activities linked to its business purpose shall be undertaken by the Company in free competition with other companies according to market conditions, in compliance with the other principles and guidelines of Laws no. 9,478/97 and 14,134/21 (oil and gas regulations, respectively). However, Petrobras may have its activities, provided they are in compliance with its corporate purpose, guided by the Brazilian Federal Government to contribute to the public interest that justified its creation, aiming to meet national energy policy objectives when:

I – established by law or regulation, as well as under agreements provisions with a public entity that is competent to establish such obligation, abiding with the broad publicly stated of such instruments; and

II – the cost and revenues thereof have been broken down and disseminated in a transparent manner.

In this case, the Company’s Investment Committee and Minority Shareholders Committee, exercising their advisory role to the Board of Directors, shall assess and measure the difference between such market conditions and the operating result or economic return of the transaction, based on technical and economic criteria for investment valuation and specific operating costs and results under the Company’s operations. In case a difference is identified, for every financial year, the Brazilian Federal Government shall compensate the Company.

2. Basis of preparation

2.1. Statement of compliance and authorization of consolidated financial statements

These consolidated financial statements have been prepared and are being presented in accordance with the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

The consolidated financial statements have been prepared under the historical cost convention, except when otherwise indicated. The significant accounting policies used in the preparation of these financial statements are set out in their respective explanatory notes.

NOTES TO THE FINANCIAL STATEMENTS

PETROBRAS

(Expressed in millions of US Dollars, unless otherwise indicated)

The preparation of the financial statements requires the use of estimates based on assumptions and judgements, which may affect the application of accounting policies and reported amounts of assets, liabilities, revenues and expenses. Although our management periodically reviews these assumptions and judgments, the actual results could differ from these estimates. For further information on accounting estimates, see note 4.

These consolidated financial statements were approved and authorized for issue by the Company's Board of Directors in a meeting held on March 29, 2023.

2.2. Functional and presentation currency

The functional currency of Petrobras and all of its Brazilian subsidiaries is the Brazilian Real. The functional currency of the Petrobras direct subsidiaries that operate outside Brazil is the U.S. dollar.

Petrobras has selected the U.S. dollar as its presentation currency to facilitate a more direct comparison to other oil and gas companies. The financial statements have been translated from the functional currency (Brazilian real) into the presentation currency (U.S. dollar). All assets and liabilities are translated into U.S. dollars at the closing exchange rate at the date of the financial statements; income and expenses, as well as cash flows are translated into U.S. dollars using the average exchange rates prevailing during the period. All exchange differences arising from the translation of the consolidated financial statements from the functional currency into the presentation currency are recognized as cumulative translation adjustments (CTA) within accumulated other comprehensive income in the consolidated statements of changes in shareholders' equity.

Brazilian Real x U.S. Dollar	Dec/22	Sep/22	Jun/22	Mar/22	Dec/21	Sep/21	Jun/21	Mar/21	Dec/20	Sep/20	Jun/20	Mar/20
Quarterly average exchange rate	5.26	5.25	4.93	5.23	5.59	5.23	5.29	5.48	5.39	5.38	5.39	4.47
Period-end exchange rate	5.22	5.41	5.24	4.74	5.58	5.44	5.00	5.70	5.20	5.64	5.48	5.20

3. Significant accounting policies

To aid cohesion and comprehension, the significant accounting policies are set out at the end of each explanatory note to which they relate.

4. Critical accounting policies: key estimates and judgments

The preparation of the consolidated financial information requires the use of estimates and judgments for certain transactions and their impacts on assets, liabilities, income and expenses. The assumptions are based on past transactions and other relevant information and are periodically reviewed by management, although the actual results could differ from these estimates.

Information about areas that require significant judgment or involve a higher degree of complexity in the application of the accounting policies and that could materially affect the Company's financial condition and results of operations is set out as follows.

4.1. Oil and gas reserves

Oil and gas reserves are estimated based on economic, geological and engineering information, such as well logs, pressure data and fluid sample data. The reserves are used as the basis for calculating unit-of-production depreciation, depletion and amortization rates, impairment testing and decommissioning costs estimates, and for projections of highly probable future exports subject to the cash flow hedge.

Reserves estimates are revised at least annually, based on updated geological and production data of reservoirs, as well as on changes in prices and costs used in these estimates. Revisions may also result from significant changes in the Company's strategy for development projects or in the production capacity.

NOTES TO THE FINANCIAL STATEMENTS

PETROBRAS

(Expressed in millions of US Dollars, unless otherwise indicated)

The Company determines its oil and gas reserves both pursuant to the U.S. Securities and Exchange Commission - SEC and the ANP/SPE (Brazilian Agency of Petroleum, Natural Gas and Biofuels / Society of Petroleum Engineers) criteria. The differences between the reserves estimated by ANP/SPE definitions and those estimated using SEC regulation are mainly due to different economic assumptions and the possibility of considering as reserves the volumes expected to be produced beyond the concession contract expiration date in fields in Brazil according to ANP reserves regulation.

According to the definitions prescribed by the SEC, proved oil and gas reserves are those quantities of oil and gas which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically feasible from a given date, from known reservoirs and under existing economic conditions, operating methods and government regulation. Proved reserves are subdivided into developed and undeveloped reserves.

Proved developed oil and gas reserves are those that can be expected to be recovered through: (i) existing wells with existing equipment and operating methods, or when the cost of the required equipment is relatively minor compared to the cost of a new well; (ii) installed extraction equipment and infrastructure operational at the time of the reserves estimate, if the extraction is by means not involving wells.

Although the Company is reasonably certain that proved reserves will be produced, the timing and amount recovered can be affected by a sort of factors including completion of development projects, reservoir performance, regulatory aspects and significant changes in long-term oil and gas price levels.

Detailed information on reserves is presented as unaudited supplementary information.

a) Impacts of oil and gas reserves on depreciation, depletion and amortization

Estimates of proved reserves volumes used in the calculation of depreciation, depletion and amortization rates, under the unit-of-production method, are prepared by the Company's technicians according to the SEC definitions. Revisions to the Company's proved developed and undeveloped reserves impact prospectively the amounts of depreciation, depletion and amortization recognized in the statement of income and the carrying amounts of oil and gas properties assets.

Therefore, considering all other variables being constant, a decrease in estimated proved reserves would increase, prospectively, depreciation, depletion and amortization expense, while an increase in reserves would reduce depreciation, depletion and amortization.

Note 23 provides more detailed information on depreciation, amortization and depletion.

b) Impacts of oil and gas reserves on impairment testing

The measurement of the value in use of oil and gas exploration and development assets is based on proved and probable reserves pursuant to the ANP/SPE definitions. Note 25 provides further information on impairment testing.

c) Impacts of oil and gas reserves on decommissioning costs estimates

The timing of abandonment and dismantling areas is based on the length of reserves depletion, in accordance with ANP/SPE definitions. Therefore, the review of the timing of reserves depletion may impact the provision for decommissioning cost estimates. Note 4.5 provides further information on other assumptions used in estimating the provision for decommissioning costs.

d) Impacts of oil and gas reserves on highly probable future exports subject to cash flow hedge accounting

The Company estimates highly probable future exports in accordance with future exports forecasted in the current Strategic Plan projections and based on short-term estimates on a monthly basis. Changes in the expected oil and gas production may affect future exports forecasts and, consequently, hedge relationship designations may also be impacted.

4.2. Impairment testing

4.2.1. Main assumptions for impairment testing

Impairment testing involves uncertainties mainly related to its key assumptions: average Brent prices and Brazilian Real/U.S. dollar average exchange rate. These assumptions are relevant to virtually all of the Company's operating segments and a significant number of interdependent variables are derived from these key assumptions and there is a high degree of complexity in their application in determining value in use for impairment tests.

The markets for crude oil and natural gas have a history of significant price volatility and although prices can drop or increase precipitously, industry prices over the long term tends to continue being driven by market supply and demand fundamentals.

Projections relating to the key assumptions are derived from the Strategic Plan and are consistent with market evidence, such as independent macro-economic forecasts, industry analysts and experts. Back testing analysis and feedback process in order to continually improve forecast techniques are also performed.

The Company's oil price forecast model is based on a nonlinear relationship between variables reflecting market supply and demand fundamentals. This model also takes into account other relevant factors, such as the effects of the Organization of the Petroleum Exporting Countries (OPEC) decisions on the oil market, industry costs, idle capacity, the oil and gas production forecasted by specialized firms, and the relationship between the oil price and the U.S. dollar exchange rate.

The Real/U.S. dollar exchange rate projections are based on econometric models that consider long-term assumptions involving observable inputs, such as country risk, commodity prices, interest rates and the value of the U.S. Dollar relative to a basket of foreign currencies (U.S. Dollar Index – USDIX).

Changes in the economic environment may result in changing assumptions and, consequently, the recognition of impairment losses or reversals on certain assets or cash generating units - CGUs. For example, the Company's sales revenues and refining margins are directly impacted by Brent price variations, as well as Brazilian Real/U.S. dollar exchange rate variations, which also impacts our capital and operating expenditures.

Changes in the economic and political environment may also result in higher country risk projections that would increase discount rates for impairment testing.

Reductions in future oil and natural gas price scenarios resulting from structural changes, adverse effects arising from significant changes in reserve volumes, production curve expectations, lifting costs or discount rates, as well as capital expenditure decisions that result in the postponement or termination of projects, could trigger the need for impairment assessment.

The recoverable amount of certain assets may not substantially exceed their carrying amounts and, therefore, it is reasonably possible that outcomes in future periods that are different from the current assumptions may result in the recognition of additional impairment losses on these assets, as described in note 25.

4.2.2. Identifying cash-generating units for impairment testing

Identifying cash-generating units (CGUs) requires management assumptions and judgment, based on the Company's business and management model.

Changes in CGUs resulting from the review of investment, strategic or operational factors, may result in changes in the interdependencies of assets and, consequently, alter the aggregation or breakdown of assets that were part of certain CGUs, which may influence their ability to generate cash and cause additional losses or reversals in the recovery of such assets. If the approval for the sale of a CGU's component occurs between the reporting date and the date of the issuance of the consolidated financial statements, the Company reassesses whether the value in use of this component,

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estimated with the information existing at the reporting date, reasonably represents its fair value, net of disposal expenses. Such information must include evidence of the stage at which management was committed to the sale of the CGU's component.

The primary considerations in identifying the CGUs are set out below:

a) Exploration and Production CGUs:

i) Crude oil and natural gas producing properties CGUs: comprises exploration and development assets related to crude oil and natural gas fields and groups of fields in Brazil and abroad. At December 31, 2022, Exploration and Production CGUs in Brazil had 37 fields and 15 groups of fields. Changes in the aggregation of CGUs occurred in 2022 are presented as follows:

- North group of fields: exclusion of platforms P-18, P-19, P-20, P-35 and P-47 from this CGU, due to management's decision to sell and definitively cease the operations of these platforms in the Marlim field. Each of these platforms is now assessed for impairment separately; and
- Oil and gas fields and groups of fields: exclusion of Alto Rodrigues, Canto do Amaro, Barrinha, Benfica, CMR and Fazenda Alegre groups of fields, as well as several other fields, mainly in the states of Bahia, Rio Grande do Norte and Ceará (31 concessions in total), due to their divestment processes. Right after the signature of the agreements for the sale of these concessions, the corresponding assets were transferred to assets classified as held for sale (see note 30.1).

ii) Equipment not related to oil and gas producing properties: drilling rigs which are not part of any CGU and are assessed for impairment separately, as well as platforms that stopped operating. In 2022, 14 drilling rigs were sold and the corresponding CGUs have been excluded.

b) Refining, transportation and marketing CGUs:

i) Downstream CGU: comprises refineries and associated assets, terminals and pipelines, as well as logistics assets operated by Transpetro, with a combined and centralized operation of such assets in Brazil. These assets are managed with a common goal of serving the market at the lowest overall cost, preserving the strategic value of the whole set of assets in the long term. The operational planning is made in a centralized manner and these assets are not managed, measured or evaluated by their individual results. Refineries do not have autonomy to choose the oil to be processed, the mix of oil products to produce, the markets in which these products will be traded, which amounts will be exported, which intermediaries will be received and to decide the sale prices of oil products. Operational decisions are analyzed through an integrated model of operational planning for market supply, considering all the options for production, imports, exports, logistics and inventories, seeking to maximize the Company's global performance. The decision on new investments is not based on the profitability of the project where the asset will be installed, but on the additional result for the CGU as a whole. The model that supports the entire planning, used in technical and economic feasibility studies of new investments in refining and logistics, seeks to allocate a certain type of oil, or a mix of oil products, define market supply (area of influence), aiming at achieving the best integrated results. Pipelines and terminals are a complementary and interdependent portion of the refining assets, required to supply the market.

In 2022, management approved the sale of LUBNOR and Potiguar Clara Camarão refineries from this CGU, whose assets were excluded from this CGU and its assets are classified as held for sale as of December 31, 2022 (see note 30.1).

ii) CGU Itaboraí Utilities: composed of assets that will support the natural gas processing plant (UPGN) of the route 3 integrated project;

iii) CGU GasLub: set of assets that remain in hibernation and are being evaluated for use in other projects.

iv) CGU Second Refining Unit of RNEST: comprises assets of the second refining unit of Abreu e Lima refinery;

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v) Transportation CGU: comprises assets relating to Transpetro's fleet of vessels;

vi) Hidrovia CGU: comprises the fleet of vessels under construction of the Hidrovia project (transportation of ethanol along the Tietê River); and

vii) Other operations abroad defined as the smallest group of assets that generates independent cash flows.

c) Gas & Power CGUs:

i) CGU Integrated Processing System: set of assets formed by natural gas processing plants in Itaboraí, Cabiúnas and Caraguatatuba, grouped together due to the contractual characteristics of the Integrated Processing System and the Integrated Transportation System;

ii) CGUs of Natural Gas Processing Plants: each remaining natural gas processing plant represents a separate CGU. In 2022, management approved the sale of Guamaré natural gas processing plant, and its assets were transferred to assets classified as held for sale (note 30.1);

iii) CGU nitrogen fertilizer plants: formed by hibernated nitrogen fertilizer plants;

iv) CGU Power: comprises the thermoelectric power generation plants (UTES). The operation and trade of energy of this CGU are carried out and coordinated in an integrated manner. The economic results of each of the plants in the integrated portfolio are highly dependent on each other, due to operational optimization aimed at maximizing the overall result.

v) Other CGUs: operations abroad defined as the smallest group of assets that generates largely independent cash flows.

In 2022, management approved the lease of the Termocamaçari thermoelectric power plant, hence it is no more a cash-generating unit due to the reclassification of this operation to accounts receivable.

d) Biofuels business CGUs:

i) Biodiesel CGU: an integrated unit of biodiesel plants defined based on the production planning and operation process, that takes into consideration domestic market conditions, the production capacity of each plant, as well as the results of biofuels auctions and raw materials supply.

ii) Quixadá CGU: comprises the assets of Quixadá Biofuel Plant.

Further information on impairment testing is set out in note 25.

4.3. Pension plan and other post-employment benefits

The actuarial obligations and net expenses related to defined benefit pension and health care post-employment plans are computed based on several financial and demographic assumptions, of which the most significant are:

- Discount rate: comprises the projected future inflation in addition to an equivalent discounted interest rate that matches the duration of the pension and health care obligations with the future yield curve of long-term Brazilian Government Bonds; and
- Medical costs: comprise the projected growth rates based on per capita health care benefits paid over the last five years, which are used as a basis for projections, converged to the general price inflation index within 30 years.

These and other estimates are reviewed at least annually and may differ materially from actual results due to changing market and financial conditions, as well as actual results of actuarial assumptions.

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The sensitivity analysis of discount rates and changes in medical costs as well as additional information about actuarial assumptions are set out in note 17.

4.4. Estimates related to contingencies and legal proceedings

The Company is defendant in arbitrations and in legal and administrative proceedings involving civil, tax, labor and environmental issues arising from the normal course of its business and makes use of estimates to recognize the amounts and the probability of outflow of resources, based on reports and technical assessments from legal advisors and on management's assessment.

These estimates are performed individually, or aggregated if there are cases with similar characteristics, primarily considering factors such as assessment of the plaintiff's demands, consistency of the existing evidence, jurisprudence on similar cases and doctrine on the subject. Specifically for lawsuits by outsourced employees, the Company estimates the expected loss based on a statistical procedure, due to the number of actions with similar characteristics.

Arbitral, legal and administrative decisions against the Company, new jurisprudence and changes of existing evidence can result in changes on the probability of outflow of resources and on the estimated amounts, according to the assessment of the legal basis.

Note 18 provides further detailed information about contingencies and legal proceedings.

4.5. Decommissioning costs estimates

The Company has legal and constructive obligations to remove equipment and restore onshore and offshore areas at the end of operations. Its most significant asset removal obligations relate to offshore areas. Estimates of costs for future environmental cleanup and remediation activities are based on current information about costs and expected plans for remediation. These obligations are recognized at present value, using a risk-free discount rate, adjusted to the Company's credit risk. Due to the long term until the abandonment, changes in the discount rate can cause significant variations in the recognized amount.

These estimates require performing complex calculations that involve significant judgment since: i) the obligations are long-term; ii) the contracts and regulations contain subjective definitions of the removal and remediation practices and criteria involved when the events actually occur; and iii) asset removal technologies and costs are constantly changing, along with regulations, environmental, safety and public relations considerations.

The Company conducts studies to incorporate technologies and procedures to optimize the process of abandonment, considering industry best practices. However, the timing and amounts of future cash flows are subject to significant uncertainty.

Note 19 provides further detailed information about the decommissioning provisions.

4.6. Deferred income taxes

The recognition of deferred taxes involves significant estimates and judgments by the Company. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which a deductible temporary difference can be utilized or it is probable that the entity will have sufficient taxable profit in future periods. In evaluating whether it will have sufficient taxable profit in future periods to support the recognition of deferred tax assets, the Company uses future projections and estimates based on its Strategic Plan, which is approved by the Board of Directors annually. Future taxable profits projections are mainly based on the following assumptions: i) Brent crude oil prices; ii) foreign exchange rates; and iii) the Company's projected net finance expenses (income).

Changes in deferred tax assets and liabilities are presented in note 16.1.

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4.7. Cash flow hedge accounting involving the Company's future exports

The Company determines its future exports as "highly probable future exports" based on its current Strategic Plan and, based on short-term estimates on a monthly basis. The highly probable future exports are determined by a percentage of projected exports revenue, taking into account the Company's operational and capital expenditure optimization model, limited to a threshold based on a historical percentage of the oil production that is usually sold abroad. For the long-term, future exports forecasts are reviewed whenever the Company reviews its Strategic Plan assumptions, while for the short-term it is reviewed monthly. The approach for determining exports as highly probable future exports is reviewed annually, at least.

See note 34 for more detailed information about cash flow hedge accounting and a sensitivity analysis of the cash flow hedge involving future exports.

4.8. Write-off – overpayments incorrectly capitalized

As described in note 21, in the third quarter of 2014, the Company developed an estimation methodology and wrote off US\$2,527 of improperly capitalized costs representing the estimated amounts that Petrobras had overpaid for the acquisition of property, plant and equipment.

The Company has continuously monitored the results of the Lava Jato investigation and the availability of other information related to the scheme of improper payments. In preparing the financial statements for the year ended December 31, 2022, the Company has not identified any additional information that would affect the adopted calculation methodology and consequently require additional write-offs.

4.9. Expected credit losses on financial assets

Expected credit losses on financial assets are based on assumptions relating to risk of default, the determination of whether or not there has been a significant increase in credit risk and expectation of recovery, among others. The Company uses judgment for such assumptions in addition to information from credit rating agencies and inputs based on collection delays.

4.10. Leases

The Company uses incremental borrowing rates to determine the present value of the lease payments, when the interest rate implicit in the lease cannot be readily determined. These incremental borrowing rates are determined mainly based on the Company's cost of funding based on yields of bonds issued by the Company, adjusted by currency and duration of cash outflows of the lease arrangements, economic environment of the country where the lessee operates and similar collateral.

4.11. Uncertainty over Income Tax Treatments

Uncertainties over income tax treatments represent the risks that the tax authority does not accept a certain tax treatment applied by the Company, mainly related to different interpretations of deductions and additions to the IRPJ and CSLL calculation basis. The Company evaluates each uncertain tax treatment separately or in a group where there is interdependence in relation to the expected result.

The Company estimates the probability of acceptance of an uncertain tax treatment by the tax authority based on technical assessments by its legal advisors, considering precedent jurisprudence applicable to current tax legislation, which may be impacted mainly by changes in tax rules or court decisions which may affect the analysis of the fundamentals of uncertainty. The tax risks identified are evaluated following a pre-determined tax risk management methodology.

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If it is probable that the tax authorities will accept an uncertain tax treatment, the amounts recorded in the financial statements are consistent with the tax records and, therefore, no uncertainty is reflected in the measurement of current or deferred income taxes. If it is not probable that the tax authorities will accept an uncertain tax treatment, the uncertainty is reflected in the measurement of income taxes in the financial statements.

Information on uncertainty over income tax treatments is disclosed in Note 16.1.

5. New standards and interpretations

5.1. New International Financial Reporting Standards not yet adopted

Standard	Description	Effective on
IFRS 17 – Insurance Contracts (and Amendments)	IFRS 4 – Insurance Contracts will be superseded by IFRS 17, which establishes, among other things, the requirements to be applied, by issuers of insurance and reinsurance contracts within the scope of the standard, and for reinsurance contracts held, in the recognition, measurement, presentation and disclosure of insurance and reinsurance contracts.	January 1, 2023, retrospective application with specific rules.
Disclosure of Accounting Policies – Amendments to IAS 1 and Practice Statement 2	In place of the requirement to disclose significant accounting policies, the amendments to IAS 1 - Presentation of Financial Statements establish that accounting policies must be disclosed when they are material. Among other things, the amendment provides guidance for determining such materiality.	January 1, 2023, prospective application to amendments to IAS 1.
Definition of Accounting Estimates – Amendments to IAS 8	According to the amendments to IAS 8, the definition of “change in accounting estimate” no longer exists. Instead, a definition was established for the term “accounting estimates”: monetary values in the financial statements that are subject to measurement uncertainty.	January 1, 2023, prospective application.
Deferred Tax related to Assets and Liabilities arising from a Single Transaction – Amendments to IAS 12	The amendments have reduced the scope of the exemption from recognition of deferred tax assets and deferred tax liabilities described in paragraphs 15 and 24 of IAS 12 - Income Taxes, so that it no longer applies to transactions that, among other items, on initial recognition, give rise to equal taxable and deductible temporary differences.	January 1, 2023, retrospective application with specific rules.
Lease Liability in a Sale and Leaseback – Amendments to IFRS 16	The amendments add requirements that specify that the seller-lessee must subsequently measure the lease liability arising from the transfer of an asset - which meets the requirements of IFRS 15 to be accounted for as a sale - and sale and leaseback, so that no gain or loss is recognized related to the right of use retained in the transaction.	January 1, 2024, retrospective application.
Classification of Liabilities as Current or Non-current / Non-current Liabilities with Covenants- Amendments to IAS 1	<p>The amendments establish that the liability should be classified as current when the entity does not have the right, at the end of the reporting period, to defer the settlement of the liability for at least twelve months after the reporting period.</p> <p>Among other guidelines, the amendments provide that the classification of a liability is not affected by the likelihood of exercising the right to defer the settlement of the liability. Additionally, according to the amendments, only covenants whose compliance is mandatory before or at the end of the reporting period should affect the classification of a liability as current or non-current.</p> <p>Additional disclosures are also required by the amendments, including information on non-current liabilities with restrictive clauses.</p>	January 1, 2024, retrospective application.

Regarding the amendments effective as of January 1, 2023, according to the assessment made, the Company estimates that there will be no significant impact with the initial application on its consolidated financial statements.

As for the amendments that will be effective as of January 1, 2024, the Company is assessing the impacts that they will have on the financial statements and is unable to make a reasonable estimation of these impacts at this stage.

6. Capital Management

The Company’s objective in its capital management is to maintain its capital structure in adequate level in order to continue as a going concern, maximizing value to shareholders and investors. Its main source of funding has been cash provided by its operating activities.

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The financial strategy of the 2023-2027 Strategic Plan is based on preserving financial strength, selecting projects with both financial and environmental resilience, focusing on value creation.

As the Company's goal of reducing gross debt (composed of current and non-current finance debt and lease liability) to US\$ 60 billion by 2022 was achieved 15 months in advance, the gross debt target defined in 2023-2027 Strategic Plan is to be maintained in the range between US\$ 50,000 and US\$ 65,000.

During 2022, through the Company's liability management, the maturity of outstanding finance debt is concentrated from 2027 onwards, which represents 56% of the total. Such factors, combined with the policy for oil products in line with the international market, allowed, in accordance with the Shareholders Dividends Policy, the distribution of greater remuneration to shareholders, without compromising the Company's financial sustainability.

As of December 31, 2022, gross debt decreased to US\$ 53,799, from US\$ 58,743 as of December 31, 2021, maintained in the range defined in the current Strategic Plan.

7. Cash and cash equivalents and Marketable securities

7.1. Cash and cash equivalents

They include cash, available bank deposits and short-term financial investments with high liquidity, which meet the definition of cash equivalents.

	12.31.2022	12.31.2021
Cash at bank and in hand	216	299
Short-term financial investments		
- In Brazil		
Brazilian interbank deposit rate investment funds and other short-term deposits	2,763	1,951
Other investment funds	244	163
	3,007	2,114
- Abroad		
Time deposits	2,388	4,310
Automatic investing accounts and interest checking accounts	2,365	3,732
Other financial investments	20	12
	4,773	8,054
Total short-term financial investments	7,780	10,168
Total cash and cash equivalents	7,996	10,467

Short-term financial investments in Brazil primarily consist of investments in funds holding Brazilian Federal Government Bonds that can be redeemed immediately, as well as reverse repurchase agreements that mature within three months as of the date of their acquisition. Short-term financial investments abroad comprise time deposits that mature in three months or less from the date of their acquisition, highly-liquid automatic investment accounts, interest checking accounts and other short-term fixed income instruments.

The main use of these funds in the year ended December 31, 2022 were for payment of dividends of US\$ 37,782, repayment of principal and interests related to finance debt and repayment of lease liability, amounting US\$ 16,614, as well as for acquisition of PP&E and intangible assets in the amount of US\$ 9,581.

The main resources constituted were substantially provided by cash provided by operating activities of US\$ 49,717, financial compensation from co-participation agreements of US\$ 7,284, proceeds from disposal of assets - divestment of US\$ 4,846 and proceeds from finance debt of US\$ 2,880.

Accounting policy for cash and cash equivalents

Cash and cash equivalents comprise cash on hand, term deposits with banks and short-term highly-liquid financial investments that are readily convertible to known amounts of cash, are subject to insignificant risk of changes in value and have a maturity of three months or less from the date of acquisition.

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7.2. Marketable securities

	12.31.2022			12.31.2021		
	In Brazil	Abroad	Total	In Brazil	Abroad	Total
Fair value through profit or loss	713	-	713	650	-	650
Amortized cost - Bank Deposit Certificates and time deposits	2,548	1,026	3,574	-	-	-
Amortized cost - Others	50	-	50	44	-	44
Total	3,311	1,026	4,337	694	-	694
Current	1,747	1,026	2,773	650	-	650
Non-current	1,564	-	1,564	44	-	44

Marketable securities classified as fair value through profit or loss refer mainly to investments in Brazilian Federal Government Bonds (amounts determined by level 1 of the fair value hierarchy). These financial investments have maturities of more than three months.

Securities classified as amortized cost refer to investments in Brazil in post-fixed Bank Deposit Certificates with daily liquidity, with maturities between one and two years, and to investments abroad in time deposits with maturities of more than three months from the contracting date.

Accounting policy for marketable securities

The amounts invested in operations with terms of more than three months, as from the date of the agreement, are initially measured at fair value and subsequently according to their respective classifications, which are based on the way in which these funds are managed and their features of contractual cash flows:

- Amortized cost – financial assets that give rise, on specified dates, to cash flows represented exclusively by payments of principal and interest on the outstanding principal amount, the purpose of which is to receive its contractual cash flows. They are presented in current and in non-current asset according to their maturity term. Interest income from these investments is calculated using the effective interest rate method.
- Fair value through profit or loss – financial assets whose purpose is to receive for sale. They are presented in current asset due to the expectation of realization.

8. Sales revenues

8.1. Revenues from contracts with customers

As an integrated energy company, revenues from contracts with customers derive from different products sold by the Company's operating segments, taking into consideration specific characteristics of the markets where they operate. For additional information about the operating segments of the Company, its activities and its respective products sold, see note 12.

The determination of transaction prices derives from methodologies and policies based on the parameters of these markets, reflecting operating risks, level of market share, changes in exchange rates and international commodity prices, including Brent oil prices, oil products such as diesel and gasoline, and the Henry Hub Index.

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8.2. Net sales revenues

	2022	2021	2020
Diesel	40,149	24,236	13,924
Gasoline	16,175	11,910	6,313
Liquefied petroleum gas	5,121	4,491	3,383
Jet fuel	5,423	2,271	1,455
Naphtha	2,396	1,699	1,694
Fuel oil (including bunker fuel)	1,411	1,775	795
Other oil products	5,536	4,261	2,712
Subtotal oil products	76,211	50,643	30,276
Natural gas	7,673	5,884	3,649
Oil	7,719	671	48
Renewables and nitrogen products	283	40	59
Breakage	669	243	438
Electricity	694	2,902	1,109
Services, agency and others	1,043	808	755
Domestic market	94,292	61,191	36,334
Exports	27,497	21,491	15,945
Oil	19,332	14,942	11,720
Fuel oil (including bunker fuel)	7,399	5,480	3,525
Other oil products	766	1,069	700
Sales abroad (*)	2,685	1,284	1,404
Foreign market	30,182	22,775	17,349
Sales revenues	124,474	83,966	53,683

(*) Sales revenues from operations outside of Brazil, including trading and excluding exports.

	2022	2021	2020
Domestic market	94,292	61,191	36,334
Americas (except United States)	7,166	4,702	3,419
China	6,389	7,053	7,703
Europe	5,932	3,110	1,853
United States	4,914	2,162	1,193
Singapore	4,271	3,913	2,415
Asia (except China and Singapore)	1,505	1,671	746
Others	5	164	20
Foreign market	30,182	22,775	17,349
Sales revenues	124,474	83,966	53,683

In the year ended December 31, 2022, sales to two clients of the refining, transportation and marketing segment represented individually 15% and 11% of the Company's sales revenues. In the years ended December 31, 2021 and 2020, one client of the same segment represented more than 10% of the Company's sales revenues.

8.3. Remaining performance obligations

The Company is party to sales contracts signed until December 31, 2022 with original expected duration of more than 1 year, which define the volume and timing of goods or services to be delivered during the term of the contract, and the payment terms for these future sales.

The estimated remaining values of these contracts at the year ended December 31, 2022 presented below are based on the contractually agreed future sales volumes, as well as prices prevailing at December 31, 2022 or practiced in recent sales reflecting more directly observable information:

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	Expected recognition within 1 year	Expected recognition after 1 year	Total
Domestic market			
Gasoline	10,495	-	10,495
Diesel	31,175	-	31,175
Natural gas	15,643	14,636	30,279
Services and others	7,867	4,573	12,440
Naphtha	1,946	4,211	6,157
Electricity	658	6,352	7,010
Other oil products	30	-	30
Jet fuel	5,868	-	5,868
Foreign market			
Exports	2,961	8,761	11,722
Total	76,643	38,533	115,176

Revenues will be recognized once goods are transferred and services are provided to the customers and their measurement and timing of recognition will be subject to future demands, changes in commodities prices, exchange rates and other market factors.

The table above does not include information on contracts with original expected duration of less than one year, such as spot-market contracts, variable considerations which are constrained, and information on contracts only establishing general terms and conditions (Master Agreements), for which volumes and prices will only be defined in subsequent contracts.

In addition, electricity sales are mainly driven by demands to generate electricity from thermoelectric power plants, as and when requested by the Brazilian National Electric System Operator (ONS). These requests are substantially affected by Brazilian hydrological conditions. Thus, the table above presents mainly fixed amounts for the electricity to be available to customers in these operations.

8.4. Contract liabilities

The balance of contract liabilities carried on the statement of financial position at the year ended December 31, 2022 amounted to US\$ 48 (US\$ 19 as of the year ended December 31, 2021). This amount is classified as other current liabilities and primarily comprises advances from customers in ship and take or pay contracts to be recognized as revenue based on future sales of natural gas or following the non-exercise of the right by the customer.

Accounting policy for revenues

The Company evaluates contracts with customers for the sale of oil and oil products, natural gas, electricity, services and other products, which will be subject to revenue recognition, and identifies the distinct goods and services promised in each of them.

Sales revenues are recognized when control is transferred to the client, which usually occurs upon delivery of the product or when the service is provided. At this moment, the company satisfies the performance obligation.

Performance obligations are considered to be promises to transfer to the client: (i) good or service (or group of goods or services) that is distinct; and (ii) a series of distinct goods or services that have the same characteristics or are substantially the same and that have the same pattern of transfer to the client.

Revenue is measured based on the amount of consideration to which the Company expects to be entitled in exchange for transfers of promised goods or services to the customer, excluding amounts collected on behalf of third parties. Transaction prices are based on contractually stated prices, which reflect the Company's pricing methodologies and policies based on market parameters.

Invoicing occurs in periods very close to deliveries and rendering of services, therefore, significant changes in transaction prices are not expected to be recognized in revenues for periods subsequent to satisfaction of the

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performance obligation, except for some exports in which final price formation occurs after the transfer of control of the products and are subject to the variation in the value of the commodity.

Sales are carried out in short terms of receipt, thus there are no significant financing components.

9. Costs and expenses by nature

9.1. Cost of sales

	2022	2021	2020
Raw material, products for resale, materials and third-party services (*)	(32,354)	(20,869)	(12,699)
Depreciation, depletion and amortization	(10,514)	(9,277)	(8,847)
Production taxes	(14,953)	(11,136)	(5,920)
Employee compensation	(1,665)	(1,882)	(1,729)
Total	(59,486)	(43,164)	(29,195)

(*) It Includes short-term leases and inventory turnover.

9.2. Selling expenses

	2022	2021	2020
Materials, third-party services, freight, rent and other related costs	(3,987)	(3,542)	(4,163)
Depreciation, depletion and amortization	(789)	(610)	(564)
Allowance for expected credit losses	(58)	12	2
Employee compensation	(97)	(89)	(159)
Total	(4,931)	(4,229)	(4,884)

9.3. General and administrative expenses

	2022	2021	2020
Employee compensation	(865)	(834)	(749)
Materials, third-party services, rent and other related costs	(362)	(256)	(252)
Depreciation, depletion and amortization	(105)	(86)	(89)
Total	(1,332)	(1,176)	(1,090)

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10. Other income and expenses

	2022	2021	2020
Unscheduled stoppages and pre-operating expenses	(1,834)	(1,362)	(1,441)
Losses with legal, administrative and arbitration proceedings	(1,362)	(740)	(493)
Pension and medical benefits - retirees (*)	(1,015)	(1,467)	889
Performance award program	(547)	(469)	(439)
Losses with commodities derivatives	(256)	(79)	(308)
Gains (losses) on decommissioning of returned/abandoned areas	(225)	99	(342)
Operating expenses with thermoelectric power plants	(150)	(88)	(133)
Profit sharing	(131)	(125)	(7)
Institutional relations and cultural projects	(103)	(96)	(83)
Health, safety and environment	(80)	(79)	(75)
Transfer of rights on concession agreements	-	363	84
Recovery of taxes (**)	68	561	1,580
Amounts recovered from Lava Jato investigation	96	235	155
Results of non-core activities	168	170	182
Fines imposed on suppliers	228	163	95
Government grants	471	154	10
Early termination and changes to cash flow estimates of leases	629	545	276
Reimbursements from E&P partnership operations	683	485	912
Results on disposal/write-offs of assets and on remeasurement of investment retained with loss of control	1,144	1,941	499
Results from co-participation agreements in bid areas (***)	4,286	631	-
Others	(248)	(189)	(363)
Total	1,822	653	998

(*) In 2022, it includes US\$ 67 referring to the payment of a contribution as provided for in the Pre-70 Term of Financial Commitment (TFC) for the administrative funding of the PPSP-R pre-70 and PPSP-NR pre-70 plans.

(**) In 2021 and 2020, it includes the effects of the exclusion of ICMS (VAT tax) from the basis of calculation of sales taxes PIS and COFINS, except for the effects of inflation indexation.

(***) For 2022, it mainly refers to the gain related to the agreement of Atapu and Sépia fields (see note 24.3). For 2021, it refers to the agreement of Buzios field.

11. Net finance income (expense)

	2022	2021	2020
Finance income	1,832	821	551
Income from investments and marketable securities (Government Bonds)	1,159	315	202
Other income, net	673	506	349
Finance expenses	(3,500)	(5,150)	(6,004)
Interest on finance debt	(2,363)	(2,870)	(3,595)
Unwinding of discount on lease liabilities	(1,340)	(1,220)	(1,322)
Discount and premium on repurchase of debt securities	(121)	(1,102)	(1,157)
Capitalized borrowing costs	1,032	976	941
Unwinding of discount on the provision for decommissioning costs	(519)	(761)	(638)
Other finance expenses, net	(189)	(173)	(233)
Foreign exchange gains (losses) and indexation charges	(2,172)	(6,637)	(4,177)
Foreign exchange gains (losses) (*)	1,022	(2,737)	(1,363)
Reclassification of hedge accounting to the Statement of Income (*)	(4,871)	(4,585)	(4,720)
Monetary restatement of dividends and dividends payable (**)	994	108	(15)
Recoverable taxes inflation indexation income (***)	86	518	1,807
Other foreign exchange gains (losses) and indexation charges, net	597	59	114
Total	(3,840)	(10,966)	(9,630)

(*) For more information, see notes 34.3a and 34.3c.

(**) In 2022, it refers to the income on the monetary restatement of paid anticipated dividends, in the amount of US\$ 1,293 (US\$ 121 in 2021), and to the expense on the indexation charges on dividends payable, in the amount of US\$ 299 (US\$ 13 in 2021 and US\$ 15 in 2020).

(***) In 2021, it includes inflation indexation income related to the exclusion of ICMS (VAT tax) from the basis of calculation of PIS and COFINS.

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12. Information by operating segment

During 2022, Petrobras implemented changes to its financial reporting system, according to the metric approved by the Executive Board. These changes did not change the allocation of Petrobras' reportable operating segments (E&P, RT&M and G&P). However, the measurement of certain components of the operating segments and of Corporate and other businesses was changed as following:

- trade and other receivables, recoverable income taxes and other recoverable taxes, previously allocated to operating segments, are now presented in Corporate and other businesses. Expected credit losses are also now also presented in Corporate and other businesses;
- losses with commodity derivatives (within other income and expenses, net), previously presented in Corporate and other businesses, are now presented in operating segments;
- general and administrative expenses related to logistics and fuel sales, previously presented in Corporate and other businesses, are now disclosed in the RT&M segment.

This information reflects the Company's current management model and is used by the Board of Executive Officers (Chief Operating Decision Maker - CODM) to make decisions regarding resource allocation and performance evaluation. In this context, the information by operating segment for 2021 and 2020 has been restated for comparison purposes, as follows:

Consolidated Statement of Income by operating segment - 2021 Reclassified

	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Eliminations	Total
Net income (loss) for the year disclosed in 2021	23,350	5,746	(109)	(7,291)	(1,710)	19,986
Changes in the measurement	(29)	(121)	(13)	163	-	-
Net income (loss) for the year reclassified - 2021	23,321	5,625	(122)	(7,128)	(1,710)	19,986

Consolidated Statement of Income by operating segment - 2020 Reclassified

	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Eliminations	Total
Net income (loss) for the year disclosed in 2020	4,471	77	894	(4,898)	404	948
Changes in the measurement	40	64	2	(106)	-	-
Net income (loss) for the year reclassified - 2020	4,511	141	896	(5,004)	404	948

Consolidated assets by operating segment - 2021 Reclassified

	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Eliminations	Total
Consolidated assets disclosed - 12.31.2021	113,146	34,388	10,589	21,898	(5,673)	174,348
Changes in the measurement	(3,671)	(3,782)	(2,809)	9,020	1,242	-
Consolidated assets reclassified - 12.31.2021	109,475	30,606	7,780	30,918	(4,431)	174,348

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12.1. Net income by operating segment

Consolidated Statement of Income by operating segment

						2022
	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Eliminations	Total
Sales revenues	77,890	113,531	15,068	511	(82,526)	124,474
Intersegments	76,579	1,950	3,991	6	(82,526)	-
Third parties	1,311	111,581	11,077	505	-	124,474
Cost of sales	(30,465)	(99,154)	(10,518)	(522)	81,173	(59,486)
Gross profit (loss)	47,425	14,377	4,550	(11)	(1,353)	64,988
Income (expenses)	907	(3,132)	(2,965)	(2,671)	(13)	(7,874)
Selling expenses	(22)	(1,841)	(2,979)	(76)	(13)	(4,931)
General and administrative expenses	(46)	(275)	(62)	(949)	-	(1,332)
Exploration costs	(887)	-	-	-	-	(887)
Research and development expenses	(678)	(6)	(5)	(103)	-	(792)
Other taxes	(79)	(31)	(44)	(285)	-	(439)
Impairment (losses) reversals	(1,218)	(97)	1	(1)	-	(1,315)
Other income and expenses, net	3,837	(882)	124	(1,257)	-	1,822
Income (loss) before net finance income (expense), results of equity-accounted investments and income taxes	48,332	11,245	1,585	(2,682)	(1,366)	57,114
Net finance expense	-	-	-	(3,840)	-	(3,840)
Results of equity-accounted investments	170	3	83	(5)	-	251
Net income / (loss) before income taxes	48,502	11,248	1,668	(6,527)	(1,366)	53,525
Income taxes	(16,433)	(3,822)	(540)	3,559	466	(16,770)
Net income (loss) for the year	32,069	7,426	1,128	(2,968)	(900)	36,755
Attributable to:						
Shareholders of Petrobras	32,073	7,426	1,038	(3,014)	(900)	36,623
Non-controlling interests	(4)	-	90	46	-	132

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	2021 - Reclassified					
	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Eliminations	Total
Sales revenues	55,584	74,524	12,051	504	(58,697)	83,966
Intersegments	54,479	1,416	2,564	238	(58,697)	-
Third parties	1,105	73,108	9,487	266	-	83,966
Cost of sales	(23,673)	(65,620)	(9,494)	(503)	56,126	(43,164)
Gross profit (loss)	31,911	8,904	2,557	1	(2,571)	40,802
Income (expenses)	3,240	(1,805)	(2,890)	(1,741)	(22)	(3,218)
Selling expenses	-	(1,539)	(2,668)	-	(22)	(4,229)
General and administrative expenses	(152)	(245)	(73)	(706)	-	(1,176)
Exploration costs	(687)	-	-	-	-	(687)
Research and development expenses	(415)	(11)	(25)	(112)	-	(563)
Other taxes	(192)	(122)	(38)	(54)	-	(406)
Impairment (losses) reversals	3,107	289	(208)	2	-	3,190
Other income and expenses, net	1,579	(177)	122	(871)	-	653
Income (loss) before net finance income (expense), results of equity-accounted investments and income taxes	35,151	7,099	(333)	(1,740)	(2,593)	37,584
Net finance expense	-	-	-	(10,966)	-	(10,966)
Results of equity-accounted investments	119	941	98	449	-	1,607
Net income / (loss) before income taxes	35,270	8,040	(235)	(12,257)	(2,593)	28,225
Income taxes	(11,949)	(2,415)	113	5,129	883	(8,239)
Net income (loss) for the year	23,321	5,625	(122)	(7,128)	(1,710)	19,986
Attributable to:						
Shareholders of Petrobras	23,324	5,625	(219)	(7,145)	(1,710)	19,875
Non-controlling interests	(3)	-	97	17	-	111

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	2020 - Reclassified					
	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Eliminations	Total
Sales revenues	34,395	47,782	7,725	876	(37,095)	53,683
Intersegments	33,524	865	2,455	251	(37,095)	-
Third parties	871	46,917	5,270	625	-	53,683
Cost of sales	(18,098)	(44,011)	(3,985)	(832)	37,731	(29,195)
Gross profit (loss)	16,297	3,771	3,740	44	636	24,488
Income (expenses)	(9,187)	(2,895)	(2,575)	256	(24)	(14,425)
Selling expenses	-	(2,522)	(2,318)	(20)	(24)	(4,884)
General and administrative expenses	(155)	(271)	(85)	(579)	-	(1,090)
Exploration costs	(803)	-	-	-	-	(803)
Research and development expenses	(232)	(11)	(10)	(102)	-	(355)
Other taxes	(478)	(137)	(31)	(306)	-	(952)
Impairment (losses) reversals	(7,364)	164	36	(175)	-	(7,339)
Other income and expenses, net	(155)	(118)	(167)	1,438	-	998
Income (loss) before net finance income (expense), results of equity-accounted investments and income taxes	7,110	876	1,165	300	612	10,063
Net finance expense	-	-	-	(9,630)	-	(9,630)
Results of equity-accounted investments	(181)	(437)	128	(169)	-	(659)
Net income / (loss) before income taxes	6,929	439	1,293	(9,499)	612	(226)
Income taxes	(2,418)	(298)	(397)	4,495	(208)	1,174
Net income (loss) for the year	4,511	141	896	(5,004)	404	948
Attributable to:						
Shareholders of Petrobras	4,515	175	823	(4,776)	404	1,141
Non-controlling interests	(4)	(34)	73	(228)	-	(193)

The amount of depreciation, depletion and amortization by segment is set forth as follows:

	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other businesses	Total
2022	10,415	2,248	448	107	13,218
2021	9,005	2,167	430	93	11,695
2020	8,661	2,114	473	197	11,445

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12.2. Assets by operating segment

	Exploration and Production (E&P)	Refining, Transportation & Marketing (RT&M)	Gas & Power (G&P)	Corporate and other business	Elimina- tions	Total
Consolidated assets by operating segment - 12.31.2022						
Current assets	5,224	12,035	391	18,864	(5,264)	31,250
Non-current assets	111,110	22,396	7,193	15,242	-	155,941
Long-term receivables	6,351	1,811	94	12,964	-	21,220
Investments	379	977	173	37	-	1,566
Property, plant and equipment	101,875	19,496	6,851	1,947	-	130,169
Operating assets	92,087	16,851	4,808	1,585	-	115,331
Under construction	9,788	2,645	2,043	362	-	14,838
Intangible assets	2,505	112	75	294	-	2,986
Total Assets	116,334	34,431	7,584	34,106	(5,264)	187,191

Consolidated assets by operating segment - 12.31.2021 - Reclassified

Current assets	3,770	9,632	1,256	19,922	(4,431)	30,149
Non-current assets	105,705	20,974	6,524	10,996	-	144,199
Long-term receivables	3,635	1,489	95	9,115	-	14,334
Investments	393	970	119	28	-	1,510
Property, plant and equipment	99,033	18,419	6,241	1,637	-	125,330
Operating assets	87,210	16,086	3,739	1,373	-	108,408
Under construction	11,823	2,333	2,502	264	-	16,922
Intangible assets	2,644	96	69	216	-	3,025
Total Assets	109,475	30,606	7,780	30,918	(4,431)	174,348

Accounting policy for operating segments

The information related to the Company's operating segments is prepared based on available financial information directly attributable to each segment, or items that can be allocated to each segment on a reasonable basis. This information is presented by business activity, as used by the Company's Board of Executive Officers (Chief Operating Decision Maker – CODM) in the decision-making process of resource allocation and performance evaluation.

The measurement of segment results includes transactions carried out with third parties, including associates and joint ventures, as well as transactions between operating segments. Transfers between operating segments are recognized at internal transfer prices derived from methodologies that considers market parameters and are eliminated only to provide reconciliations to the consolidated financial statements.

The Company's business segments disclosed separately are:

Exploration and Production (E&P): this segment covers the activities of exploration, development and production of crude oil, NGL (natural gas liquid) and natural gas in Brazil and abroad, for the primary purpose of supplying its domestic refineries. The E&P segment also operates through partnerships with other companies and includes holding interest in foreign entities operating in this segment.

As an energy Company with a focus on oil and gas, intersegment sales revenue refers mainly to oil transfers to the Refining, Transportation and Marketing segment, aiming to supply the Company's refineries and meet the domestic demand for oil products. These transactions are measured by internal transfer prices based on international oil prices and their respective exchange rate impacts, taking into account the specific characteristics of the transferred oil stream.

In addition, the E&P segment revenues include transfers of natural gas to the natural gas processing plants within Gas and Power segment. These transactions are measured at internal transfer prices based on the international prices of this commodity.

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Revenue from sales to third parties mainly reflects services rendered relating to E&P activities, sales of the E&P's natural gas processing plants, as well as the oil and natural gas operations carried out by subsidiaries abroad.

Refining, Transportation and Marketing (RT&M): this segment covers the refining, logistics, transport and trading of crude oil and oil products activities in Brazil and abroad, as well as exports of ethanol. This segment also includes the petrochemical operations, such as extraction and processing of shale and holding interests in petrochemical companies in Brazil.

This segment carries out the acquisition of crude oil from the E&P segment, imports oil for refinery slate, and acquires oil products in international markets taking advantage of the existing price differentials between the cost of processing domestic oil and that of importing oil products.

Intersegment revenues primarily reflect the sale of oil products to the distribution business at market prices and the operations for the Gas and Power and E&P segments at internal transfer price.

Revenues from sales to third parties primarily reflect the trading of oil products in Brazil and the export and trade of oil and oil products by foreign subsidiaries.

Gas and Power (G&P): this segment covers the activities of logistic and trading of natural gas and electricity, transportation and trading of LNG (liquefied natural gas), generation and electricity by means of thermoelectric power plants, as well as holding interests in transporters and distributors of natural gas in Brazil and abroad. It also includes natural gas processing and fertilizers production.

Intersegment revenues primarily reflect the transfers of natural gas processed, liquefied petroleum gas (LPG) and NGL to the RT&M segment. These transactions are measured at internal transfer prices.

This segment purchases national natural gas from the E&P segment, from partners and third parties, imports natural gas from Bolivia and LNG to meet national demand.

Revenues from sales to third parties primarily reflect natural gas processed to distributors, as well as generation and trading of electricity.

Corporate and other businesses: comprise items that cannot be attributed to business segments, including those with corporate characteristics, in addition to distribution and biofuels businesses. Corporate items mainly include those related to corporate financial management, overhead related to central administration and other expenses, including actuarial expenses related to pension and health plans for beneficiaries. Other businesses include the distribution of oil products abroad (South America) and the production of biodiesel and its co-products. In 2021 and 2020, the results of other businesses included the equity interest in the associate Vibra Energia, formerly Petrobras Distribuidora, until the date of sale of the remaining interest in this associate, which took place in July 2021.

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13. Trade and other receivables

13.1. Trade and other receivables

	12.31.2022	12.31.2021
Receivables from contracts with customers		
Third parties	5,210	4,839
Related parties		
Investees (note 35.1)	93	385
Subtotal	5,303	5,224
Other trade receivables		
Third parties		
Receivables from divestments (*)	1,922	2,679
Lease receivables	394	435
Other receivables	765	872
Related parties		
Petroleum and alcohol accounts - receivables from Brazilian Federal Government	602	506
Subtotal	3,683	4,492
Total trade and other receivables, before ECL	8,986	9,716
Expected credit losses (ECL) - Third parties	(1,533)	(1,428)
Expected credit losses (ECL) - Related parties	(3)	(20)
Total trade and other receivables	7,450	8,268
Current	5,010	6,368
Non-current	2,440	1,900

(*) At December 31, 2022, it mainly refers to the receivables from the divestments of Atapu, Sépia, Carmópolis, Roncador, Maromba, Miranga, Baúna, Pampo e Enchova, Breitener, Rio Ventura e Cricaré. In 2021, it mainly refers to receivables (including interest, exchange rate variation and inflation indexation) from the divestment in Nova Transportadora do Sudeste (NTS), of Block BM-S-8 in the Bacalhau field (former Carcará group), in addition to the values referring to Rio Ventura, Roncador, Pampo Enchova, Baúna and Miranga fields.

Trade and other receivables are generally classified as measured at amortized cost, except for receivables with final prices linked to changes in commodity price after their transfer of control, which are classified as measured at fair value through profit or loss, amounting to US\$ 470 as of December 31, 2022 (US\$ 1,155 as of December 31, 2021).

The Company expects to receive the amounts of Petroleum and Alcohol Accounts between 2023 and 2027, according to the constitutional amendments of December 2021, which established limits for disbursements by the Federal Government in each fiscal year.

13.2. Aging of trade and other receivables – third parties

	12.31.2022		12.31.2021	
	Trade and other receivables	Expected credit losses	Trade and other receivables	Expected credit losses
Current	6,474	(39)	7,059	(77)
Overdue:				
1-90 days	189	(48)	218	(26)
91-180 days	30	(27)	40	(6)
181-365 days	63	(51)	51	(29)
More than 365 days	1,535	(1,368)	1,457	(1,290)
Total	8,291	(1,533)	8,825	(1,428)

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13.3. Changes in provision for expected credit losses

	31.12.2022	31.12.2021
Opening balance	1,448	1,596
Additions	136	69
Write-offs	(21)	(40)
Reversals	(81)	(112)
Transfer of assets held for sale	-	(8)
Translation adjustment	54	(57)
Closing balance	1,536	1,448
Current	245	158
Non-current	1,291	1,290

Accounting policy for trade and other receivables

Trade and other receivables are generally classified at amortized cost, except for certain receivables classified at fair value through profit or loss, whose cash flows are distinct from the receipt of principal and interest, including receivables with final prices linked to changes in commodity price after their transfer of control.

When the Company is the lessor in a finance lease, a receivable is recognized at the amount of the net investment in the lease, consisting of the lease payments receivable and any unguaranteed residual value accruing to the Company, discounted at the interest rate implicit in the lease.

The Company measures expected credit losses (ECL) for short-term trade receivables using a provision matrix which is based on historical observed default rates adjusted by current and forward-looking information when applicable and available without undue cost or effort.

ECL is the weighted average of historical credit losses with the respective default risks, which may occur according to the weightings. The credit loss on a financial asset is measured by the difference between all contractual cash flows due to the Company and all cash flows the Company expects to receive, discounted at the original effective interest rate.

The Company measures the allowance for ECL of other trade receivables based on their 12-month expected credit losses unless their credit risk increases significantly since their initial recognition, in which case the allowance is based on their lifetime ECL.

When determining whether there has been a significant increase in credit risk, the Company compares the risk of default on initial recognition and at the reporting date.

Regardless of the assessment of significant increase in credit risk, a delinquency period of 30 days past due triggers the definition of significant increase in credit risk on a financial asset, unless otherwise demonstrated by reasonable and supportable information.

The Company assumes that the credit risk on the trade receivable has not increased significantly since initial recognition if the receivable is considered to have low credit risk at the reporting date. Low credit risk is determined based on external credit ratings or internal methodologies.

In the absence of controversy or other issues that may result in the suspension of collection, the Company assumes that a default occurs whenever the counterparty does not comply with the legal obligation to pay its debts when due or, depending on the instrument, when it is at least 90 days past due.

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14. Inventories

	12.31.2022	12.31.2021
Crude oil	3,738	3,048
Oil products	3,278	2,495
Intermediate products	587	532
Natural gas and Liquefied Natural Gas (LNG)	135	349
Biofuels	14	19
Fertilizers	4	8
Total products	7,756	6,451
Materials, supplies and others	1,023	804
Total	8,779	7,255

Crude oil and LNG inventories can be traded or used for production of oil products.

Intermediate products are those product streams that have been through at least one of the refining processes, but still need further treatment, processing or converting to be available for sale.

Biofuels mainly include ethanol and biodiesel inventories.

Materials, supplies and others mainly comprise production supplies and operating materials used in the operations of the Company, stated at the average purchase cost, not exceeding replacement cost.

In the year ended December 31, 2022, the Company recognized a US\$ 11 loss within cost of sales, adjusting inventories to net realizable value (a US\$ 1 reversal of cost of sales in the year ended December 31, 2021) primarily due to changes in international prices of crude oil and oil products.

At December 31, 2022, the Company had pledged crude oil and oil products volumes as collateral for the Term of Financial Commitment (TFC) related to plans PPSP-R, PPSP-R Pre-70 and PPSP-NR Pre-70 signed by Petrobras and Petros Foundation in 2008, in the estimated amount of US\$ 1,082, after deducting the partial early settlement of the TFC relating to the Pension Difference and TFC Pre-70, made in February 2022, meeting the contractual conditions of the debt coverage as stated in the TCF.

Accounting policy for inventories

Inventories are determined by the weighted average cost method adjusted to the net realizable value when it is lower than its carrying amount.

Net realizable value is the estimated selling price of inventory in the ordinary course of business, less estimated cost of completion and estimated expenses to complete its sale, considering the purpose for which the inventories are held. Inventories with identifiable sales contracts have a net realizable value based on the contracted price, as, for example, in offshore operations (without physical tanking, with loading onto the ship and direct unloading at the customer) or auctions. Other items in inventory have a net realizable value based on general selling prices, considering the most reliable evidence available at the time of the estimate.

The net realizable value of inventories is determined by grouping similar items with the same characteristic or purpose. Changes in sales prices after the reporting date of the financial statements are considered in the calculation of the net realizable value if they confirm the conditions existing on that reporting date.

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15. Trade payables

	12.31.2022	12.31.2021
Third parties in Brazil	3,497	3,556
Third parties abroad	1,935	1,861
Related parties	32	66
Total in current liabilities	5,464	5,483

Forfeiting

The Company has a program to encourage the development of the oil and gas production chain called “*Mais Valor*” (More Value), operated by a partner company on a 100% digital platform.

By using this platform, the suppliers who want to anticipate their receivables may launch a reverse auction, in which the winner is the financial institution which offers the lowest discount rate. The financial institution becomes the creditor of invoices advanced by the supplier, and Petrobras pays the invoices on the same date and under the conditions originally agreed with the supplier.

Invoices are advanced in the “*Mais Valor*” program exclusively at the discretion of the suppliers and do not change the term, prices and commercial conditions contracted by Petrobras with such suppliers, as well as it does not add financial charges to the Company, therefore, the classification is maintained as Trade payables in Statements of Cash Flows (Cash flows from operating activities).

As of December 31, 2022, the amount due by the Company to the financial institutions relating to this program is US\$ 130 (US\$ 178 as of December 31, 2021) and has an average payment term of 24 days.

16. Taxes

16.1. Income taxes

	Current assets		Current liabilities		Non-current liabilities	
	12.31.2022	12.31.2021	12.31.2022	12.31.2021	12.31.2022	12.31.2021
Taxes in Brazil						
Income taxes	160	133	2,505	682	-	-
Income taxes - Tax settlement programs	-	-	50	43	302	300
	160	133	2,555	725	302	300
Taxes abroad	5	30	328	8	-	-
Total	165	163	2,883	733	302	300

Income taxes credits refer mainly to tax credits resulting from the monthly process for estimation and payment of income taxes, in addition to the negative balance of IRPJ and CSLL related to 2017, 2018, 2019 and 2021. Income taxes within current liabilities refer to the current portion of IRPJ and CSLL to be paid.

Tax settlement programs amounts relate mainly to a notice of deficiency issued by the Brazilian Federal Revenue Service due to the treatment of expenses arising from the Terms of Financial Commitment (TFC) as deductible in determining taxable profit for the calculation of income taxes. The payment term is 145 monthly installments, indexed by the Selic interest rate, as of January 2018.

Reconciliation between statutory income tax rate and effective income tax rate

The following table provides the reconciliation of Brazilian statutory tax rate to the Company's effective rate on income before income taxes:

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	2022	2021	2020
Net income (loss) before income taxes	53,525	28,225	(226)
Nominal income taxes computed based on Brazilian statutory corporate tax rates (34%)	(18,197)	(9,597)	77
Adjustments to arrive at the effective tax rate:			
Tax benefits from the deduction of interest on capital distribution	1,234	843	(16)
Different jurisdictional tax rates for companies abroad	822	296	1,874
Brazilian income taxes on income of companies incorporated outside Brazil (*)	(763)	(546)	(743)
Tax incentives	187	50	(9)
Tax loss carryforwards (unrecognized tax losses)	221	59	(428)
Post-employment benefits	(394)	(802)	559
Results of equity-accounted investments in Brazil and abroad	87	318	49
Non-occurrence of income taxes on indexation (SELIC interest rate) of undue paid taxes	33	903	-
Others	-	237	(189)
Income taxes	(16,770)	(8,239)	1,174
Deferred income taxes	(906)	(4,058)	1,743
Current income taxes	(15,864)	(4,181)	(569)
Effective tax rate of income taxes	31.3%	29.2%	(519.5)%

(*) It relates to Brazilian income taxes on earnings of offshore investees, as established by Law No. 12,973/2014.

Deferred income taxes - non-current

The changes in the deferred income taxes are presented as follows:

	2022	2021
Opening balance	(625)	6,256
Recognized in the statement of income for the period	(906)	(4,058)
Recognized in shareholders' equity	(3,220)	(1,555)
Translation adjustment	(45)	(133)
Use of tax loss carryforwards	(1,123)	(1,172)
Others	1	37
Closing balance	(5,918)	(625)

The composition of deferred tax assets and liabilities is set out in the following table:

Nature	Realization basis	12.31.2022	12.31.2021
PP&E - Exploration and decommissioning costs	Depreciation, amortization and write-offs of assets	158	(1,362)
PP&E - Impairment	Amortization, impairment reversals and write-offs of	3,602	4,382
PP&E - depreciation methods and capitalized borrowing costs	Depreciation, amortization and write-offs of assets	(15,438)	(12,924)
Loans, trade and other receivables / payables and financing	Payments, receipts and considerations	810	3,490
Lease liabilities	Appropriation of the considerations	434	1,244
Provision for legal proceedings	Payments and use of provisions	885	605
Tax loss carryforwards	Taxable income compensation	914	1,827
Inventories	Sales, write-downs and losses	333	228
Employee Benefits	Payments and use of provisions	1,518	1,250
Others		866	635
Total		(5,918)	(625)
Deferred tax assets		832	604
Deferred tax liabilities		(6,750)	(1,229)

Non-occurrence of income taxes on indexation (SELIC interest rate) of undue paid taxes

On September 24, 2021, the Supreme Federal Court (*Supremo Tribunal Federal* – STF), in a judgment of extraordinary appeal with general repercussion, without final decision, decided that the incidence of income taxes (IRPJ and CSLL) on the indexation income from applying SELIC interest rate (indexation charges and default interest) over undue paid taxes is unconstitutional.

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The Company has a writ of mandamus in which it claims the right to recover the amounts of IRPJ and CSLL charged on the income arising from the indexation of undue paid taxes and judicial deposits by the SELIC rate since March 2015, as well as the definitive removal of this income from the IRPJ and CSLL tax base.

On October 20, 2021, a judicial decision was published in the writ of mandamus recognizing the right of the Company to the non-occurrence of income taxes on indexation by the SELIC rate of undue paid taxes.

Based on the STF's decision, as well as on the legal grounds presented, Petrobras reassessed the expectation for this matter, considering that it is probable that this tax treatment will be accepted.

Thus, in 2021, a US\$ 903 gain was recognized in the income statement, within income taxes.

Timing of reversal of deferred income taxes

Deferred tax assets were recognized based on projections of taxable profit in future periods supported by the assumptions within the Company's 2023-2027 Strategic Plan, whose pillars are the preservation of financial strength, financial and environment resilience of projects, and focus on value creation.

Management considers that the deferred tax assets will be realized to the extent the deferred tax liabilities are reversed and expected taxable events occur based on its 2023-2027 Strategic Plan.

The estimated schedule of recovery/reversal of net deferred tax assets (liabilities) as of December 31, 2022 is set out in the following table:

	Assets	Liabilities
2023	55	(93)
2024	22	304
2025	20	1,091
2026	20	1,033
2027	20	(171)
2028 and thereafter	695	4,586
Recognized deferred tax assets	832	6,750

In addition, the Company has tax loss carryforwards arising from offshore subsidiaries, for which no deferred taxes were recognized.

	Assets 12.31.2022	Assets 12.31.2021
Brazil	-	1
Abroad	987	1,351
Unrecognized deferred tax assets	987	1,352

These unrecognized deferred tax assets arise mainly from oil and gas exploration and production and refining activities in the United States.

In 2022, the Company accounted for part of these tax assets (US\$ 249) due to estimated future taxable income arising from business operations.

An aging of the unrecognized deferred tax assets from companies abroad is set out below:

	2030 - 2032	2033 - 2035	2036 - 2038	Undefined expiration	Total
Unrecognized deferred tax assets	418	339	167	63	987

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Uncertain tax treatments

As of December 31, 2022, the Company had US\$ 6,043 (US\$ 4,983 as of December 31, 2021) of uncertain tax treatments for IRPJ and CSLL related to judicial and administrative proceedings (see note 18.3). Additionally, as of December 31, 2022, the Company has other positions that can be considered as uncertain tax treatments for IRPJ and CSLL amounting to US\$ 30,020 (US\$ 10,712 as of December 31, 2021), given the possibility of different interpretation by the tax authority. These uncertain tax treatments are supported by technical assessments and tax risk assessment methodology. Therefore, Petrobras believes that such positions are likely to be accepted by the tax authorities.

On February 8, 2023, the Brazilian Supreme Federal Court (STF), unanimously, considered that a final decision (*res judicata*) on taxes collected on a continuous basis, loses its effects if this Court decides otherwise at a later time. The judgment was based on collections of the income tax CSLL, a tax judged constitutional by the STF in 2007. This decision does not imply any impact on Petrobras.

Accounting policy for income taxes

The Company calculates income taxes in accordance with current legislation that are enacted or substantively enacted, based on the taxable income calculated in accordance with relevant legislation, applying rates in effect at the end of the reporting. Income tax expense for the period includes current and deferred taxes, recognized in the statement of income of the period, except when the tax arises from a transaction or event which is recognized directly in equity.

Income taxes expenses on profits arising from subsidiaries abroad are accounted for in the statement of income using the same income tax rates as used in Brazil, adjusted by dividends and results of equity-accounted investments.

a) Current income taxes

Current income taxes are offset when they relate to income taxes levied on the same taxable entity and by the same tax authority, when there is a legal right and the entity has the intention to set off current tax assets and current tax liabilities, simultaneously.

Uncertain tax treatments are periodically assessed, considering the probability of acceptance by the tax authority.

b) Deferred income taxes

Deferred income taxes are generally recognized on temporary differences between the tax base of an asset or liability and its carrying amount. They are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled.

Deferred tax assets are recognized for all deductible temporary differences and carryforward of unused tax losses or credits to the extent that it is probable that taxable profit will be available against which those deductible temporary differences can be utilized. When there are insufficient taxable temporary differences relating to the same taxation authority and the same taxable entity, a deferred tax is recognized to the extent that it is probable that the entity will have sufficient taxable profit in future periods, based on projections approved by management and supported by the Company's Strategic Plan.

Deferred tax assets and deferred tax liabilities are offset when they relate to income taxes levied on the same taxable entity, when a legally enforceable right to set off current tax assets and current tax liabilities exists and when the deferred tax assets and deferred tax liabilities relate to taxes levied by the same tax authority on the same taxable entity.

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16.2. Other taxes

	Current assets		Non-current assets		Current liabilities		Non-current liabilities (*)	
	12.31.2022	12.31.2021	12.31.2022	12.31.2021	12.31.2022	12.31.2021	12.31.2022	12.31.2021
Taxes in Brazil								
Current / Non-current ICMS (VAT)	716	665	473	379	699	995	-	-
Current / Non-current PIS and COFINS (**)	378	418	2,362	2,030	28	499	89	45
Claim to recover PIS and COFINS	-	-	657	594	-	-	-	-
CIDE	1	6	-	-	5	42	-	-
Production taxes	-	-	-	-	1,996	2,147	114	21
Withholding income taxes	-	-	-	-	149	86	-	-
Tax Settlement Program	-	-	-	-	9	67	7	6
Others	40	48	273	249	143	142	83	70
Total in Brazil	1,135	1,137	3,765	3,252	3,029	3,978	293	142
Taxes abroad	7	46	13	9	19	23	-	-
Total	1,142	1,183	3,778	3,261	3,048	4,001	293	142

(*) Other non-current taxes are classified as other non-current liabilities.

(**) As of December 31, 2022, it includes US\$ 5 (US\$ 104 as of December 31, 2021) related to exclusion of ICMS (VAT tax) in the basis of calculation of sales taxes PIS and COFINS (contributions for the social security).

Current and non-current ICMS (VAT) credits arise from requests for extemporaneous and overpaid tax, offset in accordance with the legislation of each state. They also arise on the acquisition of assets for property, plant and equipment, which are offset in a straight line over 4 years.

Current and non-current PIS/COFINS credits mainly refer to the acquisition of goods and services for assets under construction, since their use is permitted only after these assets enter into production, as well as to extemporaneous tax credits.

Production taxes are financial compensation due to the Brazilian Federal Government by companies that explore and produce oil and natural gas in Brazilian territory. They are composed of royalties, special participations, signature bonuses and payment for retention or occupation of area.

Claim to recover PIS and COFINS

The Company filed four civil lawsuits, in the Regional Federal Court of the Second Region, against the Brazilian Federal Government, claiming to recover PIS and COFINS paid over finance income and foreign exchange variation gains, from February 1999 to January 2004.

The court granted to the Company, in all the lawsuits, the definitive right to recover those taxes. Two lawsuits have resulted in judicialized debts (*precatórios*) in the amounts claimed by the Company. Regarding the two remaining cases, both had rulings by the court favorable to the Company and, in one of them, the Brazilian Federal Government has already expressed its agreement and there was a decision in favor of the Company, still subject to appeal. Regarding the other lawsuit, there is no court decision at this point.

As of December 31, 2022, the Company had non-current receivables of US\$ 657 (US\$ 594 as of December 31, 2021) related to PIS and COFINS, which are indexed to inflation.

17. Employee benefits

Employee benefits are all forms of consideration given by an entity in exchange for service rendered by employees or for the termination of employment. It also includes expenses with directors and management. Such benefits include salaries, post-employment benefits, termination benefits and other benefits.

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	12.31.2022	12.31.2021
Liabilities		
Short-term employee benefits	1,452	1,289
Termination benefits	192	349
Post-employment benefits	11,246	9,880
Total	12,890	11,518
Current	2,215	2,144
Non-current	10,675	9,374

17.1. Short-term employee benefits

	12.31.2022	12.31.2021
Variable compensation program - PPP	489	461
Accrued vacation	505	440
Salaries and related charges and other provisions	327	270
Profit sharing	131	118
Total	1,452	1,289
Current	1,421	1,286
Non-current (*)	31	3

(*) Remaining balance relating to the four-year deferral of 40% of the PPP portion of executive officers and the upper management

The Company recognized the following amounts in the statement of income:

	2022	2021	2020
Salaries, accrued vacations and related charges	(3,006)	(2,665)	(3,064)
Variable compensation program - PPP (*)	(547)	(469)	(439)
Profit sharing (*)	(131)	(125)	(7)
Management fees and charges	(14)	(15)	(14)
Total	(3,698)	(3,274)	(3,524)

(*) It includes reversals of provisions related to previous year.

17.1.1. Variable compensation programs

Performance award program (PPP)

On September 17, 2021, the Company's Board of Directors approved the pay-out criteria for granting PPP 2021 to employees. The PPP 2021 model established that, in order to trigger this payment, it is necessary to have net income for the year and a declaration and payment of distribution to shareholders.

On December 15, 2021, the Company's Board of Directors approved the pay-out criteria for the program for 2022, maintaining the criteria of the PPP 2021.

In 2022, the main changes related to the PPP were:

- payment of US\$ 507 relating to the PPP provisioned in 2021;
- payment of US\$ 85 relating to the PPP provisioned in 2022;
- provision of US\$ 553 for the PPP related to 2022, accounted for within other income and expenses.

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Profit Sharing (PLR)

On December 29, 2020, the 17 unions representing onshore employees of Petrobras had signed the agreement for the PLR for 2021 and 2022, before the deadline determined by the Collective Labor Agreement (ACT). Among the offshore employees, only one union had signed the agreement within the period defined by the ACT.

The current agreement for the PLR provides that only employees without managerial functions will be entitled to receive profit sharing with individual limits according to their remuneration. In order for the PLR to be paid for 2021 and 2022, the following requirements must be met: (i) dividend distribution to shareholders approved at the Annual General Shareholders Meeting, (ii) net income for the year, and (iii) achievement of the weighted average percentage of at least 80% of a set of indicators.

The maximum amount of PLR to be distributed is limited to 5% of Adjusted EBITDA (a non-GAAP measure defined as net income plus net finance income (expense); income taxes; depreciation, depletion and amortization; results in equity-accounted investments; impairment of assets; results on disposal/write-offs of assets, remeasurement of investment retained with loss of control and reclassification of CTA; and results from co-participation agreements in bid areas), to 6.25% of net income and to 25% of dividends distributed to shareholders, in each year, whichever is lower.

In 2022, the main changes related to the PLR were:

- payment of US\$ 129 relating to the PLR provisioned in 2021;
- provision of US\$ 132 for the PLR related to 2022, accounted for within other income and expenses.

Accounting policy for variable compensation programs (PPP and PLR)

The provisions for variable compensation programs are recognized on an accrual basis, during the periods in which the employees provided services. They represent the estimates of future disbursements arising from past events, based on the criteria and metrics of the PPP and PLR, provided that the requirements for activating these programs are met and that the obligation can be reliably estimated.

17.2. Termination benefits

Termination benefits are employee benefits provided in exchange for the termination of labor contract as a result of either: i) the Company's decision to terminate the labor contract before the employee's normal retirement date; or ii) an employee's decision to accept an offer of benefits in exchange for the termination of their employment.

The Company has voluntary severance programs (PDV), specific for employees of the corporate segment and of divestment assets, which provide for the same legal and indemnity advantages.

In 2022, the wholly-owned subsidiary Transpetro launched a new voluntary severance program for its offshore employees, whose enrollment occurred between May 4, 2022 and July 14, 2022, and the deadline for the termination of employees was December 3, 2022.

For the current programs, there are 11,688 adhesions accumulated through December 31, 2022 (11,418 through December 31, 2021).

Changes on the provisions for termination benefits are presented as follows:

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	2022	2021
Opening Balance	349	900
Effects in the statement of income	16	(11)
Enrollments	18	30
Revision of provisions	(2)	(41)
Effects in cash and cash equivalents	(199)	(497)
Terminations in the period	(199)	(497)
Translation adjustment	26	(43)
Closing Balance	192	349
Current	75	207
Non-current	117	142

Recognition of the provision for expenses occur as employees enroll to the programs.

The Company disburse the severance payments in two installments, one at the time of termination and the remainder one year after the termination.

As of December 31, 2022, from the balance of US\$ 192, US\$ 22 refers to the second installment of 426 retired employees and US\$ 170 refers to 1,651 employees enrolled in voluntary severance programs with expected termination by September 2025.

17.3. Post-employment benefits

The Company maintains a health care plan for its employees in Brazil (active and retiree) and their dependents (Saúde Petrobras), and five other major plans of post-employment benefits (collectively referred to as "pension plans").

The following table presents the balance of post-employment benefits:

	12.31.2022	12.31.2021
Liabilities		
Health Care Plan - Saúde Petrobras	5,813	4,485
Petros Pension Plan - Renegotiated (PPSP-R)	3,606	3,233
Petros Pension Plan - Non-renegotiated (PPSP-NR)	1,041	658
Petros Pension Plan - Renegotiated - Pre-70 (PPSP-R Pre 70)	284	817
Petros Pension Plan - Non-renegotiated - Pre-70 (PPSP-NR Pre 70)	339	511
Petros 2 Pension Plan (PP-2)	163	165
Other plans	-	11
Total	11,246	9,880
Current	719	651
Non-current	10,527	9,229

17.3.1. Nature and risks associated with defined benefit plans

Health Care Plan

The health care plan *Saúde Petrobras* is managed by Petrobras Health Association (*Associação Petrobras de Saúde – APS*), a nonprofit civil association, and includes prevention and health care programs. The plan covers all employees and retirees and is open to future employees.

Currently sponsored by Petrobras, Transpetro, PBI, TBG and Termobahia, this plan is primarily exposed to the risk of increase in medical costs due to inflation, new technologies, new types of coverage and an increase in the utilization of medical benefits. The Company continuously improves the quality of its technical and administrative processes, as well as the health programs offered to beneficiaries in order to mitigate such risks.

Employees and retirees make monthly fixed contributions to cover high-risk procedures and variable contributions for a portion of the cost of other procedures, both based on the contribution tables of the plan, which are determined based

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on certain parameters, such as salary and age levels. The plan also includes assistance towards the purchase of certain medicines through reimbursement, with co-participation of employees and retirees.

Benefits are paid by the Company based on the costs incurred by the participants. The financial participation of the Company and the beneficiaries on the expenses are provided for in the Collective Bargaining Agreement (ACT), being 60% by the Company and 40% by the participants.

Annual revision of the health care plan

At December 31, 2022, this obligation was revised using the actuarial assumptions in force, which results are shown in note 17.3.2.

Pension plans

The Company's post-retirement plans are managed by Petros Foundation (*Fundação Petrobras de Seguridade Social*), a nonprofit legal entity governed by private law with administrative and financial autonomy.

Pension plans in Brazil are regulated by the National Council for Supplementary Pension (*Conselho Nacional de Previdência Complementar – CNPC*), which establishes all guidelines and procedures to be adopted by the plans for their management and relationship with stakeholders.

Petros Foundation periodically carries out revisions of the plans and, when applicable, establishes measures aiming at maintaining the financial sustainability of the plans.

The major post-retirement pension benefits sponsored by the Company are:

- . Petros Plan - Renegotiated (PPSP-R)
- . Petros Plan - Renegotiated - Pre-70 (PPSP-R Pre-70)
- . Petros Plan - Non-renegotiated (PPSP-NR)
- . Petros Plan - Non-renegotiated - Pre-70 (PPSP-NR Pre-70)
- . Petros 2 Plan (PP-2)
- . Petros 3 Plan (PP-3)

Currently, PPSP-R, PPSP-NR, PPSP-R Pre-70, PPSP-NR Pre-70 and PP-3 are sponsored by Petrobras, and PP-2 by Petrobras, Transpetro, PBIO, TBG, Termobahia and Termomacaé.

The PPSP-R and PPSP-NR were created in 2018 as a split of Petros Plan (PPSP) originally established by the Company in July 1970. On January 1, 2020, PPSP-R Pre-70 and PPSP-NR Pre-70 were created as a split of PPSP-R and PPSP-NR, respectively.

Pension plans supplement the income of their participants during retirement, in addition to guaranteeing a pension for the beneficiaries in case of the death of a participant. The benefit consists of a monthly income supplementing the benefit granted by the Brazilian Social Security Institute.

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The table below provides other characteristics of these plans:

	PPSP-R	PPSP-R Pre-70	PPSP-NR	PPSP-NR Pre-70	PP-2	PP-3
Modality	Defined Benefit	Defined Benefit	Defined Benefit	Defined Benefit	Variable Contribution (defined benefit and defined contribution portions)	Defined Contribution
Participants of the plan	Generally covers employees and former employees who joined the company after 1970 that agreed with changes proposed by the Company in its original pension plan (PO) and amendments.	Generally covers employees and former employees hired prior to July 1, 1970, who enrolled in the PO until January 1, 1996 and remained continuously linked to the original sponsor obtaining the condition of assisted.	Generally covers employees and former employees who joined the company after 1970 that did not agree with changes proposed by the Company in its original pension plan (PO) and amendments	Generally covers employees and former employees hired prior to July 1, 1970, who enrolled in the PO until January 1, 1996 and remained continuously linked to the original sponsor obtaining the condition of assisted and did not agree with changes in its original pension plan (PO) and amendments.	This Plan was established in 2007, also covering employees and former employees that moved from other existing plans.	This plan was implemented in 2021, exclusive option for voluntary migration of employees and retirees from the PPSP-R and PPSP-NR plans.
New enrollments	Closed	Closed	Closed	Closed	Open	Closed
Retirement payments	Lifetime monthly payments supplementing the benefit granted by the Brazilian National Institute of Social Security.				Lifetime defined benefit monthly payments or non- defined benefit monthly payments in accordance with the participant's election.	Undefined benefit with monthly payments, in accordance with the participant election.
Other general benefits	Lump sum death benefit (insured capital) and monthly payments related to the following events: death, disability, sickness, and seclusion.					Lump sum death benefit (insured capital) and monthly payments related to the following events: death, disability, sickness, and seclusion.
Indexation of Retirement payments by the plan	Based on the Nationwide Consumer Price Index.		Based on the current index levels applicable to active employees' salaries and the indexes set out by the Brazilian National Institute of Social Security.		Lifetime monthly payments: based on the Nationwide Consumer Price Index	Undefined benefit monthly payments: based on the variation of individual account Undefined benefit monthly payments: based on the variation of individual account quota.
Parity contributions made by participants and the Company to the plans	It is comprised of: i) normal contributions that covers expected cost of the plans in the long term; and ii) extraordinary contributions that covers additional costs that are generally derived from actuarial deficits.	It is comprised of: normal contributions that covers expected cost of the plans in the long term. Participants are exempt from paying any extraordinary contributions in case of deficit until the settlement of the TFC.	It is comprised of: i) normal contributions that covers expected cost of the plans in the long term; and ii) extraordinary contributions that covers additional costs that are generally derived from actuarial deficits.	It is comprised of: normal contributions that covers expected cost of the plans in the long term. Participants are exempt from paying any extraordinary contributions in case of deficit until the settlement of the TFC.	It is comprised of: i) normal contributions that covers expected cost of the plans in the long term; and ii) extraordinary contributions that covers additional costs that are generally derived from actuarial deficits (these contributions are not currently being made but may occur in the future).	Regular contributions during the employment relationship, saving for the undefined benefit, accumulated in individual accounts
Terms of Financial Commitment - TFC (debt agreements) assumed by the Company to settle the deficits. Amounts to be paid to Petros Foundation (*).	Financial obligations with a principal amounting to US\$132 at 12/31/2022.	Financial obligations with a principal amounting to US\$304 at 12/31/2022.	Financial obligations settled early in 2021.	Financial obligations with a principal amounting to US\$202 at 12/31/2022.	N/A	N/A
	Annually remeasured in accordance with actuarial assumptions, with semi-annual payment of interest based on the updated balance and maturing in 2028.					

(*) This obligation is recorded in these financial statements, within actuarial liabilities.

Debt Assumption Instrument relating to Deficit Settlement Plan 2015 (PED 2015)

On October 18, 2022, the Company assumed its commitment for the payment of extraordinary sponsor's contributions in the scope of PED 2015, implemented in 2017, together with the PPSP-R and the PPSP-NR. These contributions were not previously made due to court injunctions.

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The amount owed by Petrobras is US\$ 214 (R\$ 1,114 million) and refers to amounts not charged from July 2020 to December 2021. The Company paid US\$ 44 on October 28, 2022, and the remaining balance will be paid according to the payroll in return for the collection of the portion of participants and assisted.

The effects of this plan have already been recognized in the financial statements in the years in which they were implemented.

On December 31, 2022, the balance of this instrument, recorded within actuarial liabilities, is US\$ 168.

Deficit Settlement Plan 2021 referring to the PPSP-R plan

On November 10, 2022, Petros' Foundation Deliberative Council approved a plan to settle the deficit registered by the PPSP-R in 2021, being assessed by the Company's Board of Directors on November 30, 2022 and submitted to Secretariat of Management and Governance of the State-owned Companies (SEST).

If there is a favorable decision from this council, this settlement should be implemented by Petros, with extraordinary contributions expected to begin in April 2023, in addition to the other existing contributions.

The deficit of the plan for 2021 was due to the effects of the economic situation over the fixed income market, mainly due to government bonds marked to market, which experienced price fluctuations.

According to relevant regulation, this deficit, amounting to US\$ 1,485 as of December 31, 2021 (US\$ 1,632 monetarily restated as of December 31, 2022) must be settled in a parity basis: 50% by sponsors (Petrobras, Vibra Energia e Petros) and 50% by participants, of which US\$ 769 will be paid by Petrobras, during the lifetime of the plan.

The disbursement by the sponsors will decrease over the life of the deficit settlement plan. For 2023, is estimated a US\$ 57 disbursement for Petrobras.

The actuarial liability of the PPSP-R plan and the effects of the implementation of these contributions are reflected in note 17.3.2.

This settlement is a legal obligation as provided for in CNPC Resolution No. 30/2018, to ensure the financial sustainability of a pension plan.

Annual revision of the pension plans

At December 31, 2022, this obligation was revised using the actuarial assumptions in force, which results are shown in note 17.3.2.

17.3.2. Net actuarial liabilities and expenses, and fair value of plans assets

a) Changes in the actuarial liabilities recognized in the statement of financial position

Net actuarial liabilities represent the obligations of the Company, net of the fair value of plan assets (when applicable), at present value.

For information on actuarial assumptions used to determine the defined benefit obligation, see the table in Note 17.3.6.

Changes in the actuarial liabilities related to pension and healthcare plans with defined benefit characteristics is presented as follows:

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					2022	
	Pension Plans			Health Care Plan	Other plans	Total
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras		
Amounts recognized in the Statement of Financial Position						
Present value of obligations	12,771	4,119	1,102	5,813	-	23,805
(-) Fair value of plan assets	(8,881)	(2,739)	(939)	-	-	(12,559)
Net actuarial liability as of December 31, 2022	3,890	1,380	163	5,813	-	11,246
Changes in the net actuarial liability						
Balance as of January 1, 2022 (**)	4,050	1,169	165	4,485	11	9,880
Recognized in the Statement of Income	457	129	33	609	-	1,228
Current service cost	10	1	13	105	-	129
Net interest	447	128	20	504	-	1,099
Recognized in Equity - other comprehensive income	420	417	(45)	791	-	1,583
Remeasurement effects recognized in other comprehensive	420	417	(45)	791	-	1,583
Cash effects	(1,325)	(421)	-	(384)	-	(2,130)
Contributions paid	(304)	(94)	-	(384)	-	(782)
Payments related to Term of financial commitment (TFC)	(1,021)	(327)	-	-	-	(1,348)
Other changes	288	86	10	312	(11)	685
Others	-	-	-	1	(10)	(9)
Translation Adjustment	288	86	10	311	(1)	694
Balance at December 31, 2022	3,890	1,380	163	5,813	-	11,246

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

(**) It includes the payment of US\$ 1,324 of a portion of the TFC made on February 25, 2022.

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	2021				Other plans	Total
	Pension Plans			Health Care Plan		
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras		
Amounts recognized in the Statement of Financial Position						
Present value of obligations	11,481	3,485	987	4,485	9	20,447
(-) Fair value of plan assets	(7,431)	(2,316)	(822)	-	2	(10,567)
Net actuarial liability as of December 31, 2021	4,050	1,169	165	4,485	11	9,880
Changes in the net actuarial liability						
Balance as of January 1, 2021 (**)	7,524	2,696	477	5,356	16	16,069
Recognized in the Statement of Income	469	178	72	1,388	(9)	2,098
Past service cost	(1)	-	-	845	-	844
Present value of obligation	(730)	(33)	-	845	-	82
Plan assets transferred to PP-3	496	22	-	-	-	518
Sponsor contribution for PP-3	233	11	-	-	-	244
Current service cost	13	1	37	158	(10)	199
Net interest	438	172	35	385	1	1,031
Recognized in Equity - other comprehensive income	(2,223)	(989)	(362)	(1,601)	6	(5,169)
Remeasurement effects recognized in other comprehensive	(2,223)	(989)	(362)	(1,601)	6	(5,169)
Cash effects	(1,339)	(591)	-	(309)	-	(2,239)
Contributions paid (***)	(475)	(86)	-	(309)	-	(870)
Payments of obligations with contribution for the revision of the lump sum death benefit	(340)	(101)	-	-	-	(441)
Payments related to Term of financial commitment (TFC)	(524)	(404)	-	-	-	(928)
Other changes	(381)	(125)	(22)	(349)	(2)	(879)
Translation Adjustment	(381)	(125)	(22)	(349)	(2)	(879)
Balance of actuarial liability as of December 31, 2021	4,050	1,169	165	4,485	11	9,880

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

(**) It includes obligations with contribution for the revision of the lump sum death benefit.

(***) It includes the contribution for the migration to PP-3 (US\$ 241).

b) Changes in present value of the obligation

	2022				Other plans	Total
	Pension Plans			Health Care Plan		
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras		
Present value of obligations at the beginning of the year	11,481	3,485	987	4,485	9	20,447
Recognized in the Statement of Income	1,277	382	129	609	-	2,397
Interest expense	1,267	381	116	504	-	2,268
Service cost	10	1	13	105	-	129
Recognized in Equity - other comprehensive income	281	380	(6)	791	-	1,446
Remeasurement: Experience (gains) / losses	1,367	687	95	(277)	-	1,872
Remeasurement: (gains) / losses - demographic assumptions	-	4	6	(25)	-	(15)
Remeasurement: (gains) / losses - financial assumptions	(1,086)	(311)	(107)	1,093	-	(411)
Others	(268)	(128)	(8)	(72)	(9)	(485)
Benefits paid, net of assisted contributions	(1,088)	(379)	(72)	(384)	-	(1,923)
Contributions paid by participants	23	6	-	-	-	29
Others	-	-	1	-	(9)	(8)
Translation Adjustment	797	245	63	312	-	1,417
Present value of obligations at the end of the year	12,771	4,119	1,102	5,813	-	23,805

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

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					2021	
	Pension Plans			Health Care Plan	Other plans	Total
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras		
Present value of obligations at the beginning of the year	15,847	4,811	1,177	5,356	26	27,217
Recognized in the Statement of Income	1,178	355	122	1,388	(8)	3,035
Interest expense	1,166	354	85	385	2	1,992
Service cost	13	1	37	158	(10)	199
Past service cost	(1)	-	-	845	-	844
Recognized in Equity - other comprehensive income	(2,969)	(1,041)	(168)	(1,601)	(7)	(5,786)
Remeasurement: Experience (gains) / losses	(313)	(301)	315	(239)	(8)	(546)
Remeasurement: (gains) / losses - demographic assumptions	-	-	(5)	96	-	91
Remeasurement: (gains) / losses - financial assumptions	(2,656)	(740)	(478)	(1,458)	1	(5,331)
Others	(2,575)	(640)	(144)	(658)	(2)	(4,019)
Benefits paid, net of assisted contributions	(952)	(319)	(65)	(309)	-	(1,645)
Contributions paid by participants	26	7	-	-	-	33
Transfer and contribution for PP-3	(680)	(31)	-	-	-	(711)
Translation Adjustment	(969)	(297)	(79)	(349)	(2)	(1,696)
Present value of obligations at the end of the year	11,481	3,485	987	4,485	9	20,447

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

c) Changes in the fair value of plan assets

Petrobras has four pension plans (PPSP-R, PPSP-NR, PPSP-R Pre-70) which are currently making use of plan assets, and one plan (PP-2) in which most of participants are in the phase of accumulating funds.

Therefore, changes to the fair value of plan assets reflect these effects, including inflows of contributions, outflows of funds for payment of benefits, and the return of these assets.

					2022	
	Pension Plans			Health Care Plan	Other plans	Total
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras		
Fair value of plan assets at the beginning of the year	7,431	2,316	822	-	(2)	10,567
Recognized in the Statement of Income	820	253	96	-	-	1,169
Interest income	820	253	96	-	-	1,169
Recognized in Equity - other comprehensive income	(139)	(37)	39	-	-	(137)
Remeasurement: Higher/(lower) return on plan assets compared to discount rate	(139)	(37)	39	-	-	(137)
Cash effects	1,325	421	-	384	-	2,130
Contributions paid by the sponsor (Company)	304	94	-	384	-	782
Term of financial commitment (TFC) paid by the Company	1,021	327	-	-	-	1,348
Other Changes	(556)	(214)	(18)	(384)	2	(1,170)
Contributions paid by participants	23	6	-	-	-	29
Benefits paid, net of assisted contributions	(1,088)	(379)	(72)	(384)	-	(1,923)
Others	-	-	-	-	2	2
Translation Adjustment	509	159	54	-	-	722
Fair value of plan assets at the end of the year	8,881	2,739	939	-	-	12,559

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

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					2021	
	Pension Plans			Health Care Plan	Other plans	Total
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras		
Fair value of plan assets at the beginning of the year	8,650	2,213	700	-	12	11,575
Recognized in the Statement of Income	728	182	50	-	1	961
Interest income	728	182	50	-	1	961
Recognized in Equity - other comprehensive income	(746)	(52)	194	-	(13)	(617)
Remeasurement: Higher/(lower) return on plan assets compared to discount rate	(746)	(52)	194	-	(13)	(617)
Cash effects	999	490	-	309	-	1,798
Contributions paid by the sponsor (Company)	475	86	-	309	-	870
Term of financial commitment (TFC) paid by the Company	524	404	-	-	-	928
Other Changes	(2,200)	(517)	(122)	(309)	(2)	(3,150)
Contributions paid by participants	26	7	-	-	-	33
Benefits paid, net of assisted contributions	(952)	(319)	(65)	(309)	-	(1,645)
Transfer and contribution for PP-3	(680)	(31)	-	-	-	(711)
Translation Adjustment	(594)	(174)	(57)	-	(2)	(827)
Fair value of plan assets at the end of the year	7,431	2,316	822	-	(2)	10,567

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

Pension Plan assets

Petros Foundation annually prepares Investment Policies (PI) specific to each plan, following two models:

- (i) for Petros 2, the achievement of the actuarial goal with the lowest value at risk; and
- (ii) for defined benefit plans, the minimal mismatch in net cash flows, conditioned to the achievement of the actuarial target.

Pension plans assets follow a long-term investment strategy based on the risks assessed for each different class of assets and provide for diversification, in order to lower portfolio risk. The portfolio profile must comply with the Brazilian National Monetary Council (*Conselho Monetário Nacional – CMN*) regulations.

Petros Foundation establishes investment policies for 5-year periods, reviewed annually, using an asset liability management model (ALM) to address net cash flow mismatches of the benefit plans, based on liquidity and solvency parameters, simulating a 30-year period.

Pension plan assets by type of asset are set out as follows:

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Type of asset	2022				2021	
	Quoted prices in active markets	Unquoted prices	Total fair value	%	Total fair value	%
Receivables	-	1,353	1,353	11%	846	8%
Fixed income	3,548	5,297	8,845	70%	6,864	67%
Government bonds	3,503	3,947	7,450	-	4,522	-
Fixed income funds	-	864	864	-	860	-
Other investments	45	486	531	-	1,482	-
Variable income	1,184	243	1,427	9%	1,918	16%
Common and preferred shares	1,184	-	1,184	-	1,686	-
Other investments	-	243	243	-	232	-
Structured investments	33	126	159	4%	184	2%
Real estate properties	-	490	490	4%	475	4%
	4,765	7,509	12,274	98%	10,287	97%
Loans to participants	-	285	285	2%	280	3%
Fair value of plan assets at the end of the year	4,765	7,794	12,559	100%	10,567	100%

There is no plan asset for the health care plan. Loans to participants of pension plans are measured at amortized cost, which is considered an appropriate estimate of fair value.

As of December 31, 2022, the investment portfolio included debentures of US\$ 3 (US\$ 6 in 2021), Company's common shares in the amount of US\$ 1 (US\$ 1 in 2021) and real estate properties leased by the Company in the amount of US\$ 2 (US\$ 243 in 2021).

d) Net expenses relating to benefit plans

	Pension Plans			Health Care Plan		Other Plans	Total
	PPSP-R (*)	PPSP-NR (*)	Petros 2	Saúde Petrobras			
Related to active employees (cost of sales and expenses)	(33)	(5)	(20)	(222)	-	(280)	
Related to retirees (other income and expenses)	(424)	(124)	(13)	(387)	-	(948)	
Net expenses for - 2022	(457)	(129)	(33)	(609)	-	(1,228)	
Net expenses for - 2021	(469)	(178)	(72)	(1,388)	9	(2,098)	
Net expenses for - 2020	(399)	(139)	(131)	1,672	(2)	1,001	

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

17.3.3. Contributions

In 2022, the Company contributed with US\$ 2,130 to the defined benefit plans (reducing the balance of obligations of these plans, as presented in note 17.3.2), and with US\$ 197 and US\$ 2, respectively, to the defined contribution portions of PP-2 and PP-3 plans (US\$ 169 for PP-2 and US\$ 1 for PP-3 in 2021).

For 2023, the expected contributions for the PPSP-R, PPSP-NR, PPSP-R pre-70 and PPSP-NR pre-70 plans, amounts to US\$ 423, and for PP-2 amounts to US\$ 205, relating to the defined contribution portion.

The contribution to the defined benefit portion of the PP-2 is suspended between July 1, 2012 and March 31, 2023, according to the decision of the Petros Foundation's Deliberative Council, based on the recommendation of actuarial specialists of the Petros Foundation, since there is sufficient reserve to cover the value at risk. Thus, all contributions made during this period are being allocated to the participant's individual account.

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17.3.4. Expected future cash flows

The estimate below reflects only the expected future cash flows to meet the defined benefit obligation recognized at the end of the reporting period.

	Pension Plan			Health Care Plan	Other Plans	2022	2021
						Total	Total
	PPSP-R (*)	PPSP-NR (*)	Petros 2				
Up to 1 Year	999	354	74	301	-	1,728	1,520
1 to 5 Years	4,122	1,437	313	1,149	-	7,021	6,150
6 to 10 Years	2,888	973	231	1,275	-	5,367	4,615
11 To 15 Years	1,962	622	166	1,012	-	3,762	3,193
Over 15 Years	2,800	733	318	2,076	-	5,927	4,969
Total	12,771	4,119	1,102	5,813	-	23,805	20,447

(*) It includes the balance of PPSP-R pre-70 and PPSP-NR pre-70.

17.3.5. Future payments to participants of defined benefit plans that are closed to new members

The following table provides the period during which the defined benefit obligation associated with these plans are expected to continue to affect the Company's financial statements.

	PPSP-R	PPSP-R Pré-70	PPSP-NR	PPSP-NR Pré-70
Number of years during which benefits must be paid to participants of defined benefit plans.	11.06	6.59	10.37	7.14

17.3.6. Measurement uncertainties associated with the defined benefit obligation

The significant financial and demographic actuarial assumptions used to determine the defined benefit obligation are presented in the following table:

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Assumptions	PPSP-R	PPSP-NR	PPSP-R	PPSP-NR	Pension Plans		2022
					PP2	Health Care Plan	
Nominal discount rate (including inflation)(1)	11.95%	11.95%	11.93%	11.93%	11.97%		11.97%
Real discount rate	6.16%	6.16%	6.15%	6.15%	6.18%		6.18%
Nominal expected salary growth (including inflation) (2)	6.27%	6.16%	6.27%	6.16%	7.74%		n/a
Expected changes in medical and hospital costs (3)	n/a	n/a	n/a	n/a	n/a		9.87% a 3.25% p.a.
Mortality table	Petros Experience (Bidecrem 2013)	Petros Experiences (Bidecrem 2020)	Petros Experiences (Bidecrem 2016)	Petros Experiences (Bidecrem 2020)	AT-2012 IAM basic fem 10% smoothed		Employees: according to pension plan Assisted: Ex Petros (Bidecr 2013)
Disability table	American group	American group	n/a	n/a	Disability Experience PP-2 2022		Assets: PP-2: Disability Experience PP-2 2022 Assisted: n/a
Mortality table for disabled participants	AT-49 male	AT-83 Basic by gender	MI 2006, by gender, 20% smoothed	Petros Experience 2014	IAPB-57 strong, 30% smoothed		AT-49 male
Age of retirement	Male, 56 years / Female, 55 years	Male, 58 years / Female, 56 years	n/a	n/a	1st eligibility		Male, 56 years / Female, 55 years

(1) Inflation reflects market projections: 5.45% for 2023 and converging to 3.25% in 2027 onwards.

(2) Expected salary growth only of Petrobras, the sponsor, based on the Salaries and Benefits Plan.

(3) Decreasing rate, converging in 30 years to the long-term expected inflation. Refers only to Petrobras (sponsor) rate.

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Assumptions	Pension Plans				2021 Health Care Plan	
	PPSP-R	PPSP-NR	PPSP-R Pre-70	PPSP-NR Pre-70	PP2	
Nominal discount rate (including inflation)(1)	10.64%	10.62%	10.55%	10.54%	10.73%	10.68%
Real discount rate	5.40%	5.38%	5.32%	5.31%	5.49%	5.44%
Nominal expected salary growth (including inflation) (2)	5.83%	5.63%	5.83%	5.63%	7.20%	n/a
Expected changes in medical and hospital costs (3)	n/a	n/a	n/a	n/a	n/a	5.24% a 3.25% p.a.
Mortality table	Petros Experience (Bidecrem 2013)	Petros Experiences (Bidecrem 2020)	Petros Experiences (Bidecrem 2016)	Petros Experiences (Bidecrem 2020)	AT-2012 IAM basic fem 10% smoothed	Employees: according to pension plan Assisted: Ex Petros (Bidecr 2013)
Disability table	American group	American group	n/a	n/a	Álvaro Vindas 50% smoothed	Álvaro Vindas 50% smoothed
Mortality table for disabled participants	AT-49 male	AT-49 male	MI 2006, by gender, 20% smoothed	Petros Experience 2014	IAPB-57 strong, 10% smoothed	AT-49 male
Age of retirement	Male, 56 years / Female, 55 years	Male, 58 years / Female, 56 years	Male, 56 years / Female, 55 years	Male, 58 years / Female, 56 years	1st eligibility	Male, 56 years / Female, 55 years

(1) Inflation reflects market projections: 4.97% for 2022 and converging to 3.25% in 2026 onwards.

(2) Expected salary growth only of Petrobras, the sponsor, based on the Salaries and Benefits Plan.

(3) Decreasing rate, converging in 30 years to the long-term expected inflation. Refers only to Petrobras (sponsor) rate.

The most significant assumptions are described in Note 4.3.

17.3.7. Sensitivity analysis of the defined benefit plans

The effect of a 100 basis points (bps) change in the discount rate and in the estimated future medical costs is set out below:

	Expected changes in medical and hospital costs					
	Discount Rate					
	Pension Benefits		Medical Benefits		Medical Benefits	
	+100 bps	-100 bps	+100 bps	-100 bps	+100 bps	-100 bps
Pension Obligation	(1,474)	1,882	(602)	735	772	(176)
Current Service cost and interest cost	(24)	47	(46)	56	128	(26)

Accounting policy for post-employment defined benefits

Actuarial commitments related to post-employment defined benefit plans and health-care plans are recognized as liabilities in the statement of financial position based on actuarial calculations which are revised annually by an independent qualified actuary (updating for material changes in actuarial assumptions and estimates of expected future benefits), using the projected unit credit method, net of the fair value of plan assets, when applicable, from which the obligations are to be directly settled.

Under the projected credit unit method, each period of service gives rise to an additional unit of benefit entitlement and each unit is measured separately to determine the final obligation. Actuarial assumptions include demographic and financial assumptions, medical costs estimate, historical data related to benefits paid and employee contributions, as set out in note 4 - Critical accounting policies: key estimates and judgments.

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Service cost are accounted for within the statement of income and comprises: (i) current service cost, which is the increase in the present value of the defined benefit obligation resulting from employee service in the current period; (ii) past service cost, which is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting from a plan amendment (the introduction, modification, or withdrawal of a defined benefit plan) or a curtailment (a significant reduction by the entity in the number of employees covered by a plan); and (iii) any gain or loss on settlement.

Net interest on the net defined benefit liability is the change during the period in the net defined benefit liability that arises from the passage of time. Such interest is accounted for in the statement of income.

Remeasurement of the net defined benefit liability is recognized in shareholders' equity, in other comprehensive income, and comprises: (i) actuarial gains and losses and; (ii) return on plan assets, excluding net interest on the net defined liability, net of defined benefit plan assets.

The Company also contributes to defined contribution plans, on a parity basis in relation to the employee's contribution, that are expensed when incurred.

18. Provisions for legal proceedings, judicial deposits and contingent liabilities

18.1. Provisions for legal, administrative and arbitral proceedings

The Company recognizes provisions for legal, administrative and arbitral proceedings based on the best estimate of the costs for which it is probable that an outflow of resources embodying economic benefits will be required and that can be reliably estimated. These proceedings mainly include:

- Labor claims, in particular: (i) several individual and collective labor claims; (ii) opt-out claims related to a review of the methodology by which the minimum compensation based on an employee's position and work schedule (*Remuneração Mínima por Nível e Regime - RMNR*) is calculated; and (iii) actions of outsourced employees.
- Tax claims including: (i) tax notices for alleged non-compliance with ancillary obligations; (ii) claims relating to benefits previously taken for Brazilian federal tax credits applied that were subsequently alleged to be disallowable; and (iii) claims for alleged non-payment of CIDE on imports of propane and butane.
- Civil claims, in particular: (i) lawsuits related to contracts; (ii) penalties applied by ANP, mainly relating to production measurement systems; and (iii) litigation involving corporate conflicts.
- Environmental claims, specially: (i) fines relating to the Company's offshore operation; (ii) fines relating to an environmental accident in the State of Paraná in 2000; and (iii) public civil action for oil spill in 2004 in Serra do Mar State Park, in the state of São Paulo.

Provisions for legal, administrative and arbitral proceedings are set out as follows:

Non-current liabilities	12.31.2022	12.31.2021
Labor claims	737	716
Tax claims	466	306
Civil claims	1,504	820
Environmental claims	303	176
Total	3,010	2,018

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	2022	2021
Opening Balance	2,018	2,199
Additions, net of reversals	1,072	540
Use of provision	(487)	(715)
Revaluation of existing proceedings and interest charges	273	150
Others	(2)	8
Translation adjustment	136	(164)
Closing Balance	3,010	2,018

In preparing its consolidated financial statements for the year ended December 31, 2022, the Company considered all available information concerning legal, administrative and arbitral proceedings in which the Company is a defendant, in order to estimate the amounts of obligations and probability that outflows of resources will be required.

18.2. Judicial deposits

The Company make deposits in judicial phases, mainly to suspend the chargeability of the tax debt and to maintain its tax compliance. Judicial deposits are set out in the table below according to the nature of the corresponding lawsuits:

Non-current assets	12.31.2022	12.31.2021
Tax	7,876	5,790
Labor	907	796
Civil	2,089	1,275
Environmental	109	101
Others	72	76
Total	11,053	8,038

	2022	2021
Opening Balance	8,038	7,281
Additions	1,710	1,145
Use	(115)	(109)
Accruals and charges	897	263
Others	(9)	3
Translation adjustment	532	(545)
Closing Balance	11,053	8,038

18.3. Contingent liabilities

Contingent liabilities for which either the Company is unable to make a reliable estimate of the expected financial effect that might result from resolution of the proceeding, or a cash outflow is not probable, are not recognized as liabilities in the financial statements but are disclosed in the notes to the financial statements, unless the likelihood of any outflow of resources embodying economic benefits is considered remote.

The estimates of contingent liabilities are indexed to inflation and updated by applicable interest rates. As of December 31, 2022, estimated contingent liabilities for which the possibility of loss is considered possible are set out in the following table:

Nature	12.31.2022	12.31.2021
Tax	32,094	24,785
Labor	8,272	7,172
Civil - General	7,548	5,720
Civil - Environmental	1,257	1,192
Total	49,171	38,869

The tables below detail the main causes of tax, civil, environmental and labor nature, whose expectations of losses are classified as possible:

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	Estimate	
Description of tax matters	12.31.2022	12.31.2021
Plaintiff: Secretariat of the Federal Revenue of Brazil		
1) Withholding income tax (IRRF), Contribution of Intervention in the Economic Domain (CIDE), Social Integration Program (PIS) and Contribution to Social Security Financing (COFINS) on remittances for payments of vessel charters. Current status: The claim about the incidence of withholding income tax (Imposto de Renda Retido na Fonte- IRRF) on remittances for payments of vessel charters, occurred from 1999 to 2002, involves the legality of the normative rule issued by the Federal Revenue of Brazil, which ensured no taxation over those remittances. The Company considers the likelihood of loss as possible, since there are decisions from Superior Courts favorable to the Company, and will continue to defend its opinion. The other claims, concerning CIDE and PIS/COFINS, involve lawsuits in different administrative and judicial stages, for which the Company understands there is a possible likelihood of loss, since there are legal predictions in line with the position of the Company.	10,386	9,092
2) Income from foreign subsidiaries located outside Brazil not included in the computation of taxable income (IRPJ and CSLL). Current status: This claim involves lawsuits in different administrative and judicial stages. The Company considers the likelihood of loss as possible, since there are decisions from Superior Courts favorable to the understanding of the Company.	4,396	3,890
3) Requests to compensate federal taxes disallowed by the Brazilian Federal Tax Authority. Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, the Company obtained favorable final decisions at CARF and new tax notices were issued.	705	827
4) Incidence of social security contributions over contingent bonuses paid to employees. Current status: Awaiting defense judgment and appeals at the administrative and judicial levels.	922	706
5) Collection of Contribution of Intervention in the Economic Domain (CIDE) on transactions with fuel retailers and service stations protected by judicial injunctions determining that fuel sales were made without gross-up of such tax. Current status: This claim involves lawsuits in different judicial stages.	485	428
6) Deduction from the basis of calculation of taxable income (income tax - IRPJ and social contribution - CSLL) of several expenses related to employee benefits. Current status: The claim involves lawsuits in different administrative and judicial stages.	646	570
7) Income taxes (IRPJ and CSLL) - Capital gains and Amortization of goodwill on the acquisition of equity interests. Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, new tax notices were issued against the Company.	501	234
8) Deduction of the PIS and COFINS tax base, including in ship or pay contracts and charters of aircraft and vessels. Current status: The claims involve lawsuits in different administrative and judicial stages. In 2022, a new tax notice was issued against the Company.	986	330
9) Collection of IRPJ and CSLL - Transfer price - Charter contracts Current status: In one of the assessments, there was an unfavorable administrative decision. A voluntary appeal by Petrobras is pending judgment. In 2022, a new tax notice was issued against the Company.	498	287
10) Import tax, PIS/COFINS and customs fines - Import of vessels through Repetro's Special Customs Regime. Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, a new tax notice was issued against the Company.	294	249
11) Collection of Import tax (II), PIS/COFINS and customs fines including Petrobras as jointly liable. Current status: In 2022, the Company received a new tax notice regarding the collection on joint liabilities of customs taxes and fines arising from the import of goods under the Repetro regime, for use in the Frade consortium.	2,414	-
12) Customs – Fines of 1% and 5% on the Customs Value. Fines imposed on the customs value of imported products due to information considered inaccurate in the import declarations. There is a court decision unfavorable to the Company. Current status: This claim involves lawsuits in different administrative and judicial stages.	240	209
13) Collection of PIS/COFINS – Incidences on Amnesties. Current status: In 2022, the company received a new tax notice related to the collection of social contributions PIS/COFINS, resulting from the tax transaction provided for in article 3 of the Federal Brazilian Law 13.586/2017.	870	-
Plaintiff: States of SP, RJ, BA, PA, AL, MA, PB, PE, AM and SE Finance Departments		
14) VAT (ICMS) and VAT credits on internal consumption of bunker fuel and marine diesel, destined to chartered vessels. Current status: This claim involves lawsuits in different administrative and judicial stages.	425	367
Plaintiff: States of RJ, AL, BA, PE, PA and RS Finance Departments		
15) VAT (ICMS) on dispatch of liquid natural gas (LNG) and C5+ (tax document not accepted by the tax authority), as well as challenges on the rights to this VAT tax credit.		

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Current status: This claim involves lawsuits in different administrative and judicial stages.	842	746
Plaintiff: States of PE, RJ and PA Finance Departments		
16) Alleged failure to write-down VAT (ICMS) credits related to zero tax rated or non-taxable sales made by the Company and its customers.		
Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, new tax notices were issued against the Company.	440	110
Plaintiff: States of RJ, AL, AM, PA, BA, GO, MA, SP and PE Finance Departments		
17) Alleged failure to write-down VAT (ICMS) credits related to zero tax rated or non-taxable sales made by the Company and its customers.		
Current status: This claim involves lawsuits in different administrative and judicial stages.	916	788
Plaintiff: States of RJ, BA, PE, SE and AM Finance Departments		
18) The plaintiff alleges that the transfers between branches, especially in RJ, without segregating VAT (ICMS), under the special regime, reduced the total credits of the central department.		
Current status: This claim involves lawsuits in different administrative and judicial stages.	929	800
Plaintiff: States of GO, RJ, PA, BA, SE, SP, PR, AM, CE, MT, RN and PE Finance Departments		
19) Appropriation of ICMS credit on the acquisition of goods (products in general) that, in the understanding of the inspection, would fit into the concept of material for use and consumption, being the tax credit undue.		
Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, new tax notices were issued against the Company.	687	569
Plaintiff: States of RJ, PR, AM, BA, PA, PE, SP and AL Finance Departments		
20) Incidence of VAT (ICMS) over alleged differences in the control of physical and fiscal inventories.		
Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, new tax notices were issued against the Company.	799	446
Plaintiff: State of SP Finance Department		
21) Deferral of payment of VAT (ICMS) taxes on B100 Biodiesel sales and the charge of a 7% VAT rate on B100 on Biodiesel interstate sales, including states in the Midwest, North and Northeast regions of Brazil and the State of Espírito Santo.		
Current status: This claim involves lawsuits in different administrative and judicial stages.	263	232
Plaintiff: States of RJ, SP, BA, PE, PR, SE and CE Finance Departments		
22) Misappropriation of VAT tax credit (ICMS) on the acquisitions of goods that, per the tax authorities, are not related to property, plant and equipment.		
Current status: This claim involves lawsuits in different administrative and judicial stages.	478	417
Plaintiff: States of RJ, SP, BA, AL, PE, CE and AM Finance Departments		
23) Misappropriation of VAT tax credit (ICMS) on the acquisitions of drills and chemicals used in the formulation of drilling fluid, per the tax authorities.		
Current status: This claim involves lawsuits in different administrative and judicial stages.	486	422
Plaintiff: Municipal government of Angra dos Reis/RJ		
24) Added value of ICMS on oil import operations.		
Current status: This claim involves lawsuits in several judicial stages. In 2022, judicial decisions favorable to the Company were handed down in two lawsuits, by the Court of Justice of Rio de Janeiro. There is a Special Appeal filed by the Municipality pending judgment.	347	289
Plaintiff: Several Municipalities		
25) Alleged failure to withhold and pay tax on services (ISSQN).		
Current status: There are lawsuits in different administrative and judicial stages.	223	201
Plaintiff: Municipal governments of the cities of Anchieta, Aracruz, Guarapari, Itapemirim, Marataízes, Linhares, Vila Velha and Vitória		
26) Alleged failure to withhold and pay tax on services provided offshore (ISSQN) in favor of some municipalities in the State of Espírito Santo, under the allegation that the service was performed in their "respective coastal waters".		
Current status: This claim involves lawsuits in different administrative and judicial stages. In 2022, the lawsuits were reclassified to remote loss due to a decision favorable to the Company's thesis in the Court of Justice of Espírito Santo.	-	1,071
27) Other tax matters	1,916	1,505
Total for tax matters	32,094	24,785

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	Estimate	
Description of labor matters	12.31.2022	12.31.2021
Plaintiff: Employees and Sindipetro Union of ES, RJ, BA, MG, SP, PE, PB, RN, CE, PI, PR and SC.		
1) Actions requiring a review of the methodology by which the minimum compensation based on an employee's position and work schedule (Remuneração Mínima por Nível e Regime - RMNR) is calculated. Current status: The dispute is in the Federal Supreme Court (STF). On 07/28/2021, Petrobras filed an appeal and the Minister Rapporteur decided favorably to the Company, reforming the decision of the Plenary of the Superior Labor Court (TST) which was contrary to Petrobras. Currently, the judgment of the appeals filed by the plaintiff and by several amici curiae is in progress, with 3 votes in favor of the Company, recognizing the merit of the collective bargaining agreement signed between Petrobras and the unions. Considering that the last minister to vote requested a view, the trial was suspended, and is juts pending the presentation of the vote by this last minister.	6,806	5,917
2) Other labor matters	1,466	1,255
Total for labor matters	8,272	7,172

	Estimate	
Description of civil matters	12.31.2022	12.31.2021
Plaintiff: Agência Nacional de Petróleo, Gás Natural e Biocombustíveis - ANP and other agencies		
1) Administrative and legal proceedings that discuss: a) Difference in special participation and royalties in different fields; b) Fines imposed by ANP due to alleged failure to comply with the minimum exploration activities program, as well as alleged irregularities relating to compliance with oil and gas industry regulation. It also includes fines imposed by other agencies. Current status: The claims involve lawsuits in different administrative and judicial stages. In 2022, new tax notices were issued against the Company.	1,980	1,197
Plaintiff: Agência Nacional de Petróleo, Gás Natural e Biocombustíveis - ANP		
2) Proceedings challenging an ANP order requiring Petrobras to unite Tupi and Cernambi fields on the BM-S-11 joint venture; to unite Baúna and Piracicaba fields; and to unite Tartaruga Verde and Mestiça fields, which would cause changes in the payment of special participation charges. Current status: This list involves claims that are disputed in court and in arbitration proceedings, as follows. In 2022, there was an increase in the value, due to the judicial deposits that are made by Petrobras: a) Tupi and Cernambi: initially, the Company made judicial deposits for the alleged differences resulting from the special participation. However, with the reversal of the favorable injunction, the payment of these alleged differences were made directly to ANP, and such judicial deposits were resumed in the 2nd Quarter of 2019. Arbitration remains suspended by court decision; b) Baúna and Piracicaba: the Federal Regional Court of the Second Region upheld the suspension of arbitration. Petrobras filed appeals with the Superior Courts. c) Tartaruga Verde and Mestiça: The Company has authorization to make the judicial deposits relating to these fields. The Regional Federal Court of the Second Region has the opinion that the Chamber of Arbitration has jurisdiction on this claim and the arbitration is ongoing up to item 6 of the joint schedule (pre-hearing meeting) formulated by the parties.	1,531	829
Plaintiff: Agência Estadual de Regulação de Serviços Públicos de Energia, Transportes e Comunicações da Bahia (AGERBA) and State Gas Companies		
3) Public Civil Action (ACP) to discuss the alleged illegality of the gas supply made by the company to its Nitrogenated Fertilizer Production Unit (FAFEN / BA). Current status: The claims involve lawsuits in different administrative and judicial stages. In 2022, there was a decrease in value due to agreements entered into by Petrobras.	39	318
Plaintiff: Several service providers		
4) Claims related to goods and services supply contracts, with emphasis on discussions about economic and financial imbalance, contractual breach, fines and early termination of contracts. Current status: The claims involve lawsuits in different administrative and judicial stages. In 2022, there was an increase in value due to new lawsuits and decisions unfavorable to Petrobras.	2,988	2,491
5) Several lawsuits of civil nature, with emphasis on those related to expropriation and easement of passage, civil liability and portfolio management.	1,010	885
Total for civil matters	7,548	5,720

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	Estimate	
Description of environmental matters	12.31.2022	12.31.2021
Plaintiff: Several authors, notably: Ministério Público Federal, Ministério Público Estadual do Paraná, AMAR - Associação de Defesa do Meio Ambiente de Araucária, IAP - Instituto Ambiental do Paraná and IBAMA - Instituto Brasileiro de Meio Ambiente e Recursos Naturais Renováveis.		
1) Several lawsuits of an environmental nature, with emphasis on fines related to the company's operations and public civil action for alleged environmental damage due to the sinking of Platform P-36.	1,257	1,192
Total for environmental matters	1,257	1,192

18.4. Class action and related proceedings

18.4.1. Class action in the Netherlands

On January 23, 2017, Stichting Petrobras Compensation Foundation ("Foundation") filed a class action in the Netherlands, at the District Court of Rotterdam, against Petr leo Brasileiro S.A. – Petrobras, Petrobras International Braspetro B.V. (PIB BV), Petrobras Global Finance B.V. (PGF), Petrobras Oil & Gas B.V. (PO&G) and some former Petrobras managers.

The Foundation alleges that it represents the interests of an unidentified group of investors and asserts that, based on the facts revealed by the Lava-Jato Operation, the defendants acted illegally before the investors. Based on these allegations, the Foundation is seeking a series of court declarations from the Dutch court.

On May 26, 2021, after previous intermediate decisions in which the Court decided that it has jurisdiction to judge the majority of the seven requests made by the Foundation, the District Court of Rotterdam decided that the class action must proceed and that the arbitration clause of Petrobras' bylaws does not prevent the Company's shareholders from having access to the Dutch Judiciary and being represented by the "Foundation". However, investors who have already started arbitration against Petrobras or who are parties to legal proceedings in which the applicability of the arbitration clause has been definitively recognized are excluded from the action.

In 2021 and 2022, the parties presented their arguments and defenses in writing regarding the merits of the claims and the Court scheduled hearings for oral arguments, which took place on January 17 and 24, 2023. At these hearings, the Court did not provide any indications as to the content of its decision on the merits of the case. The Court determined that Petrobras and the other defendants may present additional statements on February 22, 2023, after which the Court intends to issue a sentence on July 26, 2023. Such deadline is indicative and the decision may be postponed or anticipated.

This class action concerns complex issues and the outcome is subject to substantial uncertainties, which depend on factors such as: the scope of the arbitration clause of the Petrobras Statute, the jurisdiction of the Dutch courts, the scope of the agreement that ended the Class Action in the United States, the Foundation's legitimacy to represent the interests of investors, the several laws applicable to the case, the information obtained from the production phase of evidence, the expert analyses, the timetable to be defined by the Court and the judicial decisions on key issues of the process, possible appeals, including before the Dutch Supreme Court, as well as the fact that the Foundation seeks only a declaratory decision in this class action. It is currently not possible to predict whether the Company will be liable for the effective payment of damages in any future individual claims, as this analysis will depend on the outcome of these complex procedures. In addition, it is not possible to know which investors will be able to bring subsequent individual actions related to this matter against Petrobras.

Furthermore, the claims formulated are broad, cover a multi-year period and involve a wide variety of activities and, in the current scenario, the impacts of such claims are highly uncertain. The uncertainties inherent in all of these issues affect the value and duration of final resolution of this action. As a result, Petrobras is unable to estimate an eventual loss resulting from this action. However, Petrobras reiterates its condition as a victim of the corruption scheme revealed by the Lava-Jato operation and intends to present and prove this condition before the Dutch court.

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Considering the uncertainties, it is not possible to make any reliable assessment regarding possible risks related to this litigation. The eventual indemnification for the alleged damages will only be determined by judicial decisions in later actions to be brought by individual investors. The Foundation cannot claim compensation for damages within the scope of the class action, since the final decision will be merely declaratory.

The Company deny the allegations made by the Foundation and intend to defend itself vigorously.

18.4.2. Arbitration in Argentina

On September 11, 2018, Petrobras was served of an arbitral claim filed by Consumidores Financieros Asociación Civil para su Defensa ("Association") against the Company and other individuals and legal entities, before the "Tribunal de Arbitraje General de la Bolsa de Comercio de Buenos Aires". Among other issues, the Association alleges Petrobras' liability for a supposed loss of market value of Petrobras' shares in Argentina, due to proceedings related to Lava Jato investigation.

On June 14, 2019, the Chamber of Arbitration recognized the withdrawal of the arbitration due to the fact that the Association had not paid the arbitration fee within the established period. The Association appealed to the Argentine Judiciary against this decision, which was rejected on November 20, 2019. The Association filed a new appeal addressed to the Argentine Supreme Court, pending a final decision.

The Company deny the allegations presented by the Association and intends to defend itself vigorously.

18.4.3. Other legal proceedings in Argentina

Petrobras was included as a defendant in criminal actions in Argentina:

- Criminal action for alleged non-compliance with the obligation to publish "press release" in Argentina about the existence of a class action filed by the Association before the Commercial Court, according to the provisions of the Argentine capital market law. Petrobras was never mentioned in the scope of the referred collective action. Petrobras presented procedural defenses in the criminal action but some of them have not yet been judged by the court. On March 4, 2021, the Court (Room A of the Economic Criminal Chamber) decided that the jurisdiction for the trial of this criminal action should be transferred from the Criminal Economic Court No. 3 of the city of Buenos Aires to the Criminal Economic Court No. 2 from that same city;
- Criminal action related to an alleged fraudulent offer of securities, when Petrobras allegedly declared false data in its financial statements prior to 2015. Petrobras presented preliminary defense on the merits, which has not yet been considered by the judge, in addition to procedural defenses, which are currently subject of appeals in Argentine courts. On October 21, 2021, after an appeal by the Association, the Court of Appeals revoked the lower court decision that had recognized Petrobras' immunity from jurisdiction and recommended that the lower court take some steps to certify whether the Company could be considered criminally immune in Argentina for further reassessment of the issue. Petrobras appealed against this decision before the Court of Cassation, and the Company's appeal was denied. After the lower court denied Petrobras immunity from jurisdiction, the Company appealed to the Court. On December 27, 2022, the Court again considered the first instance decision premature, determining that a third one be issued, still pending. On another procedural front, on September 14, 2022, the decision that had recognized that the Association could not act as a representative of financial consumers was reformed by the Court of Cassation after an appeal by the Association. On November 2, 2022, Petrobras filed an appeal against this decision before the Argentine Supreme Court, which is still pending judgment. This criminal action is pending before the Criminal Economic Court No. 2 of the city of Buenos Aires.

18.4.4. Lawsuit in the United States related to Sete Brasil Participações S.A. ("Sete")

In February 2016, EIG Management Company, LLC and certain affiliated funds (collectively referred to as "EIG") filed a claim in the District Court for the District of Columbia in Washington, D.C. regarding the indirect purchase of equity interests in Sete Brasil, a company created to build platforms with high local content. In this process, EIG claims that

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Petrobras would have induced the plaintiffs to invest in Sete Brasil and that it was one of those responsible for the financial crisis of Sete, which filed for judicial recovery in Brazil.

In 2017, the District Court denied the summary filing request submitted by Petrobras and decided that the process should proceed to the evidence production phase. There was the filing of appeals by Petrobras, and this appeal phase lasted until January 16, 2020, when the decision of the Court of the District of Columbia became final. During 2020, the parties engaged in extensive exchanges of documents and other documentary evidence. The parties also heard the testimonies of several witnesses to the events. In 2021, in addition to the continuity of such hearings, expert evidence was produced, as well as the parties submitted requests for the case to be judged summarily (motion for summary judgment).

On August 8, 2022, the judge upheld EIG's claim as to Petrobras' responsibility for the alleged losses, which are recorded in the third quarter of 2022 as provisions for legal proceedings, but denied the motion for summary judgment with respect to damages, whereby the award of compensation will be subject to the proof of damages by EIG at a hearing and to the consideration of the defenses by the Company. In the same decision, the judge denied the request to dismiss the case based on Petrobras' immunity from jurisdiction, which is why an appeal was filed with the Federal Court of Appeals for the District of Columbia.

On August 26, 2022, a request was filed by Petrobras for the action to be suspended until the judgment of the appeal, and such suspension was granted by the judge on October 26, 2022.

On August 26, 2022, the District Court of Amsterdam granted a precautionary measure to block certain Petrobras assets in the Netherlands, at the request of EIG.. The decision was based on that rendered precautionary measure by the District Court of the District of Columbia, on August 8, 2022, and was intended to ensure the satisfaction of EIG's claims contained in the aforementioned US lawsuit. For the purpose of this injunction alone, the District Court of Amsterdam limited EIG's claims to a total of US\$ 297.2, although the US Court ruled that any award of damages would depend on evidence of damages by EIG at a trial hearing. There are some discussions about the scope of the assets blocked by EIG, but there is no related lawsuit pending in the Netherlands. This precautionary block does not prevent Petrobras and its subsidiaries from complying with their obligations to third parties.

18.5. Arbitrations in Brazil

Petrobras is also currently a party to seven arbitrations proceedings before the Market Arbitration Chamber (*Câmara de Arbitragem do Mercado - CAM*), linked to the Brazilian Stock Exchange (B3), brought by investors who purchased Petrobras' shares traded on B3. Six of these arbitrations were initiated by national and foreign investors. The other proceeding was brought by an association that is not a shareholder of the Company and intends to be a collective arbitration, through representation of all minority shareholders of Petrobras that acquired shares on B3 between January 22, 2010 and July 28, 2015. Investors claim alleged financial losses caused by facts uncovered in the Lava Jato investigation.

These claims involve complex issues that are subject to substantial uncertainties and depend on a number of factors such as the novelty of the legal theories, the timing of the Chamber of Arbitration decisions, the information produced in discovery and analysis by retained experts.

Moreover, the claims asserted are broad and span a multi-year period. The uncertainties inherent in all such matters affect the amount and timing of their ultimate resolution. As a result, the Company is unable to make a reliable estimate of eventual loss arising from such arbitrations.

Depending on the outcome of these complaints, the Company may have to pay substantial amounts, which may have a significant effect on its consolidated financial position, financial performance and cash flows in a certain period. However, Petrobras does not recognize responsibility for the losses alleged by investors in these arbitrations.

Most of these arbitrations are still in the preliminary stages and a final decision is not expected in the near future. However, in relation to one of the arbitrations, proposed by two institutional investors, on May 26, 2020, a partial arbitral

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award was issued indicating the Company's responsibility, but not determining the payment of amounts by Petrobras, nor ending the procedure. This arbitration, as well as the other arbitrations in progress, are confidential and the partial arbitral award - which does not represent a CAM position, but only of the three arbitrators that make up this arbitration panel - does not extend to the other ongoing arbitrations.

On July 20, 2020, Petrobras filed a lawsuit for the annulment of this partial arbitral award, as the Company understands that the award contains serious flaws and improprieties. On November 11, 2020, the 5th Business Court of Rio de Janeiro annulled the partial arbitration award, due to these serious flaws and improprieties pointed out by Petrobras. The appeals against this decision are still pending judgement. In compliance with CAM rules, the lawsuit is confidential and only available to those involved in the original arbitration proceeding. Petrobras will continue to defend itself in this and other arbitrations.

In the year ended December 31, 2022, there were no events that changed the assessment and information on arbitrations in Brazil.

18.6. Tax recoveries under dispute - Compulsory Loan - Eletrobrás

The Brazilian Federal Government, aiming to finance the expansion of the national electricity system, established the compulsory loan that lasted until 1993 in favor of Eletrobrás, which was the operator of this system. The loan was charged to consumers' electricity bills.

In 2010, the Company filed a lawsuit to recognize its right to receive the differences in monetary correction and interest on a compulsory loan from Eletrobrás, in relation to the third conversion of Eletrobrás shares, in the period from 1987 to 1993.

In December 2022, the court issued a final decision in favor of the Company in relation to the merits of the case. Currently, it is at the beginning of the execution phase, when the Company's credit will be determined and settled. Considering that legal discussions are still pending regarding the methodology for calculating, the Company is still unable to estimate the amount of the contingent asset.

18.7. Lawsuits brought by natural gas distributors and others

In 2022, Petrobras entered into agreements with CEGÁS, SC GÁS and ES GÁS, with the aim of putting an end to existing litigation and pacifying controversial issues regarding the price of natural gas supplied, based on the current economic conditions of the natural gas market. Regarding ES GÁS, the new gas purchase and sale agreements were signed and became effective in February 2023. In relation to the State of Minas Gerais, the matter remains in court, however the gas price collection continues to be carried out in accordance with the current Contract signed between Petrobras and GASMIG.

The sale of gas by Petrobras, in the state of Rio de Janeiro, has been taking place under the terms of the injunctions granted, observing the conditions of the gas supply contracts that would end on December 31, 2021 but had their terms extended by these injunctions.

In the state of Sergipe, the sale of gas has been taking place under the terms of the injunction granted in a legal proceeding that is under justice secrecy.

Accounting policy for provisions for legal, administrative and arbitral proceedings, contingent liabilities and contingent assets

Provisions are recognized when: (i) the Company has a present obligation as a result of a past event; (ii) it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and (iii) the amount of the obligation can be reliably estimated.

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Contingent liabilities are not recognized but are disclosed in explanatory notes when the likelihood of outflows is possible, including those whose amounts cannot be estimated, considering the best information available to the date of the issuance of these financial statements.

The methodology used to estimate the provisions is described in note 4.4.

Contingent assets are not recognized, but are disclosed in explanatory notes when the inflow of economic benefits is considered probable and the amount is considered material. However, if the inflow of economic benefits is virtually certain, which, in general, considers the final and unappealable decision, and if the value can be reliably measured, the related asset is not a contingent asset anymore and it is recognized.

19. Provision for decommissioning costs

The following table details the amount of the provision for decommissioning costs by producing area:

	12.31.2022	12.31.2021
Onshore	418	873
Shallow waters	4,399	3,732
Deep and ultra-deep post-salt	9,988	8,420
Pre-salt	3,795	2,594
	18,600	15,619

Changes in the provision for decommissioning costs are presented as follows:

Non-current liabilities	2022	2021
Opening balance	15,619	18,780
Adjustment to provision	3,484	(1,186)
Transfers related to liabilities held for sale	(1,258)	(704)
Use of provisions	(854)	(730)
Interest accrued	476	723
Others	(5)	5
Translation adjustment	1,138	(1,269)
Closing balance	18,600	15,619

The provision associated with divestment projects of E&P assets classified as held for sale was transferred to liabilities related to assets classified as held for sale. In 2022, it refers to: the Potiguar groups of fields, in Rio Grande do Norte state; the Albacora Leste Field, in Rio de Janeiro; Golfinho, Camarupim and Norte Capixaba groups of fields, in the state of Espírito Santo, as set out in note 30. In 2021, it included transfers to held for sale mainly related to: Alagoas groups of fields, Papa-Terra Field, Peroá Group, Miranga Group and Búzios fields.

Accounting policy for decommissioning costs

The initial recognition of legal obligations to remove equipment and restore land or sea areas at the end of operations occurs after the declaration of commercial feasibility of an oil and gas field. The calculations of the cost estimates for future environmental removals and recoveries are complex and involve significant judgments (as set out in note 4.5).

The estimates of decommissioning costs are reviewed annually based on current information on expected costs and recovery plans. When the revision of the estimates results in an increase in the provision for decommissioning costs, there is a corresponding increase in assets. Otherwise, in the event that a decrease in the liability exceeds the carrying amount of the asset, the excess shall be recognized immediately in profit or loss, within other income and expenses.

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Assets		12.31.2022	12.31.2021
Escrow account and/ or collateral	(a)	1,087	961
Advances to suppliers	(b)	1,561	308
Prepaid expenses	(c)	363	297
Derivatives transactions	(d)	54	31
Assets related to E&P partnerships	(e)	71	262
Others		194	201
		3,330	2,060
Current		1,777	1,573
Non-Current		1,553	487

Liabilities		12.31.2022	12.31.2021
Obligations arising from divestments	(f)	1,355	1,106
Contractual retentions	(g)	601	521
Advances from customers	(h)	906	606
Provisions for environmental expenses, R&D and fines	(i)	674	568
Other taxes	(j)	293	143
Unclaimed dividends	(k)	241	81
Derivatives transactions	(d)	147	282
Various creditors		95	84
Others		661	634
		4,973	4,025
Current		3,001	1,875
Non-Current		1,972	2,150

The following references detail the nature of the operations that make up the balances of other assets and liabilities:

a) Amounts deposited for payment of obligations related to the finance agreement with China Development Bank, as well as margin in guarantee for futures and over-the-counter derivatives. In addition, there are amounts in investment funds from escrow accounts related to divestment of TAG and NTS.

b) Amounts whose compensation must be made by supplying materials or providing services contracted with these suppliers.

c) Spending on platform charters and equipment rentals when the start of operations has been postponed due to legal requirements or to the need for technical adjustments.

d) Fair value of open positions and transactions closed but not yet settled.

e) Cash and amounts receivable from partners in E&P consortia operated by Petrobras.

f) Provisions for contractual indemnities and financial reimbursements assumed by Petrobras to be made to the acquirer, referring to abandonment costs of divested assets. The settlement of these provisions follows decommissioning schedules, with payments beginning between two and three months after the date expected for the execution of operations, according to the contractual terms for reimbursement of abandonment of the respective oil fields.

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g) Retained amounts from obligations with suppliers to guarantee the execution of the contract, accounted for when the obligations with suppliers are due. Contractual retentions will be paid to suppliers at the end of the contract, upon issuance of the contract termination term.

h) Amounts related to the advances or cash receipt from third parties, related to the sale of products or services.

i) Accrued amounts for environmental compensation assumed by the Company in the course of its operations and research projects.

j) Non-current portion of other taxes (see note 16).

k) Dividends made available to shareholders and not paid due to the existence of pending registration issues for which the shareholders are responsible with the custodian bank for the shares and with Petrobras, according to note 33.

Accounting policy for other assets and liabilities

The accounting recognition of obligations arising from divestment is at present value, using a risk-free discount rate, adjusted to the company's credit risk, being the best estimate of the disbursement required to settle the present obligation on the statement of financial position date. The obligations are subject to significant changes as activity execution schedules are updated and detailed by buyers.

21. The “Lava Jato (Car Wash) Operation” and its effects on the Company

The Company has monitored the progress of investigations under the “Lava Jato” Operation and, in the preparation of these annual consolidated financial statements for the the year ended December 31, 2022, did not identify any additional information that would affect the adopted calculation methodology to write off, in the third quarter of 2014, amounts overpaid for the acquisition of property, plant and equipment. The Company will continue to monitor these investigations for additional information in order to assess their potential impact on the adjustment made.

In addition, the Company has fully cooperated with the Brazilian Federal Police (*Polícia Federal*), the Brazilian Public Prosecutor's Office (*Ministério Público Federal*), the Federal Auditor's Office (*Tribunal de Contas da União – TCU*) and the General Federal Inspector's Office (*Controladoria Geral da União*) in the investigation of all crimes and irregularities.

During 2022, new leniency and plea agreements entitled the Company to receive funds with respect to compensation for damages, in the amount of US\$ 96 (US\$ 235 in 2021), accounted for as other income and expenses. Thus, the total amount recovered from Lava Jato investigation through December 31, 2022 was US\$ 1,618.

21.1. Investigations involving the Company

21.1.1. Order of civil inquiry - Brazilian Public Prosecutor's Office

On December 15, 2015, the State of São Paulo Public Prosecutor's Office issued the Order of Civil Inquiry 01/2015, establishing a civil proceeding to investigate the existence of potential damages caused by Petrobras to investors in the Brazilian stock market. The Brazilian Attorney General's Office (*Procuradoria Geral da República*) assessed this civil proceeding and determined that the São Paulo Public Prosecutor's Office has no authority over this matter, which must be presided over by the Brazilian Public Prosecutor's Office. In May 2022, Petrobras took notice that the proceeding was closed in February 2021.

22. Commitment to purchase natural gas

The Gas Supply Agreement (GSA) entered into with Petrobras and Yacimientos Petroliferos Fiscales Bolivianos - YPFB was initially effective until December 31, 2019. In addition, according to agreement provision, after December 31, 2019, the GSA was automatically extended until the entire volume contracted is delivered by YPFB and withdrawn by Petrobras. On March 6, 2020, by means of a contractual amendment, Petrobras and YPFB changed the daily contracted

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quantity (QDC) from 30.08 million m³ per day to 20 million m³ per day, which became effective as from March 11, 2020. On August 5, 2022, through a new contractual amendment, Petrobras and YPFB once again modified the GSA, adjusting, among other aspects, the minimum supply and payment commitments, which changed from annual constant to monthly seasonal. Furthermore, the aforementioned contracted volume was consolidated and updated.

Thus, as of December 31, 2022, the total amount of the GSA for 2023, corresponding to the delivery obligation of YPFB, is nearly 5.76 billion m³ of natural gas (equivalent to 15.77 million m³ per day), corresponding to a total estimated value of US\$ 1.51 billion.

Based on the aforementioned extension clause, the Company expects purchases to continue through January 2026, considering the withdrawal based on the Daily Quantity Guaranteed by YPFB, which means the maximum volume contracted every day, ranging from 8 million m³ per day to 20 million m³ per day (on a monthly basis), representing an estimated additional amount of US\$ 3.81 billion, from January 2023 to January 2026.

If the withdrawal occurs based on the Daily Quantity Guaranteed by Petrobras (take-or-pay), ranging from 5.6 million m³ per day to 14 million m³ per day (on a monthly basis), there will be an additional extension until May 2028, representing an estimated additional total value of US\$ 3.47 billion from January 2023 to May 2028.

23. Property, plant and equipment

23.1. By class of assets

	Land, buildings and improvement	Equipment and other assets (*)	Assets under construction (**)	Exploration and development costs (***)	Right-of- use assets	Total
Balance at January 1, 2022	2,383	53,126	16,922	35,847	17,052	125,330
Cost	4,080	98,085	25,954	61,906	26,382	216,407
Accumulated depreciation and impairment (****)	(1,697)	(44,959)	(9,032)	(26,059)	(9,330)	(91,077)
Additions	-	841	7,525	48	7,126	15,540
Decommissioning costs - Additions to / review of estimates	-	-	-	3,269	-	3,269
Capitalized borrowing costs	-	-	1,021	-	-	1,021
Signature Bonuses Transfers (*****)	-	-	-	1,177	-	1,177
Write-offs	(20)	(746)	(2,152)	(667)	(1,469)	(5,054)
Transfers (*****)	130	5,162	(8,611)	3,617	2	300
Transfers to assets held for sale	(27)	(1,874)	(410)	(1,976)	(140)	(4,427)
Depreciation, amortization and depletion	(88)	(4,746)	-	(5,306)	(4,478)	(14,618)
Impairment recognition (note 25)	-	(693)	(605)	(142)	(13)	(1,453)
Impairment reversal (note 25)	-	223	15	52	-	290
Translation adjustment	160	3,854	1,133	2,515	1,132	8,794
Balance at December 31, 2022	2,538	55,147	14,838	38,434	19,212	130,169
Cost	4,343	105,429	23,938	67,581	29,670	230,961
Accumulated depreciation and impairment (****)	(1,805)	(50,282)	(9,100)	(29,147)	(10,458)	(100,792)

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Balance at January 1, 2021	3,043	58,680	15,443	31,166	15,869	124,201
Cost	5,450	107,199	27,544	60,902	23,780	224,875
Accumulated depreciation and impairment (****)	(2,407)	(48,519)	(12,101)	(29,736)	(7,911)	(100,674)
Additions	-	1,650	5,761	5	6,954	14,370
Decommissioning costs - Additions to / review of estimates	-	-	-	(1,069)	-	(1,069)
Capitalized borrowing costs	-	-	971	-	-	971
Signature Bonuses Transfers (****)	-	-	-	11,629	-	11,629
Write-offs	(38)	(588)	(599)	(1,645)	(279)	(3,149)
Transfers (*****)	(295)	2,934	(3,160)	1,781	3	1,263
Transfers to assets held for sale	(53)	(2,776)	(575)	(822)	(14)	(4,240)
Depreciation, amortization and depletion	(97)	(4,235)	-	(4,342)	(4,281)	(12,955)
Impairment recognition	-	(377)	(1)	(27)	(4)	(409)
Impairment reversal	-	1,796	114	1,879	34	3,823
Translation adjustment	(177)	(3,958)	(1,032)	(2,708)	(1,230)	(9,105)
Balance at December 31, 2021	2,383	53,126	16,922	35,847	17,052	125,330
Cost	4,080	98,085	25,954	61,906	26,382	216,407
Accumulated depreciation and impairment (****)	(1,697)	(44,959)	(9,032)	(26,059)	(9,330)	(91,077)

(*) It is composed of production platforms, refineries, thermoelectric power plants, natural gas processing plants, pipelines, and other operating, storage and production plants, including subsea equipment for the production and flow of oil and gas, depreciated based on the units of production method.

(**) See note 12 for assets under construction by operating segment.

(***) It is composed of exploration and production assets related to wells, abandonment and dismantling of areas, signature bonuses associated with proved reserves and other costs directly associated with the exploration and production of oil and gas (oil and gas production properties).

(****) In the case of land and assets under construction, it refers only to impairment losses.

(*****) Transfer from intangible assets related to Atapu, Sepia and Itapu fields in 2022 (related to Búzios in 2021).

(*****) It includes mainly transfers between classes of assets and transfers from advances to suppliers.

The investments made by the company in 2022 were mainly for the development of oil and natural gas field production, primarily in the pre-salt (Búzios, Mero, Tupi, Itapu, among others), including the contracting of new leases.

23.2. Estimated useful life

The useful life of assets depreciated by the linear method are shown below:

Asset	Weighted average useful life in years
Buildings and improvement	40 (25 to 50)
Equipment and other assets	20 (3 to 31) (except assets by the units of production method)
Exploration and development costs	Units of production method
Right-of-use	8 (2 to 47)

The estimated useful life of buildings and improvements, equipment and other assets is as follows:

Estimated useful life	Buildings and improvements, equipment and other assets		
	Cost	Accumulated depreciation	Balance at December 31, 2022
5 years or less	4,762	(3,894)	868
6 - 10 years	8,316	(6,288)	2,028
11 - 15 years	5,442	(1,767)	3,675
16 - 20 years	27,705	(16,590)	11,115
21 - 25 years	30,195	(7,709)	22,486
25 - 30 years	11,727	(3,480)	8,247
30 years or more	4,600	(1,855)	2,745
Units of production method	16,907	(10,498)	6,409
Total	109,654	(52,081)	57,573
Buildings and improvements	4,225	(1,799)	2,426
Equipment and other assets	105,429	(50,282)	55,147

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23.3. Right-of-use assets

The table below shows the split by type of asset and readjustment clauses with possible impacts on accumulated depreciation and impairment, as follows:

	Platforms	Vessels	Properties	Total
Balance at December 31, 2022	9,211	8,254	1,747	19,212
Cost	12,604	14,788	2,278	29,670
Accumulated depreciation and impairment	(3,393)	(6,534)	(531)	(10,458)
Without contractual readjustment clauses	-	(5,322)	(64)	(5,386)
With contractual readjustment clauses - Brazil	(3,393)	(218)	-	(3,611)
With contractual readjustment clauses - abroad	-	(994)	(467)	(1,461)
Balance at December 31, 2021	9,840	5,997	1,215	17,052
Cost	13,362	11,267	1,753	26,382
Accumulated depreciation and impairment	(3,522)	(5,270)	(538)	(9,330)
Without contractual readjustment clauses	-	(4,375)	(97)	(4,472)
With contractual readjustment clauses - Brazil	(3,522)	(196)	-	(3,718)
With contractual readjustment clauses - abroad	-	(699)	(441)	(1,140)

Accounting policy for property, plant and equipment

Property, plant and equipment are measured at the cost of acquisition or construction, including all costs necessary to bring the asset to working condition for its intended use and the estimated cost of dismantling and removing the asset and restoring the site, reduced by accumulated depreciation and impairment losses.

A condition for continuing to operate certain items of property, plant and equipment, such as industrial plants, offshore plants and vessels is the performance of regular major inspections and maintenance. Those expenditures are capitalized if a maintenance campaign is expected to occur, at least, 12 months later. Otherwise, they are expensed when incurred. The capitalized costs are depreciated over the period through the next major maintenance date.

Spare parts are capitalized when they are expected to be used during more than one period and can only be used in connection with an item of property, plant and equipment, and are depreciated over the useful life of the item of property, plant and equipment to which they relate.

Borrowing costs directly attributable to the acquisition or construction of qualifying assets are capitalized as part of the costs of these assets.

General borrowing costs are capitalized based on the Company's weighted average cost of borrowings outstanding applied over the balance of assets under construction.

In general, the Company suspends capitalization of borrowing to the extent investments in a qualifying asset hibernates during a period greater than one year or whenever the asset is prepared for its intended use.

Assets directly associated to the production of oil and gas in a contracted area whose useful lives are not less than the life of the field (reserve exhaustion time), including rights and concessions such as signature bonus, are depleted by the unit-of-production method.

The unit-of-production method of depreciation (amortization) is computed based on the monthly production volume over the proved developed oil and gas reserves, except for signature bonuses for which unit of production method takes into account the monthly production over the total proved oil and gas reserves on a field-by-field basis.

Assets related to oil and gas production with useful lives shorter than the life of the field; floating platforms and other assets unrelated to oil and gas production are depreciated on a straight-line basis over their useful lives, which are reviewed annually. Note 23.2 provides further information on the estimated useful life by class of assets. Lands are not depreciated.

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Right-of-use assets are presented as property, plant and equipment and, according to the useful lives of their respective underlying assets and the characteristics of lease agreements (term, asset transfer or exercise of call option), are depreciated using the straight-line method based on contractual terms.

23.4. Oil and Gas fields operated by Petrobras returned to ANP

In 2022, the following oil and gas fields were returned to ANP: Anequim, Congro, Corvina, Garoupa, Garoupinha, Malhado, Namorado, Parati and Viola. These fields were returned to ANP mainly due to their economic unfeasibility and, as a consequence, the Company wrote off the amount of US\$ 619 in addition to impairments recognized in prior years.

In 2021, the following oil and gas fields were returned to ANP: Bijupirá, Lagosta, Merluza e Salema. These fields were returned to ANP mainly due to their economic unfeasibility and, as a consequence, the Company wrote off the amount of US\$ 27 in addition to impairments recognized in prior years.

In 2020, the following oil and gas fields were returned to ANP: Agulha, Caioba, Camorim, Dourado, Guaricema, Piranema, Piranema Sul, Salgo e Tatuí. These fields were returned to ANP mainly due to their economic unfeasibility and, as a consequence, the Company wrote off the amount of US\$ 12 in addition to impairments recognized in prior years.

23.5. Capitalization rate used to determine the amount of borrowing costs eligible for capitalization

The capitalization rate used to determine the amount of borrowing costs eligible for capitalization was the weighted average of the borrowing costs applicable to the borrowings that were outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. For the year ended December 31, 2022, the capitalization rate was 6.55% p.a. (6.17% p.a. for the year ended December 31, 2021).

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24. Intangible assets

24.1. By class of assets

	Rights and Concessions (*)	Software	Goodwill	Total
Balance at January 1, 2022	2,695	308	22	3,025
Cost	2,744	1,321	22	4,087
Accumulated amortization and impairment	(49)	(1,013)	-	(1,062)
Addition	898	181	-	1,079
Capitalized borrowing costs	-	11	-	11
Write-offs	(12)	(6)	-	(18)
Transfers	(11)	(1)	-	(12)
Signature Bonuses Transfers (**)	(1,177)	-	-	(1,177)
Amortization	(4)	(73)	-	(77)
Impairment recognition	-	(1)	-	(1)
Translation adjustment	134	20	2	156
Balance at December 31, 2022	2,523	439	24	2,986
Cost	2,578	1,560	24	4,162
Accumulated amortization and impairment	(55)	(1,121)	-	(1,176)
Estimated useful life in years	(***)	5	Indefinite	
Balance at January 1, 2021	14,714	210	24	14,948
Cost	14,803	1,245	24	16,072
Accumulated amortization and impairment	(89)	(1,035)	-	(1,124)
Addition	106	165	-	271
Capitalized borrowing costs	-	5	-	5
Write-offs	(12)	(3)	-	(15)
Transfers	(94)	3	-	(91)
Signature Bonuses Transfers (**)	(11,629)	-	-	(11,629)
Amortization	(6)	(54)	-	(60)
Impairment reversal	-	1	-	1
Translation adjustment	(384)	(19)	(2)	(405)
Balance at December 31, 2021	2,695	308	22	3,025
Cost	2,744	1,321	22	4,087
Accumulated amortization and impairment	(49)	(1,013)	-	(1,062)
Estimated useful life in years	(***)	5	Indefinite	

(*) It comprises mainly signature bonuses (amounts paid in concession contracts for oil or natural gas exploration and production sharing), in addition to public service concessions, trademarks and patents and others.

(**) Transfer to PP&E relating to S epia, Atapu and Itapu in 2022 (B uzios in 2021).

(***) Mainly composed of assets with indefinite useful lives, which are reviewed annually to determine whether events and circumstances continue to support an

24.2. ANP Bidding Result

Sudoeste de Sagit ario,  gua Marinha e Norte de Brava Blocks - 1st Cycle of Permanent Offer for Production Sharing

On December 16, 2022, Petrobras acquired the right to explore and produce oil and natural gas in Sudoeste de Sagit ario,  gua Marinha and Norte de Brava blocks in the 1st Cycle of Permanent Offer for Production Sharing, carried out by the ANP. The total amount of signature bonuses to be paid by Petrobras is US\$ 140 (R\$ 729 million), which the Company expects to pay in the first quarter of 2023, to be accounted for as intangible assets.

The Sudoeste de Sagit ario block was acquired with Shell Brasil, which will have a 40% interest, while Petrobras will be the operator with a 60% interest.

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The Água Marinha block was acquired in partnership with TotalEnergies EP (30%), Petronas (20%), and QatarEnergy (20%), while Petrobras will be the operator with a 30% interest.

The Norte de Brava block was entirely acquired by Petrobras.

24.3. Surplus volumes of Transfer of Rights Agreement

Atapu and Sépia

On April 27, 2022, Petrobras signed the Production Sharing Contract for the surplus volume of the Transfer of Rights Agreement related to the Atapu field, in partnership with Shell Brasil Petróleo Ltda (Shell, 25%) and TotalEnergies EP Brasil Ltda. (TotalEnergies, 22.5%), and related to the Sépia field in consortium with TotalEnergies (28%), Petronas Petróleo Brasil Ltda. (Petronas, 21%) and QP Brasil Ltda. (QP, 21%), according to the results of the Second Bidding Round for the Surplus Volume of the Transfer of Rights Agreement in the Production Sharing regime, which was held on December 17, 2021.

Also on April 27, 2022, the Company signed the Co-participation Agreements and the Amendments to the Agreement for the Individualization of Atapu and Sépia Production (AIPs), which are necessary to manage the coexisting deposits of the Transfer of Rights Agreement and the Production Sharing Contract (related to the surplus volume) of these areas.

The compensation to Petrobras for Atapu and Sépia, including an estimate of the gross-up of the taxes levied, pursuant to Ordinance No. 8 of April 19, 2021 of the MME, were paid by the partners in April 2022, totaling US\$ 2,093 for Atapu and US\$ 3,059 for Sépia.

The agreements became effective on May 2, 2022, when Pré-Sal Petróleo S.A. (PPSA) confirmed there was no settlement pending for this transaction, in accordance with the provisions of Ordinance No. 519 of May 21, 2021 of the MME.

On the same date, a partial write-off of the assets associated with these fields was carried out, in exchange for the financial compensation, resulting in a transaction similar to a sale.

The signature bonus corresponding to the Company's participation in the Production Sharing Contract was US\$ 416 for Atapu and US\$ 424 for Sépia.

Since these agreements relate to the surplus volume of fields with technical and commercial feasibility already identified, the signature bonuses paid by the Company in the first quarter of 2022, totaling US\$ 840, were transferred from intangible assets to property, plant and equipment after the Co-participation Agreements came into effect.

The Company accounted for an additional US\$ 129 gain corresponding to the difference between the estimate and the final calculation of the gross-up of taxes levied on the gain on the transfer of assets to the Production Sharing regime, as provided for in the mentioned ordinance (US\$ 60 for Atapu and US\$ 69 for Sépia). These amounts were paid to Petrobras in July 2022.

Additionally, as established in Ordinance No. 8 of April 19, 2021, between 2022 and 2032, whenever the price of Brent oil reaches an annual average ranging from US\$ 40.00 to US\$ 70.00, an earn out is due to Petrobras, for which the Company expects to receive a maximum of US\$ 5,244.

In 2022, the Company recognized part of this contingent asset related to the Earn Out for the years 2022 and 2023, in the amount of US\$ 693, within other income and expenses, considering that the inflow of economic benefits is virtually certain, of which: (i) US\$ 384, received in January 2023, as set out in Note 37; and (ii) US\$ 309 expected to be received in 2024.

Such earn outs are due as of the last business day of January of the subsequent year.

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The total gain in this operation, including the earn out for 2022, was US\$ 3,552 (US\$ 1,242 for Atapu and US\$ 2,310 for Sépia), accounted for within other income and expenses.

Búzios

On November 6, 2019, the ANP held the Bidding Round for the Surplus Volume of the Transfer of Rights Agreement, when the Company acquired a 90% interest in the exploration and production rights of the surplus volume of Búzios field, in the pre-salt layer of Santos basin, in partnership with CNODC Brasil Petróleo e Gás Ltda. - CNODC (5%) and CNOOC Petroleum Brasil Ltda. - CNOOC (5%).

Expenses incurred by Petrobras in the ordinary operations of the bidding area for the benefit of the consortium, made prior to the start of the Búzios Co-participation Agreement and not included in the total compensation amount, in the updated amount of US\$ 58 (R\$ 319 million), were reimbursed to Petrobras by the partners CNODC and CNOOC in February 2022.

In addition, on March 4, 2022, Petrobras signed an agreement with its partner CNOOC for the transfer of 5% of its interest in the Production Sharing Contract for the Surplus Volume of the Transfer of Rights Agreement of the Búzios field, in the pre-salt layer of the Santos basin, to this company. The agreement results from the call option exercised by CNOOC on September 29, 2021.

On November 24, 2022, Petrobras received US\$ 1,953 referring to the compensation and reimbursement of the signature bonus of CNOOC's additional interest, including adjustments provided for in the contract up to the closing date. On November 30, 2022, the operation was closed with the signature of the amendment to the Production Sharing Contract by the Ministry of Mines and Energy. The agreement entered into force on December 1, 2022.

The total gain in this operation was US\$ 735 accounted for within other income and expenses.

After the transaction becomes effective, Petrobras hold an 85% interest in the Production Sharing Contract of the Surplus Volume of the Transfer of Rights Agreement of the Búzios field, CNOOC hold a 10% interest and CNODC a 5% interest. The total participation in this Búzios Co-participation Agreement, including the portions of the Transfer of Rights Agreement and of the BS-500 Concession Agreement (100% of Petrobras) is 88.99% of Petrobras, 7.34% of CNOOC and 3.67% of CNODC.

24.4. Exploration rights returned to the Brazilian Agency of Petroleum, Natural Gas and Biofuels - Agência Nacional de Petróleo, Gás Natural e Biocombustíveis (ANP)

In 2022, there were no basins returned to the ANP. In 2021, 3 exploration areas in Santos and Potiguar basins were returned to the ANP, totaling US\$ 3.

Accounting policy for intangible assets

Intangible assets are measured at the acquisition cost, less accumulated amortization and impairment losses.

Internally-generated intangible assets are not capitalized and are expensed as incurred, except for development costs that meet the recognition criteria related to the completion and use of assets, probable future economic benefits, and others.

When the technical and commercial feasibility of oil and gas production is demonstrated for the first field in an area, the value of the signature bonus is reclassified to property, plant and equipment at their full value. While they are registered in intangible assets, they are not amortized. Other intangible assets with defined useful lives are amortized on a straight-line basis over their estimated useful lives.

If, when defining the technical and commercial feasibility of the first field of a block, there are exploratory activities being carried out in different locations in the block, so that oil and gas volumes can be estimated for other possible

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reservoirs in the area, then the value of the signature bonus is partially reclassified to PP&E, based on the ratio between the volume of oil and gas expected (oil in place - VOIP) of a specific reservoir and the total volume of oil and gas expected for all possible reservoirs in the area.

If exploratory activities in the remaining areas do not result in technical and commercial viability, the corresponding value of the signature bonus is not written off, but transferred to PP&E and added to the value of the signature bonus related to the location that was previously assessed as technically and commercially viable.

Intangible assets with an indefinite useful life are not amortized but are tested annually for impairment. Their useful lives are reviewed annually.

25. Impairment

(Losses) / reversals	2022	2021	2020
Property, plant and equipment	(1,163)	3,414	(7,342)
Intangible assets	(1)	1	(12)
Assets classified as held for sale	(151)	(225)	15
Impairment losses	(1,315)	3,190	(7,339)
Investments	(6)	383	(514)
Net effect within the statement of income	(1,321)	3,573	(7,853)
Losses	(1,640)	(654)	(15,692)
Reversals	319	4,227	7,839

The Company annually tests its assets for impairment or when there is an indication that their carrying amount may not be recoverable, or that there may be a reversal of impairment losses recognized in previous years.

On November 30, 2022, management concluded and approved its 2023-2027 Strategic Plan, considering a complete update of economic assumptions, as well as its project portfolio and estimates of reserve volumes.

The oil and gas production estimated in the scope of this plan indicates a continuous growth focused on the development of projects that generate higher value, with an increase in the participation of assets in the pre-salt layer, which present lower lifting costs. During this period, 18 new production systems are expected to enter into operation, all of which to be allocated to deep and ultra-deep water projects.

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25.1. Impairment of property, plant and equipment and intangible assets

Asset or CGU by nature (*)	Carrying amount	Recoverable amount (**)	Impairment (losses) / reversals	Business segment	Comments
Property, plant and equipment and intangible assets					
Producing properties relating to oil and gas activities in Brazil (several CGUs)	8,307	7,747	(628)	E&P	item (a1)
Oil and gas production and drilling equipment in Brazil	486	7	(478)	E&P	item (b1)
Itaboraí utilities	919	777	(142)	Gas & Power	item (c)
Second refining unit in RNEST	792	882	89	RT&M	item (d1)
Others			(5)	Several	
			(1,164)		
2022					
Property, plant and equipment and intangible assets					
Producing properties relating to oil and gas activities in Brazil (several CGUs)	23,734	36,396	3,373	E&P	item (a2)
Oil and gas production and drilling equipment in Brazil	250	-	(250)	E&P	item (b2)
Second refining unit in RNEST	404	767	359	RT&M	item (d2)
Others			(67)	Several	
			3,415		
2021					
Property, plant and equipment and intangible assets					
Producing properties relating to oil and gas activities in Brazil (several CGUs)	42,421	40,511	(7,316)	E&P	item (a3)
Oil and gas production and drilling equipment in Brazil	120	-	(119)	E&P	item (b3)
Second refining unit in RNEST	410	388	(22)	RT&M	item (d3)
Comperj	266	526	260	RT&M	item (e)
Corporate facilities	152	-	(161)	Corporate, others	item (f)
Others			2	Several	
			(7,354)		

(*) It only includes carrying amounts and recoverable amounts of impaired assets or assets for which reversals were recognized.

(**) The recoverable amounts of assets for impairment computation were their value in use, except for assets held for sale, for which is used fair value.

In assessing the recoverable amount of property, plant and equipment and intangible assets, individually or grouped in CGUs, the Company bases its cash flow projections on:

- the estimated useful life of the asset or assets grouped into the CGU, based on the expected use of those assets, considering the Company's maintenance policy;
- assumptions and financial forecasts approved by management for the period corresponding to the expected life cycle of each different business; and
- discount rates derived from the Company's post-tax weighted average cost of capital (WACC), adjusted by specific risk-premiums in case of projects postponed for an extended period, or by specific country-risks, in case of assets abroad. The use of post-tax discount rates in determining value in use does not result in different recoverable amounts if pre-tax discount rates had been used.

25.1.1. Planning assumptions used in impairment testing

The cash flow projections used to measure the value in use of the CGUs, at December 31, 2022, were mainly based on the following updated assumptions for average Brent prices and Brazilian real/U.S. dollar average exchange rates:

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2023-2027 Strategic Plan	2023	2024	2025	2026	2027	Long term Average
Average Brent (US\$/barrel)	85	80	75	70	65	55
Average Brazilian Real (excluding inflation) - Real /U.S. dollar exchange rate	5.02	5.00	5.00	4.97	4.88	4.76

At December 31, 2021, average Brent prices and Brazilian real/U.S. dollar average exchange rates used were:

2022-2026 Strategic Plan (*)	2022	2023	2024	2025	2026	Long term Average
Average Brent (US\$/barrel)	72	65	60	55	55	55
Average Brazilian Real (excluding inflation) - Real /U.S. dollar exchange rate	5.40	5.33	5.19	5.15	5.14	5.08

At December 31, 2020, average Brent prices and Brazilian real/U.S. dollar average exchange rates used were:

2021-2025 Strategic Plan (*)	2021	2022	2023	2024	2025	Long term Average
Average Brent (US\$/barrel)	45	45	50	50	50	50
Average Brazilian Real (excluding inflation) - Real /U.S. dollar exchange rate	5.50	4.69	4.46	4.28	4.07	3.76

Post-tax discount rates, excluding inflation, applied in the tests which presented the main impairment losses and reversals for the period were:

Activity	12.31.2022	12.31.2021
Producing properties relating to oil and gas activities in Brazil	7.3% p.a.	6.4% p.a.
RT&M in Brazil – postponed projects	7.1% p.a.	6.2% p.a.
Gas utilities	5.7% p.a.	5.1% p.a.

Information on key assumptions for impairment testing and on CGU definitions is presented in note 4.2.

25.1.2. Information on the main impairment losses of property, plant and equipment and intangible assets

a1) Producing properties in Brazil – 2022

Impairment losses on producing properties in Brazil amount to US\$ 628, mainly in Roncador field (US\$ 518), reflecting the revision of abandonment costs and of the recovery of areas, as well as changes in operational efficiency estimates, which had a negative effect over production curves of this field.

a2) Producing properties in Brazil – 2021

Impairment reversals on producing properties in Brazil amount to US\$ 3,918, most of it related to CGUs of producing properties, reflecting the revision on the key assumptions of the 2022-2026 Strategic Plan, mainly the increase in average Brent prices.

a3) Producing properties in Brazil – 2020

Impairment losses on producing properties in Brazil amounted to US\$ 7,316, most of it related to CGUs that provided service in E&P fields, also reflecting the hibernation of producing assets on the first quarter of 2020, as well as the revision on the key assumptions of the Strategic Plan, mainly expected Brent prices, depreciation of Brazilian real against U.S. dollar, economic slowdown and reduction on demand for oil and oil products.

b1) Oil and gas production and drilling equipment in Brazil – 2022

Impairment losses of US\$ 478 relates to equipment and structures in the E&P segment, mainly due to the decision to cease the use of platforms P-18, P-19, P-20, P-35 and P-47 in the Marlim field, leading to the recognition of losses in the amount of US\$ 402.

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b2) Oil and gas production and drilling equipment in Brazil - 2021

Impairment losses of US\$ 250 relates to equipment and structures in the E&P segment, mainly due to the decision to cease the use of platforms P-26 and P-33 in the Marlim field, leading to the recognition of losses in the amount of US\$ 210.

b3) Oil and gas production and drilling equipment in Brazil - 2020

Impairment losses of US\$ 120 relates to equipment and structures in the E&P segment, mainly due to the decision to cease with the Estaleiro Inhaúma project, leading to the recognition of losses in the amount of US\$ 69.

c) Itaboraí utilities

The postponement of the beginning of operations of the Natural Gas Processing Unit (UPGN) of the Gaslub plant in Itaboraí, in the state of Rio de Janeiro, due to the termination of the agreement with the contractor responsible for the works, impacted revenue estimate, resulting in the recognition of a US\$ 142 impairment loss.

d1) Second refining unit of RNEST – 2022

The cash flows to measure the value in use of the second refining unit of RNEST considers operational optimization and the margins for the refining segment estimated in the 2023-2027 Strategic Plan, triggering impairment reversals in the amount of US\$ 89.

d2) Second refining unit of RNEST – 2021

The cash flows to measure the value in use of the second refining unit of RNEST took into account the decision to resume the works, according to the 2022-2026 Strategic Plan, triggering impairment reversals in the amount of US\$ 359.

d3) Second refining unit of RNEST – 2020

The cash flows to measure the value in use of the second refining unit of RNEST took into account the postponing of the beginning of the operation, triggering impairment losses in the amount of US\$ 22.

e) Comperj – 2020

Impairment reversals amounted to US\$ 260, mainly due to the reduction in the estimated investments for the completion of the project relating to the first refining unit facilities, resulting from the depreciation of the Brazilian Real in relation to the U.S. Dollar, as well as to optimization measures adopted.

f) Corporate facilities – 2020

The Company decided to hibernate a corporate building, in the state of Bahia, due to its permanent vacancy, resulting in a US\$ 161 impairment loss on the right of use asset.

25.1.3. Assets most sensitive to future impairment

Whenever the recoverable amount of an asset or CGU falls below the carrying amount, an impairment loss is recognized to reduce the carrying amount to the recoverable amount. The following table presents the assets and CGUs most sensitive to future impairment losses, presenting recoverable amounts close to their current carrying amounts.

The analysis presented below considers CGUs with estimated impairment losses or reversals if there was a 10% reduction or increase in their recoverable amounts, arising from changes in material assumptions:

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Potential impairment losses - 10% reduction in the recoverable amount	Business segment	Carrying amount	Recoverable amount	Sensitivity
Asset with recoverable amount close to its carrying amount				
CGU Marlim Sul	E&P	5,544	5,365	(179)
Assets with impairment losses				
Producing properties relating to oil and gas activities in Brazil (CGU Roncador)	E&P	7,313	6,581	(732)
Second refining unit of RNEST	RTC	882	794	(88)
Itaboraí utilities	G&E	777	699	(78)
		14,516	13,439	(1,077)

Potential impairment reversals - 10% increase in the recoverable amount	Business segment	Carrying amount	Recoverable amount	Sensitivity (*)
Assets with impairment losses				
Producing properties relating to oil and gas activities in Brazil (CGU Roncador)	E&P	7,313	8,044	731
Second refining unit of RNEST	RTC	882	970	88
Itaboraí utilities	G&E	777	855	78
		8,972	9,869	897

(*) When calculating a 10% increase in the recoverable amount, the amount of impairment to be reversed is limited to the accumulated impairment of the CGU or to their recoverable amounts, whichever is lower.

Accounting policy for impairment of property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets are assessed for impairment at the smallest identifiable group that generates largely independent cash inflows from other assets or groups of assets (CGU). Note 4.2 presents detailed information about the Company's CGUs.

Assets related to development and production of oil and gas assets (fields or group of fields) that have indefinite useful lives, such as goodwill, are tested for impairment at least annually, irrespective of whether there is any indication of impairment.

Considering the existing synergies between the Company's assets and businesses, as well as the expectation of the use of its assets for their remaining useful lives, value in use is generally used by the Company for impairment testing purposes. When specifically indicated, the Company assesses differences between its assumptions and assumptions that would be used by market participants in the determination of the fair value of an asset or CGU.

Reversal of previously recognized impairment losses may occur for assets other than goodwill.

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25.2. Assets classified as held for sale

Asset or CGU by nature (*)	Carrying amount	Recoverable amount (**)	Impairment (losses) / reversals	Business segment
				2022
Producing properties relating to oil and gas activities	376	300	(116)	E&P
Refinery and associated logistics assets	77	34	(44)	RT&M
Others			9	
Total			(151)	
				2021
Thermoelectric power plants	91	12	(79)	G&E
Investments in associates and joint ventures	107	44	(67)	G&E
Oil and gas production and drilling equipment	47	-	(46)	E&P
Refineries and associated logistics assets	255	218	(37)	RT&M
Others			4	
Total			(225)	
				2020
Producing properties relating to oil and gas activities	-	279	67	E&P
Cartola and Ataulfo Alves vessels	80	19	(62)	RT&M
Others			10	
Total			15	

(*) It only includes carrying amounts and recoverable amounts of impaired assets or assets for which reversals were recognized.

(**) The recoverable amounts of assets for impairment computation were their fair value.

In 2022, the Company recognized losses on assets held for sale, in the amount of US\$ 150, arising from the assessment at the fair value of assets, net of disposal expenses, mainly:

- i. producing properties relating to oil and gas activities – a US\$ 116 impairment loss, due to the revision of abandonment costs and of the recovery of areas of several concessions in groups of fields Golfinho (a US\$ 72 impairment loss), Pescada (a US\$ 29 impairment loss) and Camarupim (a US\$ 15 impairment loss); and
- ii. refinery and associated logistics assets: approval for the disposal of LUBNOR refinery, in the state of Ceará, resulting in the recognition of a US\$ 44 impairment loss.

In 2021, the Company recognized losses on assets held for sale, in the amount of US\$ 225, arising from the assessment at the fair value of assets, net of disposal expenses, mainly due to:

- i. Camaçari power plants – following the closing of the sale of thermoelectric power plants Arembepe, Muryci and Bahia 1, located in Camaçari, in the state of Bahia, these assets were measured at fair value net of selling expenses, and a US\$ 79 impairment loss was accounted for in the second quarter of 2021.
- ii. Breitener Energética S.A – following the sale of this company, in the state of Amazonas, Petrobras recognized a US\$ 67 loss;
- iii. Oil and gas production and drilling equipment in Brazil: approval for the disposal of P-32 platform, resulting in the recognition of US\$ 46 losses; and
- iv. Refineries and associated logistics assets: following the approval for the sale of refinery Isaac Sabbá (REMAN), in the state of Amazonas, a US\$ 12 impairment loss was recognized, and of the refinery Shale Industrialization Unit (SIX), in the state of Parará, a US\$ 25 impairment loss was recognized.

In 2020, the Company recognized reversals in the amount of US\$ 15 arising from the fair value of assets, net of disposal expenses, with the most significant relating to:

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- v. the sale of Recôncavo group of fields (14 concessions located onshore and in shallow waters) in the amount of US\$ 35;
- vi. the sale of Rio Ventura group of fields (8 concessions located onshore) in the amount of US\$ 18;
- vii. the sale of Fazenda Belém group of fields, in the amount of US\$ 14.

These reversals were partially offset by a US\$ 62 impairment loss relating to Cartola and Ataulfo Alves vessels.

The accounting policy for assets and liabilities held for sale is set out in note 30.

25.3. Investments in associates and joint ventures (including goodwill)

Value in use is generally used for impairment test of investments in associates and joint ventures (including goodwill). The basis for estimates of cash flow projections includes: projections covering a period of 5 to 12 years, zero-growth rate perpetuity, budgets, forecasts and assumptions approved by management and a post-tax discount rate derived from the WACC or the Capital Asset Pricing Model (CAPM) models, specific for each case.

Accounting policy for impairment of associates and joint ventures

Investments in associates and joint ventures are tested individually for impairment. When performing impairment testing of an equity-accounted investment, goodwill, if it exists, is also considered part of the carrying amount to be compared to the recoverable amount.

Except when specifically indicated, value in use is generally used by the Company for impairment testing purposes in proportion to the Company's interests in the present value of future cash flow projections via dividends and other distributions.

25.3.1. Investment in publicly traded associates

a) Braskem S.A.

Braskem's shares are publicly traded on stock exchanges in Brazil and abroad. As of December 31, 2022, the quoted market value of the Company's investment in Braskem was US\$ 1,370 based on the quoted values of both Petrobras' interest in Braskem's common stock (47% of the outstanding shares), and preferred stock (22% of the outstanding shares). However, there is extremely limited trading of the common shares, since non-signatories of the shareholders' agreement hold only approximately 3% of the common shares.

Given the operational relationship between Petrobras and Braskem, the recoverable amount of the investment for impairment testing purposes was determined based on value in use, considering future cash flow projections and the manner in which the Company can derive value from this investment via dividends and other distributions to arrive at its value in use. As the recoverable amount was higher than the carrying amount, no impairment losses were recognized for this investment.

Cash flow projections to determine the value in use of Braskem were based on estimated prices of feedstock and petrochemical products reflecting international trends on prices, petrochemical products sales volume estimates reflecting projected Brazilian and global G.D.P. growth, post-tax discount rate (excluding inflation) of 6.2% p.a., (WACC), and decreases in the EBITDA margin during the growth cycle of the petrochemical industry in the next years and increases in the long-term. Estimated exchange rates and Brent prices are the same as those set out in note 25.1.1.

On December 16, 2021, Petrobras' Board of Directors approved the model for the sale of up to 100% of its preferred shares of Braskem, to be conducted through a secondary public offering (follow-on), according to an agreement entered into with Novonor (Braskem's parent company).

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On January 17, 2022, Petrobras filed a follow-on request with the CVM. However, on January 28, 2022, the offer was canceled due to unstable market conditions, which resulted in demand and price levels unfavorable for the transaction.

b) Petrobras Distribuidora S.A. (renamed Vibra Energia S.A.)

On August 26, 2020 the Company's Board of Directors approved the disposal of the remaining interest in this associate and, on June 30, 2021, the Company's Board of Directors approved the price per common share of BR Distribuidora in the amount of US\$ 5.20 (R\$ 26.00) for the secondary public offering (follow on) of these shares, totaling US\$ 2,252 (R\$ 11,264 million), net of transaction costs.

Accordingly, considering the sale of the shares and the cash flows arising from this sale, a US\$ 404 impairment reversal was accounted for within results of equity-accounted investments, in the second quarter of 2021. The transaction was closed on July 5, 2021.

26. Exploration and evaluation of oil and gas reserves

The exploration and evaluation activities include the search for oil and gas reserves from the date of obtaining the legal rights to explore a specific area to the moment in which technical and commercial feasibility to produce oil and gas are demonstrated.

Changes in the balances of capitalized costs directly associated with exploratory wells pending determination of proved reserves and the balance of amounts paid for obtaining rights and concessions for exploration of oil and natural gas (capitalized acquisition costs) are set out in the following table:

Capitalized Exploratory Well Costs / Capitalized Acquisition Costs (*)	2022	2021
Property plant and equipment		
Opening Balance	1,994	3,024
Additions	379	459
Write-offs	(545)	(188)
Transfers	(83)	(1,097)
Translation adjustment	131	(204)
Closing Balance	1,876	1,994
Intangible Assets	2,406	2,576
Capitalized Exploratory Well Costs / Capitalized Acquisition Costs	4,282	4,570

(*) Amounts capitalized and subsequently expensed in the same period have been excluded from this table.

Exploration costs recognized in the statement of income and cash used in oil and gas exploration and evaluation activities are set out in the following table:

	2022	2021	2020
Exploration costs recognized in the statement of income			
Geological and geophysical expenses	(342)	(358)	296
Exploration expenditures written off (includes dry wells and signature bonuses)	(691)	(248)	456
Contractual penalties on local content requirements	165	(47)	38
Other exploration expenses	(19)	(34)	13
Total expenses	(887)	(687)	803
Cash used in:			
Operating activities	360	393	307
Investment activities	1,253	555	532
Total cash used	1,613	948	839

In 2022, exploration expenditures written off were mainly related to 8 exploratory wells in the Sergipe and Alagoas basin (US\$ 453), and projects run by subsidiaries of PIBBV in Colombia (US\$ 107) and Bolivia (US\$ 56).

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Term of Conduct Adjustment with the ANP

In 2022, Petrobras approved the execution, with the ANP, of a Term of Conduct Adjustment (TAC) to offset local content fines related to:

- 22 concessions in which Petrobras has a 100% interest, located in the Barreirinhas, Campos, Espírito Santo, Parecis, Potiguar, Recôncavo, Santos, Sergipe-Alagoas and Solimões basins;
- 18 concessions in which Petrobras operates in partnership with other companies, located in the Almada, Espírito Santo, Mucuri, Parnaíba, Pelotas, Pernambuco-Paraíba, Potiguar, Recôncavo, Santos and Sergipe basins.

The TAC provides for the conversion of fines into investment commitments in the Exploration and Production segment with local content. Under the terms of the agreement, Petrobras is committed to investing US\$ 288 (R\$ 1,501 million) in local content by December 31, 2026. As a result, all administrative proceedings related to the collection of fines arising from alleged non-compliance with local content in these concessions will be closed, resulting in a US\$ 180 gain for the reversal of this liability as of December 31, 2022.

Accounting policy for exploration and evaluation of oil and gas reserves

The costs incurred in connection with the exploration, appraisal and development of crude oil and natural gas production are accounted for using the successful efforts method of accounting, as set out below:

- geological and geophysical costs related to exploration and appraisal activities incurred until economic and technical feasibility are demonstrated are immediately recognized as an expense;
- amounts paid for obtaining concessions for exploration of crude oil and natural gas (capitalized acquisition costs) are initially capitalized as intangible assets and are transferred to property, plant and equipment once the technical and commercial feasibility are demonstrated. More information on intangible assets accounting policy, see note 24;
- costs directly attributable to exploratory wells, including their equipment, installations and other costs necessary to identify the technical and commercial feasibility, pending determination of proved reserves, are capitalized within property, plant and equipment. In some cases, exploratory wells have discovered oil and gas reserves, but at the moment the well drilling is completed they are not yet able to be classified as proved. In such cases, the expenses continue to be capitalized if the well has found a sufficient quantity of reserves to justify its completion as a producing well and progress on assessing the reserves and the technical and commercial feasibility of the project is under way (for more information see note 24);
- an internal commission of technical executives of the Company monthly reviews these conditions for each well, by analysis of geoscience and engineering data, existing economic conditions, operating methods and government regulations (for more information see note 4.1);
- costs related to exploratory wells drilled in areas of unproved reserves are charged to expense when determined to be dry or uneconomic by the aforementioned internal commission; and
- costs related to the construction, installation and completion of infrastructure facilities, such as drilling of development wells, construction of platforms and natural gas processing units, construction of equipment and facilities for the extraction, handling, storing, processing or treating crude oil and natural gas, pipelines, storage facilities, waste disposal facilities and other related costs incurred in connection with the development of proved reserve areas (technically and commercially feasible) are capitalized within property, plant and equipment.

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26.1. Aging of Capitalized Exploratory Well Costs

The following tables set out the amounts of exploratory well costs that have been capitalized for a period of one year or more after the completion of drilling, the number of projects whose costs have been capitalized for a period greater than one year, and an aging of those amounts by year (including the number of wells relating to those costs):

Aging of capitalized exploratory well costs (*)	2022	2021
Exploratory well costs capitalized for a period of one year	406	136
Exploratory well costs capitalized for a period greater than one year	1,470	1,858
Total capitalized exploratory well costs	1,876	1,994
Number of projects relating to exploratory well costs capitalized for a period greater than one year	15	22

	Capitalized costs (2022)	Number of wells
2021	74	2
2020	17	1
2017 and previous years	1,379	20
Exploratory well costs that have been capitalized for a period greater than one year	1,470	23

(*) Amounts paid for obtaining rights and concessions for exploration of oil and gas (capitalized acquisition costs) are not

Exploratory well costs that have been capitalized for a period greater than one year since the completion of drilling relate to 15 projects comprising 23 wells, are composed of (i) US\$ 1,413 of wells in areas in which there has been ongoing drilling or firmly planned drilling activities for the near term and for which an evaluation plan has been submitted for approval by the ANP; and (ii) US\$ 57 relates to costs incurred to evaluate technical and commercial feasibility necessary for the decision on the production development and on definition of proved reserves.

27. Collateral for crude oil exploration concession agreements

The Company has granted collateral to ANP in connection with the performance of the Minimum Exploration Programs established in the concession agreements for petroleum exploration areas in the total amount of US\$ 1,748 (US\$ 1,574 as of December 31, 2021), which is still in force as of December 31, 2022, net of commitments undertaken. As of December 31, 2022, the collateral comprises crude oil from previously identified producing fields and already in production, pledged as collateral, in the amount of US\$ 1,648 (US\$ 1,243 as of December 31, 2021) and bank guarantees of US\$ 100 (US\$ 331 as of December 31, 2021).

28. Partnerships in E&P activities

In line with its strategic objectives, Petrobras operates in association with other companies in partnerships in Brazil as holder of oil and natural gas exploration and production rights in concessions and production sharing regimes.

As of December 31, 2022, the Company holds interests in 78 partnerships with 36 companies, among which Petrobras is the operator in 50 (in 2021, 85 partnerships with 37 companies and operator in 55).

The partnerships formed in 2022 are described below (there were no new partnerships formed in 2021):

Consortium	Location	Petrobras %	Partners %	Operator	Year	Additional Information	ANP Bonus Petrobras portion
Atapu	Santos basin	52.5%	Shell - 25% TotalEnergies - 22,5%	Petrobras	2022	Production sharing	402
Sépia	Santos basin	30.0%	TotalEnergies - 28% Petronas - 21% QP - 21%	Petrobras	2022	Production sharing	409

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Partnerships brings benefits through risk sharing, increased investment capacity, technical and technological interchange, aiming at the growth in oil and gas production. The following table presents the production referring to Petrobras's participation in the main fields in which the Company is the operator in the partnership:

Field	Location	% Petrobras	% Partners	Petrobras production portion in 2022 (kboed)	Regime	Operator
Tupi (BMS-11)	Santos basin pre-salt	65%	Shell – 25% Petrogal – 10%	709	Concession	Petrobras
Búzios	Santos basin pre-salt	85%	CNODC – 10% CNOOC – 5%	469	Production sharing	Petrobras
Roncador	Campos basin	75%	Equinor – 25%	107	Concession	Petrobras
Sapinhoá (BMS-9)	Santos basin pre-salt	45%	Shell – 30% Repsol Sinopec – 25%	106	Concession	Petrobras
Mero	Santos basin pre-salt	40%	Total – 20% Shell – 20% CNODC – 10% CNOOC – 10%	40	Production sharing	Petrobras
Sururu	Santos basin pre-salt	43%	Shell – 25% Total – 22,5% Petrogal – 10%	38	Concession	Petrobras
Tartaruga Verde	Campos basin	50%	Petronas – 50%	37	Concession	Petrobras
Atapu	Santos basin pre-salt	53%	Shell – 25% Total – 22,5%	31	Production sharing	Petrobras
Albacora Leste (*)	Campos basin	90%	Repsol Sinopec - 10%	29	Concession	Petrobras
Sépia	Santos basin pre-salt	30%	Total – 28% Petronas - 21% Qatar – 21%	22	Production sharing	Petrobras
Total				1,588		

(*) On January 26, 2023, Petrobras concluded the sale of its entire interest, as set out in note 37.

Accounting policy for joint operations

The E&P partnerships are classified as joint operations, where the assets, liabilities, revenues and expenses relating to these partnerships are accounted for in the financial statements individually, observing the applicable specific accounting policies and reflecting the portion of the contractual rights and obligations that the company has.

28.1. Unitization Agreements

Petrobras has Production Individualization Agreements (AIP) signed in Brazil with partner companies in E&P consortia, as well as contracts resulting from divestment operations and strategic partnerships related to these consortia. These agreements result in reimbursements payable to (or receivable from) partners regarding expenses and production volumes mainly related to Agulhinha, Albacora Leste, Berbigão, Budião Noroeste, Budião Sudeste, Caratinga, Sururu and Tartaruga.

Berbigão, Sururu, Albacora Leste and others

The table below presents changes in the reimbursements payable relating to the execution of the AIP submitted to the approval of the ANP:

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	2022	2021
Opening balance	364	370
Additions/(Write-offs) on PP&E	(7)	(64)
Other income and expenses	26	84
Translation adjustments	24	(26)
Closing balance	407	364

In 2022, these agreements resulted in additions and write-offs in PP&E, in addition to other income and expenses, reflecting the best available estimate of the assumptions used in the calculation base and the sharing of assets in areas to be equalized.

Accounting Policy for unitization agreements

A unitization agreement occurs when a reservoir extends across two or more license or contract areas. In this case, partners pool their individual interests in return for an interest in the overall unit and determine their new stake in the single producing unit.

Events that occurred prior to the unitization agreement may lead to the need for compensation between the partners. At the signing of the AIP, an amount to be reimbursed to the Company will be recognized as an asset only when there is a contractual right to reimbursement or when the reimbursement is practically certain. An amount to be reimbursed by the Company will be recognized as a liability when it derives from a contractual obligation or, when the outflow of funds is deemed probable and the amount can be reliably estimated.

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29. Investments

29.1. Information on direct subsidiaries, joint arrangements and associates

	Main business segment	% Petrobras' ownership	% Petrobras' voting rights	Shareholders' equity (deficit)	Net income (loss) for the year	Country
Subsidiaries						
Petrobras International Braspetro - PIB BV	Several	100.00	100.00	52,728	3,787	Netherlands
Petrobras Transporte S.A. - Transpetro	RT&M	100.00	100.00	932	90	Brazil
Petrobras Logística de Exploração e Produção S.A. - PB-LOG	E&P	100.00	100.00	87	225	Brazil
Petrobras Biocombustível S.A.	Corporate, others	100.00	100.00	193	(38)	Brazil
Araucária Nitrogenados S.A.	Gas & Power	100.00	100.00	31	10	Brazil
Termomacacê S.A.	Gas & Power	100.00	100.00	61	14	Brazil
Braspetro Oil Services Company - Brasoil	Corporate, others	100.00	100.00	118	7	Cayman
Termobahia S.A.	Gas & Power	98.85	98.85	67	11	Brazil
Baixada Santista Energia S.A.	Gas & Power	100.00	100.00	58	4	Brazil
Fundo de Investimento Imobiliário RB Logística - FII	E&P	99.15	99.15	16	8	Brazil
Procurement Negócios Eletrônicos S.A.	Corporate, others	72.00	49.00	7	2	Brazil
Petrobras Comercializadora de Gás e Energia e Participações S.A.	Corporate, others	100.00	100.00	11	-	Brazil
Transportadora Brasileira Gasoduto Bolívia - Brasil S.A.	Gas & Power	51.00	51.00	119	181	Brazil
Refinaria de Canoas S.A. (i)	RT&M	100.00	100.00	-	-	Brazil
Refinaria de Mucuripe S.A.	RT&M	100.00	100.00	-	-	Brazil
Ibiritermo S.A.	Gas & Power	100.00	100.00	2	5	Brazil
Associação Petrobras de Saúde (ii)	Corporate, others	93.47	93.47	116	21	Brazil
Joint operations						
Fábrica Carioca de Catalizadores S.A. - FCC	RT&M	50.00	50.00	50	17	Brazil
Joint ventures						
Logum Logística S.A.	RT&M	30.00	30.00	192	(33)	Brazil
Petrocoque S.A. Indústria e Comércio	RT&M	50.00	50.00	16	80	Brazil
Refinaria de Petróleo Riograndense S.A.	RT&M	33.20	33.33	19	15	Brazil
Brasympe Energia S.A.	Gas & Power	20.00	20.00	14	1	Brazil
Bretech Energia S.A.	Gas & Power	30.00	30.00	16	28	Brazil
Metanor S.A. - Metanol do Nordeste	RT&M	34.54	50.00	19	5	Brazil
Companhia de Coque Calcinado de Petróleo S.A. - Coquepar	RT&M	45.00	45.00	-	-	Brazil
Associates						
Braskem S.A. (iii)	RT&M	36.15	47.03	1,309	206	Brazil
UEG Araucária Ltda.	Gas & Power	18.80	18.80	82	(26)	Brazil
Energética SUAPE II S.A.	Gas & Power	20.00	20.00	88	31	Brazil
Nitrocolor Produtos Químicos LTDA.	RT&M	38.80	38.80	-	-	Brazil
Bioenergética Britarumã S.A.	Gas & Power	30.00	30.00	-	-	Brazil
Transportadora Sulbrasileira de Gás - TSB	Gas & Power	25.00	25.00	3	2	Brazil

(i) Company legally established, with capital contribution of US\$ 58 thousand.

(ii) APS is a non-profit civil association, which carries out social or assistance activities (health care), and is consolidated in the Company's financial statements.

(iii) Equity and net income at September 30, 2022, most current public information.

In 2022, the Company sold some equity interests, including the following significant divestments:

- Deten Química S.A.– selling of its interest of 27.88%;
- Gaspetro - selling of its interest of 51%;
- Refinaria de Manaus S.A. (REMAN) - sale of 100% of the shares;
- Paraná Xisto (SIX) - sale of 100% of the shares.

For more information on the operations mentioned above and other corporate transactions, see note 30;

The main investees of PIB BV are:

- Petrobras Global Trading B.V. – PGT (100%, based in the Netherlands), dedicated to the trade of oil, oil products, biofuels and LNG (liquefied natural gas), as well as to the funding of its activities in light of Petrobras;

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- Petrobras Global Finance B.V. – PGF (100%, based in the Netherlands); the finance subsidiary of Petrobras, raising funds through bonds issued in the international capital market;
- Petrobras America Inc. – PAI (100%, based in the United States), dedicated to trading and E&P activities (MP Gulf of Mexico, LLC); and
- PNBV (100%, based in the Netherlands), operates through joint operations in Tupi BV (67.59%), Guara BV (45%), Agri Development BV (90%), Libra (40%), Papa Terra BV (62.5%), Roncador BV (75%), Iara BV (90.11%), Petrobras Frade Inversiones SA (100%) and BJOOS BV (20%), dedicated to the construction and lease of equipment and platforms for Brazilian E&P consortia.

29.2. Investments in associates and joint ventures

	Balance at 12.31.2021	Investments	Transfer to assets held for sale	Restructuring, capital decrease and others	Results in equity- accounted investments	CTA	OCI	Dividends	Balance at 12.31.2022
Joint Ventures	509	16	1	(2)	256	1	-	(235)	546
MP Gulf of Mexico, LLC/PIB BV	387	-	-	-	170	1	-	(184)	374
Compania Mega S.A. - MEGA	98	-	-	-	55	1	-	(5)	149
Other joint ventures	24	16	1	(2)	31	(1)	-	(46)	23
Associates	998	11	(58)	(13)	(5)	(27)	219	(109)	1,016
Other investments	3	-	-	-	-	1	-	-	4
Total	1,510	27	(57)	(15)	251	(25)	219	(344)	1,566

	Balance at 12.31.2020	Investments	Transfer to assets held for sale	Restructuring, capital decrease and others	Results in equity- accounted investments	CTA	OCI	Dividends	Balance at 12.31.2021
Joint Ventures	813	9	(325)	-	202	1	(1)	(190)	509
MP Gulf of Mexico, LLC/PIB BV	366	-	-	-	122	1	-	(102)	387
State natural gas distributors (Gaspetro)	298	-	(308)	-	38	(2)	-	(26)	-
Compania Mega S.A. - MEGA	82	-	-	-	31	2	-	(17)	98
Other joint ventures	67	9	(17)	-	11	-	(1)	(45)	24
Associates	2,455	15	(2,139)	(172)	1,405	(32)	23	(557)	998
Other investments	5	-	-	-	-	(2)	-	-	3
Total	3,273	24	(2,464)	(172)	1,607	(33)	22	(747)	1,510

29.3. Investments in non- consolidated listed companies

Associate	Thousand-share lot		Type	Quoted stock exchange prices (US\$ per share)			Fair value
	12.31.2022	12.31.2021		12.31.2022	12.31.2021	12.31.2022	
Braskem S.A.	212,427	212,427	Common	4.83	10.17	1,025	2,160
Braskem S.A.	75,762	75,762	Preferred A	4.55	10.33	345	782
						1,370	2,942

The fair value of these shares does not necessarily reflect the realizable value upon sale of a large block of shares.

Information on the main estimates used in the cash flow projections to determine the value in use of Braskem is set out in Note 25.

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29.4. Non-controlling interest

The total amount of non-controlling interest at December 31, 2022 is US\$ 344 (US\$ 405 in 2021) primarily comprising US\$ 277 of FIDC (US\$ 165 in 2021); US\$ 58 of Transportadora Brasileira Gasoduto Brasil-Bolívia – TBG (US\$ 29 in 2021); and Gaspetro (US\$ 199 in 2021).

Condensed financial information is set out as follows:

	FIDC		TBG		Gaspetro		Consolidated Structured entities
	2022	2021	2022	2021	2022	2021	2021
Current assets	9,194	3,951	200	134	-	462	-
Property, plant and equipment	-	-	298	279	-	-	-
Other non-current assets	-	-	3	2	-	-	-
	9,194	3,951	501	415	-	462	-
Current liabilities	7	1	145	109	-	58	-
Non-current liabilities	-	-	237	246	-	-	-
Shareholders' equity	9,187	3,950	119	60	-	404	-
	9,194	3,951	501	415	-	462	-
Sales revenues	-	-	350	327	100	132	-
Net income (loss)	1,454	416	181	150	21	47	(133)
Increase (decrease) in cash and cash equivalents	616	2	72	42	(14)	7	(333)

Gaspetro, a Petrobras' subsidiary, holds interests in several state distributors of natural gas in Brazil. In July 2022, the Company closed the sale of its entire interest in Gaspetro (51%). For more information see note 30.

The Credit Rights Investment Fund (FIDC) is a fund mainly intended to securitize "performed" and "non-performed" credits for operations carried out by the Company's subsidiaries, aiming to optimize cash management.

TBG is an indirect subsidiary which operates in natural gas transmission activities mainly through Bolivia-Brazil Gas Pipeline. The Company holds 51% of interests in this indirect subsidiary.

29.5. Summarized information on joint ventures and associates

The Company invests in joint ventures and associates in Brazil and abroad, whose activities are related to petrochemical, refining, production, trade and logistics of oil products, gas distribution, biofuels, thermoelectric power plants, and other activities. Condensed financial information is set out below:

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	2022								2021
	Joint ventures			Associates		Joint ventures			Associates
	In Brazil	MP Gulf of Mexico, LLC	Other companies abroad	In Brazil	In Brazil	MP Gulf of Mexico, LLC	Other companies abroad	In Brazil	
Current assets	295	481	410	6,642	832	425	253	7,308	
Non-current assets	231	139	17	2,491	371	203	11	2,334	
Property, plant and equipment	508	2,690	191	7,380	461	2,683	195	6,845	
Other non-current assets	37	1	-	605	460	1	1	539	
	1,071	3,311	618	17,118	2,124	3,312	460	17,026	
Current liabilities	294	344	145	4,473	728	324	126	4,632	
Non-current liabilities	494	548	32	11,263	517	623	36	10,967	
Shareholders' equity	277	2,045	291	1,587	874	1,979	196	1,688	
Non-controlling interest	6	374	150	(205)	5	386	102	(261)	
	1,071	3,311	618	17,118	2,124	3,312	460	17,026	
Sales revenues	1,159	1,408	32	18,709	2,947	1,138	-	20,625	
Net Income (loss) for the year	72	887	162	(146)	156	635	91	2,821	
Ownership interest - %	20 to 50%	20%	34 to 45%	18.8 to 38.8%	20 to 83%	20%	34 to 45%	18.8 to 38.8%	

Accounting policy for investments

Basis of consolidation

The consolidated financial statements include the financial information of Petrobras and the entities it controls (subsidiaries), joint operations (at the level of interest the Company has in them) and consolidated structured entities.

Intragroup balances and transactions, including unrealized profits arising from intragroup transactions, are eliminated in the consolidation of the financial statements.

Investments in other companies

Profit or loss, assets and liabilities related to joint ventures and associates are accounted for by the equity method.

Business combination

A business combination is a transaction in which the acquirer obtains control of another business, regardless its legal form. Acquisitions of businesses are accounted for using the acquisition method when control is obtained. Combinations of entities under common control are accounted for at cost. The acquisition method requires that the identifiable assets acquired and the liabilities assumed be measured at the acquisition-date fair value, with limited exceptions.

30. Disposal of assets and other transactions

The Company has an active partnership and divestment portfolio, which takes into account opportunities of partnerships and disposal of non-strategic assets in several areas in which it operates, whose development of transactions also depends on conditions beyond the control of the Company.

The divestment projects follow the procedures aligned with the guidelines of the Brazilian Federal Auditor's Office (*Tribunal de Contas da União – TCU*) and the current legislation.

The major classes of assets and related liabilities classified as held for sale are shown in the following table:

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				12.31.2022	12.31.2021
	E&P	RT&M	Corporate and other businesses	Total	Total
Assets classified as held for sale					
Cash and cash equivalents	-	-	-	-	13
Trade receivables	-	-	-	-	31
Inventories	-	21	-	21	73
Investments	-	-	-	-	210
Property, plant and equipment	3,568	19	-	3,587	1,975
Others	-	-	-	-	188
Total	3,568	40	-	3,608	2,490
Liabilities on assets classified as held for sale					
Trade payables	-	-	-	-	2
Finance debt	-	-	133	133	1
Provision for decommissioning costs	1,332	-	-	1,332	833
Others	-	-	-	-	31
Total	1,332	-	133	1,465	867

30.1. Sales pending closing

The assets and liabilities corresponding to the transactions pending closing are classified as held for sale at December 31, 2022:

Transaction	Acquirer	Date of approval / signing	Transaction amount (*)	Further information
Sale of the Company's entire interest (100%) in a set of 22 production onshore and shallow water field concessions, together with its associated infrastructure, located in the Potiguar Basin, in the state of Rio Grande do Norte, jointly called the Potiguar group of fields.	3R Potiguar SA, subsidiary of 3R Petroleum Óleo e Gás SA	January 2022	1,385	a
Sale of the Company's entire interest in a set of four onshore production fields, with integrated facilities, located in the state of Espírito Santo, jointly called Norte Capixaba group of fields.	Seacrest Petróleo SPE Norte Capixaba Ltda., a wholly owned subsidiary of Seacrest Exploração e Produção de Petróleo Ltda.	February 2022	478	b
Sale of the Company's entire interest in the Albacora Leste concession, located predominantly in deep waters in the Campos Basin.	Petro Rio Jaguar Petróleo Ltda. (PetroRio), subsidiary of Petro Rio S.A.	April 2022	1,951	c
Sale of the Lubrificantes e Derivados de Petróleo do Nordeste (LUBNOR) refinery and its associated logistics assets, located in the state of Ceará.	Grepar Participações Ltda.	May 2022	34	d
Sale of the Company's entire interest in a set of maritime concessions called Golfinho and Camarupim groups of fields, in deep waters of the post-salt layer, located in the Espírito Santo Basin.	BW Energy Maromba do Brasil Ltda (BWE)	June 2022	15	e

(*) Amounts considered at the signing of the transaction, not including contingent assets. Transactions signed in Brazilian reais are translated to U.S. dollars with the closing exchange rate of the period.

These transactions may provide for price adjustments until the closing of the transaction and be also subject to the fulfillment of conditions precedent, such as approval by the Brazilian Agency of Petroleum, Natural Gas and Biofuels (ANP) and CADE.

a) Sale of Potiguar group of fields

The agreement provides for the receipt of US\$ 110 on the transaction signing date, US\$ 1,040 at the transaction closing, and US\$ 235 to be paid to Petrobras in 4 annual installments of US\$ 58.75, starting in March 2024.

b) Sale of Norte Capixaba group of fields

The agreement provides for the receipt of US\$ 36 on the transaction signing date, and US\$ 442 at the transaction closing and up to US\$ 66 in contingent payments provided for in the contract, depending on future Brent prices.

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c) Sale of Albacora Leste concession

The agreement provides for the receipt of US\$ 293 on the transaction signing date, US\$ 1,658 at the transaction closing, and up to US\$ 250 in contingent payments provided for in the contract, depending on future Brent prices.

d) Sale of LUBNOR refinery

The agreement provides for the receipt of US\$ 3 on the transaction signing date, US\$ 10 at the transaction closing, and 3 annual installments of US\$ 7 expected to occur from 2024 to 2026.

e) Sale of interest in Golfinho and Camarupim concessions

The agreement provides for the receipt of US\$ 3 on the transaction signing date, and US\$ 12 at the transaction closing and up to US\$ 60 in contingent payments provided for in the contract, depending on future Brent prices and the development of these assets.

30.2. Closed sales

Transaction	Acquirer	Signature date (S) Closing date (C)	Sale amount (*)	Gain/ (loss) (**)	Further infor- mation
Sale of the Company's entire interest in a set of seven onshore and shallow water fields called Alagoas group of fields, and of Alagoas Natural Gas Processing Unit, in the state of Alagoas.	Petromais Global Exploração e Produção S.A. (renamed Origem Energia S.A.)	July 2021 (S) February 2022 (C)	300	335	a
Sale of the Company's entire interest in 14 onshore production fields (Recôncavo group of fields), in the state of Bahia	3R Candeias S.A, a wholly owned subsidiary of 3R Petroleum Óleo e Gás S.A.	December 2020 (S) May 2022 (C)	256	215	b
Sale of the Company's entire interest (27.88%) in Deten Química S.A (Deten), a petrochemical plant located in the industrial hub of Camaçari, in the state of Bahia.	Cepsa Química S.A.	April 2022 (S) July 2022 (C)	103	52	c
Sale of the Company's entire interest (51%) in Petrobras Gas S.A (Gaspetro)	Compass Gas e Energia S.A.	July 2021 (S) July 2022 (C)	391	173	d
Sale of the Company's entire interest in Peroá group of fields, in the state of Espírito Santo	DBO Energia and OP Energia, currently 3R Offshore	January 2021 (S) August 2022 (C)	13	34	e
Sale of the Company's entire interest in Fazenda Belém and Icapuí onshore fields, named Fazenda Belém group of fields, located in the Potiguar Basin, in the state of Ceará	SPE Fazenda Belém S.A., wholly owned subsidiary of 3R Petroleum e Participações S.A.	August 2020 (S) August 2022 (C)	23	39	f
Sale of shares of the company that will hold the Isaac Sabbã Refinery (REMAN) and its associated logistics assets, in the state of Amazonas	Ream Participações S.A. (a company controlled by the partners of Atem Distribuidora de Petróleo S.A.)	August 2021 (S) November 2022 (C)	257	37	g
Sale of shares of the company that will hold the Shale Industrialization Unit (SIX), in the state of Paraná.	Forbes & Manhattan Resources Inc., a wholly owned subsidiary of Forbes & Manhattan Inc.	November 2021 (S) November 2022 (C)	42	(2)	h
Sale of the Company's entire interest in 11 onshore production fields (Carmópolis group of fields), including integrated facilities, in the state of Sergipe	Carmo Energy S.A.	December 2021 (S) December 2022 (C)	1,098	619	i
Sale of the Company's 62,5% interest in Papa-Terra field, in the Campos basin	3R Petroleum Offshore S.A.	July 2021 (S) December 2022 (C)	24	(39)	j
Total			2,507	1,463	

(*) The amount of "Proceeds from disposal of assets" in the Statement of Cash Flows is composed of amounts received this period, including installments of operations from previous years, and advances referring to operations not completed.

(**) Recognized in "Results on disposal/write-offs of assets and on remeasurement of investment retained with loss of control" within other income and expenses (note 10).

The operations were concluded after the fulfillment of conditions precedent.

a) Sale of Alagoas group of fields and of Alagoas Natural Gas Processing Unit

The transaction was closed with the payment of US\$ 240 to Petrobras in February 2022, in addition to the US\$ 60 paid to Petrobras on the transaction signing date.

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b) Sale of Recôncavo group of onshore fields

The transaction was closed with the payment of US\$ 246 to Petrobras in May 2022, in addition to the US\$ 10 paid to Petrobras on the transaction signing date.

c) Sale of Deten petrochemical plant

The transaction was closed with the payment of US\$ 96 to Petrobras, including price adjustments such as the effects of inflation indexation and compensation of dividends received, in addition to the US\$ 6 paid to Petrobras on the transaction signing date. In addition, US\$ 4 was paid to Petrobras up to December 2022 referring to the receipt of earn outs (tax credits) as provided for in the contract.

d) Sale of Gaspetro

The full amount was paid to Petrobras on the transaction closing date.

e) Sale of Peroá group of fields

The operation was closed with the payment of US\$ 8, including price adjustments, in addition to the US\$ 5 paid to Petrobras on the transaction signing date.

In addition to these amounts, Petrobras expects to receive up to US\$ 43 in contingent payments, depending on future Brent prices and the development of these assets.

f) Sale of Fazenda Belém group of fields

The operation was closed with the payment of US\$ 5, including price adjustments, in addition to the US\$ 9 paid to Petrobras on the transaction signing date.

Petrobras expects to receive the remaining balance in August 2023, including price adjustments.

g) Sale of REMAN refinery assets

The transaction was closed in November 2022 after the payment of US\$ 229 to Petrobras, including price adjustments, arising from changes in working capital, net debt and investments until the transaction closing, in addition to US\$ 28 received upon the contract signing.

The contract also provides for a final adjustment to the acquisition price, which is expected to occur in the first quarter of 2023.

h) Sale of interest in SIX shale processing plant

The transaction was closed with the payment of US\$ 39, including price adjustments, in addition to US\$ 3 received upon the contract signing.

i) Sale of Carmópolis group of onshore fields

The transaction was closed with the payment of US\$ 548, including price adjustments, in addition to the US\$ 275 paid to Petrobras on the transaction signing date.

In addition, US\$ 275 million will be received within 12 months.

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j) Sale of Papa-Terra field

The transaction was closed with the payment of US\$ 18, including price adjustments, in addition to the US\$ 6 paid to Petrobras on the transaction signing date.

In addition, there is US\$ 80 in contingent receivables provided for in the contract (contingent asset), related to production volume of the asset and future oil prices.

30.3. Price adjustments – sales closed in previous periods

a) Sale of RLAM refinery assets

The transaction closed in November 2021 included price adjustments provided for in the contract, for which the Company recognized US\$ 68 in January 2022 within other income and expenses.

30.4. Surplus volumes of Transfer of Rights Agreement

Transaction	Closing date	Financial compensation	Results (*)
Production Sharing Contract for the surplus volumes of the Transfer of Rights Agreement related to Atapu and Sepia fields, including the gross-up of the taxes levied	April 2022	5,281	3,743
Exercise of the call option for additional 5% interest in the surplus volume of the Transfer of Rights Agreement of Búzios field	November 2022	1,951	737

(*) Recognized in "Results from co-participation agreements in bid areas" within other income and expenses (note 10).

For more information, see note 24.

30.5. Contingent assets from disposed investments and other transactions

Some disposed assets and other agreements provide for receipts subject to contractual clauses, especially related to the Brent variation in transactions related to E&P assets.

The transactions that may generate revenue recognition, accounted for within other income and expenses, are presented below:

Transaction	Closing date	Amounts subject to recognition	Assets recognized in 2022	Assets recognized in previous periods
Sales in previous years				
Riacho da Forquilha group of fields	December 2019	62	28	-
Pampo and Enchova group of fields	July 2020	650	144	36
Baúna field	November 2020	285	115	17
Frade field	February 2021	20	-	-
Ventura group of fields	July 2021	43	-	43
Miranga group of fields	December 2021	85	40	15
Cricare group of fields	December 2021	118	22	-
Sales in the period				
Peroá group of fields	August 2022	43	10	-
Papa-Terra field	December 2022	90	15	-
Surplus volume of the Transfer of Rights Agreement				
Sepia and Atapu (*)	April 2022	5,244	693	-
Total			1,067	111

(*) For more information, see note 24.3.

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30.6. Other operation

On March 23, 2022, the dissolution of Participações em Complexos Bioenergéticos S.A. – PCBios, in which Petrobras held 50%, was concluded, after approval at this company's Extraordinary General Meeting. There were no accounting effects arising from this transaction.

On August 18, 2022, Petrobras concluded an agreement with Edison S.p.A for the purchase of an additional 50% interest in the company Ibiritermo S.A., for the amount of U\$ 1 (R\$ 2,5 million), which became a wholly owned subsidiary. This transaction was classified as a business combination, with recognition of gain on bargain purchase of US\$ 2.

On December 31, 2022, Petrobras Comercializadora de Gás e Energia e Participações S.A. (PBEN-P) and Petrobras Comercializadora de Energia S/A (PBEN), carried out a corporate restructuring in which PBEN-P incorporated PBEN. The two companies are wholly-owned subsidiaries of Petrobras. Therefore, there is no effect on these consolidated financial statements.

30.7. Cash flows from sales of interest with loss of control

In 2022, 2021 and 2020, the Company disposed of its interest in certain subsidiaries over which control was lost. The following table summarizes cash flows arising from losing control in subsidiaries:

	Cash received	Cash in subsidiary before losing control	Net Proceeds
2022			
Gaspetro	391	(22)	369
REMAN	233	(22)	211
Total	624	(44)	580
2021			
Mataripe refinery (former RLAM)	1,868	(119)	1,749
PUDSA	62	(15)	47
Total	1,930	(134)	1,796
2020			
Petrobras Oil & Gas B.V.(PO&GBV)	276	-	276
Liquigas	784	(10)	774
Total	1,060	(10)	1,050

Accounting Policy for assets and liabilities held for sale

Non-current assets, disposal groups and liabilities directly associated with those assets are classified as held for sale if their carrying amounts will, principally, be recovered through the sale transaction rather than through continuing use.

The condition for classification as held for sale is met only when the sale is approved by the Company's Board of Directors and the asset or disposal group is available for immediate sale in its present condition and there is the expectation that the sale will occur within 12 months after its classification as held for sale. However, an extended period required to complete a sale does not preclude an asset (or disposal group) from being classified as held for sale if the delay is caused by events or circumstances beyond the Company's control and there is sufficient evidence that the Company remains committed to its plan to sell the assets (or disposal groups).

Assets (or disposal groups) classified as held for sale and the associated liabilities are measured at the lower of their carrying amount and fair value less disposal expenses. Assets and liabilities are presented separately in the statement of financial position.

In the classification of non-current assets as held for sale, provisions for decommissioning costs related to these assets are also disclosed. Any commitments with decommissioning assumed by the Company resulting from the sale process are recognized after the closing of the transaction, in accordance with the contractual terms.

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When a component of the Company is disposed of or classified as held for sale, and it represented a separate major line of business, the disposed interest is considered a discontinued operation. Thus, its net income, operating, investing and financing cash flows are presented in separate line items until the date of the closing of the operation.

31. Finance debt

31.1. Balance by type of finance debt

In Brazil	12.31.2022	12.31.2021
Banking market	1,285	1,237
Capital market	2,896	2,504
Development banks (*)	723	769
Others	4	7
Total	4,908	4,517
Abroad		
Banking market	8,387	8,525
Capital market	14,061	19,527
Export credit agency	2,443	2,951
Others	155	180
Total	25,046	31,183
Total finance debt	29,954	35,700
Current	3,576	3,641
Non-current	26,378	32,059

(*) It includes BNDES, FINAME and FINEP

Current finance debt is composed of:

	12.31.2022	12.31.2021
Short-term debt	-	108
Current portion of long-term debt	3,111	3,063
Accrued interest on short and long-term debt	465	470
Total	3,576	3,641

The capital market balance is mainly composed of US\$ 13,442 in global notes issued abroad by the wholly owned subsidiary PGF, as well as US\$ 1,874 in debentures and US\$ 880 in commercial notes issued by Petrobras in reais in Brazil.

The balance in global notes has maturities between 2024 to 2115 and does not require collateral. Such financing was carried out in dollars, euros and pounds, 87%, 2% and 11%, of the total global notes, respectively.

The debentures and the commercial notes, with maturities between 2024 and 2037, do not require collateral and are not convertible into shares or equity interests.

31.2. Changes in finance debt

	In Brazil	Abroad	Total
Balance at December 31, 2021	4,517	31,183	35,700
Proceeds from finance debt	853	2,027	2,880
Repayment of principal (*)	(1,013)	(8,183)	(9,196)
Repayment of interest (*)	(292)	(1,554)	(1,846)
Accrued interest (**)	396	1,867	2,263
Foreign exchange/ inflation indexation charges	120	(580)	(460)
Translation adjustment	326	287	613
Balance at December 31, 2022	4,907	25,047	29,954

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	In Brazil	Abroad	Total
Balance at December 31, 2020	8,854	45,035	53,889
Proceeds from finance debt	-	1,754	1,754
Repayment of principal (*)	(4,213)	(14,894)	(19,107)
Repayment of interest (*)	(245)	(1,613)	(1,858)
Accrued interest (**)	241	1,970	2,211
Foreign exchange/ inflation indexation charges	173	82	255
Translation adjustment	(228)	(200)	(428)
Balance at December 31, 2021	4,582	32,134	36,716

(*) It includes pre-payments.

(**) It includes premium and discount over notional amounts, as well as gains and losses by modifications in contractual cash flows.

In 2022, the Company repaid several finance debts, in the amount of US\$ 11,184 notably US\$ 5,444 to repurchase global bonds previously issued by the Company in the international capital market.

In the same period, the Company raised funds in the amount of US\$ 2,880, mainly reflecting: (i) US\$ 1,244 through a Sustainability-Linked Loan, in the international banking market, maturing in 2027; (ii) US\$ 572 through the issuance of commercial notes in the Brazilian capital market due in 2030 and 2032; and (iii) US\$ 280 through the issuance of private placement commercial notes that backed the issuance of certificates of real estate receivables, maturing in 2030, 2032 and 2037. The certificates of real estate receivables were issued by a securitization that fully subscribed the Commercial Notes issued by Petrobras.

The loan linked to sustainability commitments was signed with Bank of China, MUFG and The Bank of Nova Scotia, with a value of US\$ 1,244 and maturity in July 2027. The contract includes incentive mechanisms for achieving sustainability commitments, based on the corporate performance indicators of E&P's greenhouse gas (GHG) intensity, refining GHG intensity and E&P methane intensity.

31.3. Reconciliation with cash flows from financing activities

	2022			2021		
	Proceeds from finance debt	Repayment of principal	Repayment of interest	Proceeds from finance debt	Repayment of principal	Repayment of interest
Changes in finance debt	2,880	(9,196)	(1,846)	1,754	(19,107)	(1,858)
Repurchase of debt securities	-	(121)	-	-	-	-
Deposits linked to finance debt (*)	-	(17)	(4)	-	-	-
Net cash used in financing activities	2,880	(9,334)	(1,850)	1,754	(19,107)	(1,858)

(*) Deposits linked to finance debt with China Development Bank, with semiannual settlements in June and December.

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31.4. Summarized information on current and non-current finance debt

Maturity in	Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	5 years onwards	Total (*)	Fair Value
Financing in U.S.Dollars (US\$):	2,879	3,240	2,569	1,528	2,465	10,006	22,687	22,721
Floating rate debt (**)	2,588	2,681	1,934	1,143	1,739	652	10,737	
Fixed rate debt	291	559	635	385	726	9,354	11,950	
Average interest rate p.a.	6.8%	6.5%	6.1%	6.3%	5.9%	6.6%	6.6%	
Financing in Brazilian Reals (R\$):	622	690	221	440	427	2,507	4,907	4,907
Floating rate debt (***)	324	280	138	138	333	1,060	2,273	
Fixed rate debt	298	410	83	302	94	1,447	2,634	
Average interest rate p.a.	6.7%	6.9%	6.5%	6.2%	6.4%	6.6%	6.6%	
Financing in Euro (€):	37	13	289	-	-	583	922	897
Fixed rate debt	37	13	289	-	-	583	922	
Average interest rate p.a.	4.7%	4.7%	4.7%	-	-	4.7%	4.7%	
Financing in Pound Sterling (£):	38	-	-	555	-	845	1,438	1,328
Fixed rate debt	38	-	-	555	-	845	1,438	
Average interest rate p.a.	6.2%	0.0%	0.0%	6.2%	0.0%	6.5%	6.3%	
Total as of December 31, 2022	3,576	3,943	3,079	2,523	2,892	13,941	29,954	29,853
Average interest rate	6.7%	6.5%	6.1%	6.2%	6.0%	6.6%	6.5%	
Total as of December 31, 2021	3,641	2,973	3,988	3,449	2,832	18,817	35,700	37,891
Average interest rate	5.2%	5.3%	5.5%	5.6%	5.9%	6.5%	6.2%	

(*)The average maturity of outstanding debt as of December 31, 2022 is 12.07 years (13.39 years as of December 31, 2021).

(**) Operations with variable index + fixed spread.

(***) Operations with variable index + fixed spread, if applicable.

The fair value of the Company's finance debt is mainly determined and categorized into a fair value hierarchy as follows:

Level 1- quoted prices in active markets for identical liabilities, when applicable, amounting to US\$ 13,061 of December 31, 2022 (US\$ 20,770 of December 31, 2021); and

Level 2 – discounted cash flows based on discount rate determined by interpolating spot rates considering financing debts indexes proxies, taking into account their currencies and also Petrobras' credit risk, amounting to US\$ 16,792 as of December 31, 2022 (US\$ 17,121 as of December 31, 2021).

Regarding the Interest Rate Benchmark Reform (IBOR Reform), in order to prepare for the transition to alternative reference rates, the Company continues to monitor the pronouncements of regulatory authorities, aimed at adapting its financial instruments to the new benchmark, and the Company expects that the replacement of the LIBOR reference in the current financing agreements will be carried out under market conditions and, therefore, expects that there will be no material impacts when this process is completed.

The Company has debts indexed to Libor (London Interbank Offered Rate), corresponding to 30.8% of total finance debt.

The sensitivity analysis for financial instruments subject to foreign exchange variation is set out in note 34.3.

A maturity schedule of the Company's finance debt (undiscounted), including face value and interest payments is set out as follows:

Maturity	2023	2024	2025	2026	2027	2028 and thereafter	12.31.2022	12.31.2021
Principal	3,106	4,061	3,173	2,665	2,657	16,041	31,703	36,557
Interest	1,928	1,748	1,441	1,282	1,068	17,348	24,815	30,557
Total	5,034	5,809	4,614	3,947	3,725	33,389	56,518	67,114

A maturity schedule of the lease arrangements (nominal amounts) is set out in note 32.

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31.5. Lines of credit

						12.31.2022	
Company	Financial institution	Date	Maturity	Available (Lines of Credit)	Used	Balance	
Abroad							
PGT BV	Syndicate of banks	12/16/2021	11/16/2026	5,000	-	5,000	
PGT BV (*)	Syndicate of banks	3/27/2019	2/27/2024	3,250	-	3,250	
Total				8,250	-	8,250	
In Brazil							
Petrobras	Banco do Brasil	3/23/2018	9/26/2026	383	-	383	
Petrobras	Banco do Brasil	10/4/2018	9/5/2025	383	-	383	
Transpetro	Caixa Econômica Federal	11/23/2010	Not defined	63	-	63	
Total				829	-	829	

(*) In April 2021, the subsidiary PGT BV extended part of the Revolving Credit Facility. As such, US\$ 2,050 will be available for withdrawal from February 28, 2024 until February 27, 2026.

31.6. Covenants and Collateral

31.6.1. Covenants

The Company has covenants that were not in default at December 31, 2022 in its loan agreements and notes issued in the capital markets requiring, among other obligations i) the presentation of interim financial statements within 90 days of the end of each quarter (not reviewed by Independent Registered Public Accounting Firm) and audited financial statements within 120 days of the end of each fiscal year, with a grace period ranging from 30 to 60 days, depending on the agreement; ii) Negative Pledge / Permitted Liens clause; and iii) covenants with respect to debt level in some of its loan agreements with the Brazilian Development Bank (Banco Nacional de Desenvolvimento Econômico e Social - BNDES).

Additionally, there are other non-financial obligations that the Company has to comply with: i) clauses of compliance with the laws, rules and regulations applicable to the conduct of its business including (but not limited to) environmental laws; (ii) clauses in financing agreements that require both the borrower and the guarantor to conduct their business in compliance with anti-corruption laws and anti-money laundering laws and to institute and maintain policies necessary for such compliance; and (iii) clauses in financing agreements that restrict relations with entities or even countries sanctioned primarily by the United States (including, but not limited to, the Office of Foreign Assets Control - OFAC, Department of State and Department of Commerce), the European Union and United Nations.

31.6.2. Collateral

Most of the Company's debt is unsecured, but certain specific funding instruments to promote economic development are collateralized. Such contracts represent 16% of the total financing, notably a Financing agreement with China Development Bank (CDB).

The loans obtained by structured entities are collateralized based on the projects' assets, as well as liens on receivables of the structured entities. Bonds issued by the Company in the capital market are unsecured.

The global notes issued by the Company in the capital market through its wholly-owned subsidiary Petrobras Global Finance B.V. – PGF are unsecured. However, Petrobras fully, unconditionally and irrevocably guarantees these notes.

Accounting policy for loans and finance debt

Loans and finance debt are initially recognized at fair value less transaction costs that are directly attributable to its issue and subsequently measured at amortized cost using the effective interest method.

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When the contractual cash flows of a financial liability measured at amortized cost are renegotiated or modified and this change is not substantial, its gross carrying amount will reflect the discounted present value of its cash flows under new terms using the original effective interest rate. The difference between the book value immediately prior to such modification and the new gross carrying amount is recognized as gain or loss in the statement of income. When such modification is substantial, the original liability is extinguished and a new liability is recognized, impacting the statement of income for the period.

32. Lease liabilities

The Company is the lessee in agreements primarily including oil and gas producing units, drilling rigs and other exploration and production equipment, vessels and support vessels, helicopters, lands and buildings. Changes in the balance of lease liabilities are presented below:

	In Brazil	Abroad	Total
Balance at December 31, 2021	4,604	18,439	23,043
Remeasurement / new contracts	2,730	2,219	4,949
Payment of principal and interest (*)	(1,785)	(3,638)	(5,423)
Interest expenses	365	991	1,356
Foreign exchange gains and losses	(169)	(1,221)	(1,390)
Translation adjustment	287	1,170	1,457
Transfers	(12)	(135)	(147)
Balance at December 31, 2022	6,020	17,825	23,845
Current			5,557
Non-current			18,288

(*) The Repayment of lease liability, disclosed in the Statements of Cash Flows, includes US\$ 7 related to assets classified as held for sale.

	In Brazil	Abroad	Total
Balance at December 31, 2020	4,340	17,310	21,650
Remeasurement / new contracts	1,655	4,474	6,129
Payment of principal and interest	(1,560)	(4,267)	(5,827)
Interest expenses	243	990	1,233
Foreign exchange gains and losses	151	1,288	1,439
Translation adjustment	(272)	(1,310)	(1,582)
Transfers	47	(46)	1
Balance at December 31, 2021	4,604	18,439	23,043
Current			5,432
Non-current			17,611

A maturity schedule of the lease arrangements (nominal amounts) is set out as follows:

Nominal Future Payments	up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	5 years onwards	Total	Recoverable taxes
Without readjustment								
Vessels	2,813	2,000	1,141	491	340	1,695	8,480	255
Others	93	40	19	5	-	-	157	14
With readjustment - abroad (*)								
Vessels	238	213	179	158	131	17	936	-
Platforms	1,546	1,539	1,461	1,368	1,358	10,992	18,264	-
With readjustment - Brazil								
Vessels	609	464	288	109	18	10	1,498	120
Properties	159	209	163	156	175	1,365	2,227	93
Others	252	156	129	107	100	419	1,163	73
Nominal amounts on December 31, 2022	5,710	4,621	3,380	2,394	2,122	14,498	32,725	555
Nominal amounts on December 31, 2021	5,567	3,944	3,027	2,309	1,972	14,608	31,427	346

(*) Contracts signed in the U.S. Dollars.

The following table presents the main information on leases by class of underlying assets, where platforms and vessels represent 92% of the lease liability:

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Present Value of Future Payments	Discount rate (%)	Average Period	Recoverable taxes	Closing Balance	Opening Balance
Without readjustment					
Vessels	4,0518	5.8 years	255	7,421	6,201
Others	2,5774	2.6 years	14	149	202
With readjustment - abroad (*)					
Platforms	5,7393	13.9 years	-	12,340	13,059
Vessels	4,4127	4.2 years	-	838	1,431
With readjustment - Brazil					
Vessels	7,8958	2.8 years	120	1,298	850
Properties	8,0496	22.7 years	93	1,010	590
Others	9,8752	7.7 years	73	789	710
Total (**)	5,5127	11.4 years	555	23,845	23,043

(*) Incremental nominal rate on company debt calculated from the yield curve of bonds and credit risk of the Company, as well as terms.

(**) Total amount, except for the average period column.

In certain contracts, there are variable payments and amounts less than 1 year recognized as an expense:

	31.12.2022	31.12.2021
Variable payments	1,060	898
Variable payments x fixed payments	20%	15%
Up to 1 year maturity	118	110

At December 31, 2022, the nominal amounts of lease agreements for which the lease term has not commenced, as they relate to assets under construction or not yet available for use, is US\$ 79,913 (US\$ 79,557 at December 31, 2021).

The sensitivity analysis of financial instruments subject to exchange variation is presented in note 34.3.

Accounting policy for lease liabilities

Lease liabilities, including those whose underlying assets are of low value, are measured at the present value of lease payments, which includes recoverable taxes, non-cancellable periods and options to extend a lease when they are reasonably certain. These payments are discounted at the Company's nominal incremental rate on loans, as the interest rates implicit in lease agreements with third parties usually cannot be readily determined.

Lease remeasurements reflect changes arising from contractual rates or indexes, as well as lease terms due to new expectations of lease extensions or terminations.

Unwinding of discount on the lease liability is classified as finance expense, while payments reduce their carrying amount. According to the Company's foreign exchange risk management, foreign exchange variations on lease liabilities denominated in U.S. dollars are designated as instruments to protect cash flow hedge relationships from highly probable future exports (see note 34.3).

In the E&P segment, some activities are conducted by joint operations with partner companies where the Company is the operator. In cases where all parties to the joint operation are primarily responsible for the lease payments, the Company recognizes the lease liability in proportion to its share. When using underlying assets arising from a specific contract in which the Company is solely responsible for the lease payments, the lease liabilities remain fully recognized and the partners are charged in proportion to their interests.

Payments associated with short-term leases (term of 12 months or less) are recognized as an expense over the term of the lease.

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33. Equity

33.1. Share capital (net of share issuance costs)

As of December 31, 2022 and December 31, 2021, subscribed and fully paid share capital, net of issuance costs, was US\$ 107,101, represented by 7,442,454,142 common shares and 5,602,042,788 preferred shares, all of which are registered, book-entry shares with no par value.

Preferred shares have priority on returns of capital, do not grant any voting rights and are non-convertible into common shares.

33.2. Capital reserve

Capital reserve comprises treasury shares owned by Petrobras, in the amount of US\$ 2, at December 31, 2022 and December 31, 2021.

33.3. Capital transactions

33.3.1. Incremental costs directly attributable to the issue of shares

It includes any transaction costs directly attributable to the issue of new shares, net of taxes.

33.3.2. Change in interest in subsidiaries

It includes any excess of amounts paid/received over the carrying value of the interest acquired/disposed. Changes in interests in subsidiaries that do not result in loss of control of the subsidiary are equity transactions.

33.3.3. Treasury shares

Shares held in treasury in the amount of US\$ 2, at December 31, 2022 and December 31, 2021, represented by 222,760 common shares and 72,909 preferred shares.

33.4. Profit reserves

33.4.1. Legal reserve

It represents 5% of the net income for the year, calculated pursuant to article 193 of the Brazilian Corporation Law.

33.4.2. Statutory reserve

Appropriated by applying 0.5% of the year-end share capital and is retained to fund technology research and development programs. The balance of this reserve may not exceed 5% of the share capital, pursuant to article 56 of the Company's bylaws.

33.4.3. Tax incentives reserve

Government grants are recognized in the statement of income and are appropriated from retained earnings to the tax incentive reserve pursuant to article 195-A of Brazilian Corporation Law. This reserve may only be used to offset losses or increase share capital.

In 2022, the amount of US\$ 457 was appropriated from retained earnings to the tax incentive reserve referring to a subsidy incentive for investments, granted by the Superintendencies for Development of the Northeast Region of Brazil (SUDENE) and of the Amazon (SUDAM).

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33.4.4. Profit retention reserve

It includes funds intended for capital expenditures, primarily in oil and gas exploration and development activities, as per the capital budget of the Company, pursuant to article 196 of the Brazilian Corporation Law.

33.5. Distributions to shareholders

Pursuant to Brazilian Corporation Law, the Company's shareholders are entitled to receive minimum mandatory dividends (and/or interest on capital) of 25% of the adjusted net income for the year in proportion to the number of common and preferred shares held by them.

To the extent the Company proposes dividend distributions, preferred shares have priority in dividend distribution, which is based on the highest of 3% of the preferred shares' net book value or 5% of the preferred share capital. Preferred shares participate under the same terms as common shares in capital increases resulting from the capitalization of profit reserves or retained earnings. However, this priority does not necessarily grant dividend distributions to the preferred shareholders in the event of loss for a year.

The payment of dividends may be made only to preferred shareholders if the priority dividends absorb all the adjusted net income for the year or reach an amount equal to or greater than the mandatory minimum dividend of 25%.

The Company's policy on distributions to shareholders, approved by the Board of Directors in 2019 and updated in November 2021, defines the following:

- minimum distribution of US\$ 4,000 for fiscal years when the average Brent price exceeds US\$ 40 per barrel, regardless its level of indebtedness. This distribution will be equal to both common and preferred shares, once it exceeds the minimum value for preferred shares provided for in the Company's bylaws;
- in case of gross debt (comprising current and non-current finance debt and lease liability) equal to or less than US\$ 65,000, in addition to the existence of net income attributable to shareholders of Petrobras, to be verified on a quarterly basis, the Company will distribute to shareholders 60% of the difference between net cash provided by operating activities and cash used in the acquisition of PP&E and intangibles assets, calculated in Brazilian reais, provided that the result of this calculation exceeds US\$ 4,000 and does not compromise the financial sustainability of the Company;
- regardless its level of indebtedness, the Company may, in exceptional cases, pay extraordinary dividends, exceeding the minimum mandatory dividend or the values established in the policy, provided that the Company's financial sustainability is preserved;
- the distribution of remuneration to shareholders must be made on a quarterly basis; and
- the Company may exceptionally distribute dividends even if there is no net income for the year, in accordance with the rules provided for the Brazilian Corporation Law and the criteria defined in this policy.

Petrobras seeks, through its policy on distributions to shareholders, to ensure short, medium and long-term financial sustainability, providing predictability to the dividend payments to shareholders.

33.5.1. Accounting policy on distributions to shareholders

Distributions to shareholders are made by means of dividends and interest on capital, determined in accordance with the limits defined in the Brazilian Corporation Law and in the Company's bylaws.

Interest on capital is a deductible expense, since it is part of the dividend for the year, as provided for in the Company's bylaws, and accounted for in the statement of income, as required by tax legislation, resulting in a tax credit for income taxes recognized in the statement of income of the year.

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The dividends portion provided for in the bylaws or that represents the minimum mandatory dividends is recognized as a liability within the statement of financial position. Any excess must be maintained in shareholders' equity, as additional dividends proposed, until its approval on the Annual General Shareholders Meeting.

Dividends not claimed by Petrobras' shareholders are transferred from dividends payable to other current liabilities. After 3 years from the date these dividends are made available to shareholders, they are reclassified from other current liabilities to equity within retained earnings, in accordance with Petrobras' bylaws.

33.5.2. Proposed dividends for 2022

Distribution to shareholders for 2022, proposed by management for approval at the Annual General Shareholders Meeting, amounting to US\$ 43,187 (US\$ 3.3106 per outstanding share), includes the minimum mandatory dividend of 25% of the adjusted net income (US\$ 8,458) and additional dividends proposed (US\$ 34,729), arising from the remaining portion of retained earnings and the profit retention reserve.

This amount includes US\$ 36,323 of anticipations to shareholders, updated by SELIC interest rate, from the payment date to December 31, 2022, and US\$ 6,864 of complementary dividends.

Cash generation arising from higher sales margins, the maintenance of the indebtedness target, as well as the absence of investments held back by financial restrictions, allowed proposed dividends for 2022 to be higher than dividends calculated based on the Company's policy on distribution to shareholders (US\$ 23,660).

	Date of approval	Date of record	Amount per common and preferred share	Amount
Dividends and interest on capital - paid in 2 installments - June and July 2022	05.05.2022	05.23.2022	0.7423	9,683
Dividends and interest on capital - paid in 2 installments - August and September 2022	07.28.2022	08.11.2022	1.2909	16,839
Dividends and interest on capital - paid in 2 installments - December 2022 and January 2023	11.03.2022	11.21.2022	0.6521	8,508
Total approved anticipations of dividends as of December 31, 2022			2.6853	35,030
Monetary restatement on paid anticipations			0.0991	1,293
Total anticipations of dividends monetarily restated			2.7844	36,323
Complementary dividends			0.5262	6,864
Total dividends proposed for 2022			3.3106	43,187
Total dividends for 2021			1.4215	18,541

According to the Company's by-laws, these amounts are indexed to the Selic interest rate, from the date of the payment to the end of the fiscal year (US\$ 1,293), and are considered in determining the remaining dividends to be paid relating to 2022.

The interest on capital anticipated for the year 2022 resulted in a deductible expense which reduced the income tax expense by US\$ 1,234. This amount was subject to withholding income tax (IRRF) of 15%, except for immune and exempt shareholders, as established in applicable law.

33.5.3. Dividends for 2021

Distribution to shareholders for 2021, proposed by management and approved at the Annual General Shareholders Meeting held on April 13, 2022, amounted US\$ 18,541 (corresponding to US\$ 1.4215 per outstanding share), includes the minimum mandatory dividend of 25% of the adjusted net income (US\$ 4,510) and additional dividends proposed (US\$ 14,031), arising from the remaining portion of retained earnings and the profit retention reserve. This proposal was superior to the priority of preferred shares.

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This amount included US\$ 11,853 of anticipations to shareholders, updated by SELIC interest rate, from the payment date to December 31, 2021, and US\$ 6,688 of complementary dividends.

These complementary were reclassified from shareholders' equity to liabilities on the date of approval on the Annual General Shareholders Meeting and paid on May 16, 2022 in the amount of US\$ 6,987, equivalent to US\$ 0.5356 per outstanding share, including the updated by the Selic interest rate from December 31, 2021 to the payment date, in the amount of US\$ 299.

33.5.4. Dividends payable

As of December 31, 2022, dividends payable within current liabilities, amounting to US\$ 4,171, relate to the second installment of the anticipation of dividend approved on November 3, 2022 and paid on January 19, 2023.

	2022	2021
Opening balance of dividends payable to shareholders of Petrobras	-	849
Additions relating to complementary dividends	6,688	1,128
Additions relating to anticipated dividends	35,030	11,732
Payments made	(37,701)	(13,078)
Monetary restatement	(298)	(13)
Transfers to unclaimed dividends	(165)	(67)
Withholding income tax over interest on capital and monetary restatement	(366)	(217)
Translation adjustment	981	(334)
Closing balance of dividends payable to shareholders of Petrobras	4,169	-
Dividends payable to non-controlling shareholders	2	-
Consolidated closing balance of dividends payable	4,171	-

Complementary dividends amounting to US\$ 6,932 (US\$ 0.5314 per outstanding share) will be maintained in shareholders' equity until its approval on the Annual General Shareholders Meeting, to be held in April 2023, when it will be reclassified to liabilities, if approved.

33.5.5. Unclaimed Dividends

As of December 31, 2022, the balance of dividends not claimed by shareholders of Petrobras is US\$ 241 recorded as other current liabilities, as described in note 20 (US\$ 81 as of December 31, 2021). The payment of these dividends was not carried out due to the lack of registration data for which the shareholders are responsible with the custodian bank for the Company's shares and with Petrobras.

	2022	2021
Changes in unclaimed dividends		
Opening balance	81	18
Transfers from dividends payable	165	67
Prescription	(11)	-
Translation adjustment	6	(4)
Closing Balance	241	81

Prescribed dividends amounting to US\$ 11 in 2022 was transferred to equity, within retained earnings.

The following table presents the Company's expectation of prescription of unclaimed dividends if missing registration data is uninformed by shareholders of Petrobras.

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	12.31.2022
Expectation of prescription of unclaimed dividends	
2022	7
2023	63
2024	171
	241

33.6. Earnings per share

	Common	Preferred	2022 Total	Common	Preferred	2021 Total	Common	Preferred	2020 Total
Net income attributable to shareholders of Petrobras	20,895	15,728	36,623	11,339	8,536	19,875	651	490	1,141
Weighted average number of outstanding shares	7,442,231,382	5,601,969,879	13,044,201,261	7,442,231,382	5,601,969,879	13,044,201,261	7,442,231,382	5,601,969,879	13,044,201,261
Basic and diluted earnings per share - in U.S.	2.81	2.81	2.81	1.52	1.52	1.52	0.09	0.09	0.09
Basic and diluted earnings (losses) per ADS equivalent - in	5.62	5.62	5.62	3.04	3.04	3.04	0.18	0.18	0.18

(*) Petrobras' ADSs are equivalent to two shares.

Basic earnings per share are calculated by dividing the net income (loss) attributable to shareholders of Petrobras by the weighted average number of outstanding shares during the period.

Diluted earnings per share are calculated by adjusting the net income (loss) attributable to shareholders of Petrobras and the weighted average number of outstanding shares during the period taking into account the effects of all dilutive potential shares (equity instrument or contractual arrangements that are convertible into shares).

Basic and diluted earnings are identical as the Company has no potentially dilutive shares.

34. Risk management

The Company is exposed to a variety of risks arising from its operations, including price risk (related to crude oil and oil products prices), foreign exchange rates risk, interest rates risk, credit risk and liquidity risk. Corporate risk management is part of the Company's commitment to act ethically and comply with the legal and regulatory requirements of the countries where it operates.

To manage market and financial risks the Company prefers structuring measures through adequate capital and leverage management. While managing risks, the Company considers its corporate governance and controls, technical departments and statutory committees monitoring, under the guidance of the Board of Executive Officers and the Board of Directors. The Company takes account of risks in its business decisions and manages any such risk in an integrated manner in order to enjoy the benefits of diversification.

The Company presents a sensitivity analysis of factors relating to its corporate risk management process. The possible and remote scenarios are related to events with low and very low probability of occurrence, respectively. The period of application of the sensitivity analysis is one year, except for operations with commodity derivatives, for which a three-month period is applied, due to the short-term nature of these transactions.

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34.1. Derivative financial instruments

A summary of the positions of the derivative financial instruments held by the Company and recognized in other current assets and liabilities as of December 31, 2022, as well as the amounts recognized in the statement of income and other comprehensive income and the guarantees given is set out as follows:

	Statement of Financial Position				
			Fair value		Maturity
	12.31.2022	Notional value 12.31.2021	Asset Position 12.31.2022	(Liability) 12.31.2021	
Derivatives not designated for hedge accounting					
Future contracts - total (*)	683	(1,308)	(40)	(1)	
Long position/Crude oil and oil products	9,058	1,380	-	-	2023
Short position/Crude oil and oil products	(8,375)	(2,688)	-	-	2023
Swap (**)					-
Long put/ Soybean oil (**)	(3)	(11)	-	-	2023
Forward contracts					
Short position/Foreign currency forwards (BRL/USD)	-	US\$ 15	-	-	-
Swap					
Foreign currency / Cross-currency Swap (***)	-	GBP 583	-	23	-
Foreign currency / Cross-currency Swap (***)	-	GBP 442	-	(50)	-
Swap - CDI X IPCA	R\$ 3,008	R\$ 3,008	(16)	(1)	2029/2034
Foreign currency / Cross-currency Swap (***)	US\$ 729	US\$ 729	(64)	(221)	2024/2029
Total recognized in the Statement of Financial Position			(120)	(250)	

(*) Notional value in thousands of bbl.

(**) Notional value in thousands of tons.

(***) Amounts in US\$, GBP and R\$ are presented in million.

	Gains/ (losses) recognized in the statement of income		
	2022	2021	2020
Commodity derivatives			
Crude oil - Note 34.2 (a)	-	-	(502)
Other commodity derivative transactions - Note 34.2 (b)	(256)	(79)	194
Recognized in Other Income and Expenses	(256)	(79)	(308)
Currency derivatives			
Swap Pounds Sterling x Dollar - Note 34.3 (b)	(297)	(85)	11
NDF - Euro x Dollar	-	-	(23)
NDF - Pounds Sterling x Dollar	-	9	20
Swap CDI x Dollar - Note 34.3 (b)	211	(3)	(284)
Others	5	1	(2)
	(81)	(78)	(278)
Interest rate derivatives			
Swap - CDI X IPCA - Note 34.3 (b)	(50)	(41)	(36)
	(50)	(41)	(36)
Cash flow hedge on exports - Note 34.3 (a)	(4,871)	(4,585)	(4,720)
Recognized in Net finance income (expense)	(5,002)	(4,704)	(5,034)
Total	(5,258)	(4,783)	(5,342)

	Gains/ (losses) recognized in other comprehensive income		
	2022	2021	2020
Cash flow hedge on exports - Note 34.3 (a)	10,094	636	(16,740)

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	Guarantees given as collateral	
	12.31.2022	12.31.2021
Commodity derivatives	96	15
Currency derivatives	-	27
Total	96	42

A sensitivity analysis of the derivative financial instruments for the different types of market risks as of December 31, 2022 is set out as follows:

Financial Instruments	Risk	Probable Scenario	Reasonably possible scenario	
			Remote Scenario	
Derivatives not designated for hedge accounting				
Future and forward contracts	Crude oil and oil products - price changes	-	(135)	(269)
		-	(135)	(269)

The probable scenario uses market references, used in pricing models for oil, oil products and natural gas markets, and takes into account the closing price of the asset on December 31, 2022. Therefore, no variation is considered arising from outstanding operations in this scenario. The reasonably possible and remote scenarios reflect the potential effects on the statement of income from outstanding transactions, considering a variation in the closing price of 20% and 40%, respectively. To simulate the most unfavorable scenarios, the variation was applied to each asset according to open transactions: price decrease for long positions and increase for short positions.

34.2. Risk management of products prices

The Company is usually exposed to commodity price cycles, although it may use derivative instruments to hedge exposures related to prices of products purchased and sold to fulfill operational needs and in specific circumstances depending on business environment analysis and assessment of whether the targets of the Strategic Plan are being met.

a) Crude Oil

In March 2020, in order to preserve the Company's liquidity, Petrobras approved a hedge strategy for exported oil already shipped but not priced mainly due to the high volatility at that time, both due to the effects of the oil price drop and the effects of the COVID-19 pandemic on the global oil consumption.

As a result of this strategy, from April 2020, transactions using forward (swap) and futures contracts were carried out. Forward transactions do not require initial disbursement, whereas future transactions require margin deposits, depending on the volume contracted.

b) Other commodity derivative transactions

Petrobras, by use of its assets, positions and market knowledge from its operations in Brazil and abroad, occasionally seeks to optimize some of its commercial operations in the international market, with the use of commodity derivatives to manage price risk.

34.3. Foreign exchange risk management

The Company's Risk Management Policy provides for, as an assumption, an integrated risk management that extends to the whole corporation, pursuing the benefit from the diversification of its businesses.

By managing its foreign exchange risk, the Company takes into account the cash flows derived from its operations as a whole. This concept is especially applicable to the risk relating to the exposure of the Brazilian Real against the U.S. dollar, in which future cash flows in U.S. dollar, as well as cash flows in Brazilian Real affected by the fluctuation between

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both currencies, such as cash flows derived from diesel and gasoline sales in the domestic market, are assessed in an integrated manner.

Accordingly, the financial risk management mainly involves structured actions encompassing the business of the Company.

Changes in the Real/U.S. dollar spot rate, as well as foreign exchange variation of the Real against other foreign currencies, may affect net income and the statement of financial position due to the exposures in foreign currencies, such as high probable future transactions, monetary items and firm commitments.

The Company seeks to mitigate the effect of potential variations in the Real/U.S. dollar spot rates mainly raising funds denominated in US dollars, aiming at reducing the net exposure between obligations and receipts in this currency, thus representing a form of structural protection that takes into account criteria of liquidity and cost competitiveness.

Foreign exchange variation on future exports denominated in U.S. Dollar in a given period are efficiently hedged by the US dollar debt portfolio taking into account changes in such portfolio over time.

The foreign exchange risk management strategy may involve the use of derivative financial instruments to hedge certain liabilities, mitigating foreign exchange rate risk exposure, especially when the Company is exposed to a foreign currency in which no cash inflows are expected.

In the short-term, the foreign exchange risk is managed by applying resources in cash or cash equivalent denominated in Brazilian Real, U.S. Dollar or in another currency.

a) Cash Flow Hedge involving the Company's future exports

The carrying amounts, the fair value as of December 31, 2022, and a schedule of expected reclassifications to the statement of income of cumulative losses recognized in other comprehensive income (shareholders' equity) based on a US\$ 1.00 / R\$ 5,2177 exchange rate are set out below:

Hedging Instrument	Hedged Transactions	Nature of the Risk	Maturity Date	Present value of hedging instrument notional value at 12.31.2022	
				US\$ million	R\$ million
Foreign exchange gains and losses on proportion of non-derivative financial instruments cash flows	Foreign exchange gains and losses of highly probable future monthly exports revenues	Foreign Currency – Real vs U.S. Dollar Spot Rate	January 2023 to December 2032	62,119	324,121
Changes in the present value of hedging instrument notional value				US\$ million	R\$ million
Amounts designated as of December 31, 2021				72,640	405,370
Additional hedging relationships designated, designations revoked and hedging instruments re-designated				14,589	76,263
Exports affecting the statement of income				(12,037)	(62,172)
Principal repayments / amortization				(13,073)	(67,270)
Foreign exchange variation				-	(28,070)
Amounts designated as of December 31, 2022				62,119	324,121
Nominal value of hedging instrument (finance debt and lease liability) at December 31, 2022				72,393	377,723

In the year ended December 31, 2022, the Company recognized a US\$ 62 loss within foreign exchange gains (losses) due to ineffectiveness (a US\$ 15 gain in the same period of 2021).

The average ratio of future exports for which cash flow hedge accounting was designated to the highly probable future exports is 48.58%.

A roll-forward schedule of cumulative foreign exchange losses recognized in other comprehensive income as of December 31, 2022 is set out below:

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	Exchange rate variation	Tax effect	Total
Balance at December 31, 2021	(36,621)	12,452	(24,169)
Recognized in Other comprehensive income	5,223	(1,776)	3,447
Reclassified to the statement of income - occurred exports	4,871	(1,656)	3,215
Balance at December 31, 2022	(26,527)	9,020	(17,507)

	Exchange rate variation	Tax effect	Total
Balance at December 31, 2020	(37,257)	12,667	(24,590)
Recognized in Other comprehensive income	(3,949)	1,344	(2,605)
Reclassified to the statement of income - occurred exports	4,585	(1,559)	3,026
Balance at December 31, 2021	(36,621)	12,452	(24,169)

Additional hedging relationships may be revoked or additional reclassification adjustments from equity to the statement of income may occur as a result of changes in forecasted export prices and export volumes following a revision of the Company's strategic plan. Based on a sensitivity analysis considering a US\$ 10/barrel decrease in Brent prices stress scenario, when compared to the Brent price projections in the Strategic Plan 2023-2027, would not indicate a reclassification from equity to the statement of income.

A schedule of expected reclassification of cumulative foreign exchange losses recognized in other comprehensive income to the statement of income as of December 31, 2022 is set out below:

	2023	2024	2025	2026	2027	2028	2029 to 2032	Total
Expected realization	(7,613)	(5,692)	(3,558)	(3,019)	(3,258)	(2,251)	(1,136)	(26,527)

Accounting policy for hedge accounting

At inception of the hedge relationship, the Company documents its objective and strategy, including identification of the hedging instrument, the hedged item, the nature of the hedged risk and evaluation of hedge effectiveness requirements.

Considering the natural hedge and the risk management strategy, the Company designates hedging relationships to account for the effects of the existing hedge between a foreign exchange gain or loss from proportions of its long-term debt obligations (denominated in U.S. dollars) and foreign exchange gain or loss of its highly probable U.S. dollar denominated future exports revenues, so that gains or losses associated with the hedged transaction (the highly probable future exports) and the hedging instrument (debt obligations) are recognized in the statement of income in the same periods.

Foreign exchange gains and losses on proportions of debt obligations and lease liability (non-derivative financial instruments) have been designated as hedging instruments.

The highly probable future exports for each month are hedged by a proportion of the debt obligations with an equal US dollar nominal amount. Only a portion of the Company's forecast exports are considered highly probable.

The Company's future exports are exposed to the risk of variation in the Brazilian Real/U.S. dollar spot rate, which is offset by the converse exposure to the same type of risk with respect to its debt denominated in US dollar.

The hedge relationships are assessed on a monthly basis and they may cease and may be re-designated in order to achieve the risk management strategy.

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Foreign exchange gains and losses relating to the effective portion of such hedges are recognized in other comprehensive income and reclassified to the statement of income within finance income (expense) in the periods when the hedged item affects the statement of income.

Whenever a portion of future exports for a certain period, for which their foreign exchange gains and losses hedging relationship has been designated is no longer highly probable, the Company revokes the designation and the cumulative foreign exchange gains or losses that have been recognized in other comprehensive income remain separately in equity until the forecast exports occur.

If future exports for which foreign exchange gains and losses hedging relationship has been designated is no longer expected to occur, any related cumulative foreign exchange gains or losses that have been recognized in other comprehensive income from the date the hedging relationship was designated to the date the Company revoked the designation is immediately recycled from equity to the statement of income.

In addition, when a financial instrument designated as a hedging instrument expires or settles, the Company may replace it with another financial instrument in a manner in which the hedge relationship continues to occur. Likewise, whenever a hedged transaction effectively occurs, its financial instrument previously designated as a hedging instrument may be designated for a new hedge relationship.

Gains or losses relating to the ineffective portion are immediately recognized in finance income (expense). Ineffectiveness may occur as hedged items and hedge instruments have different maturity dates and due to discount rate used to determine their present value.

b) Information on ongoing contracts

Cross currency swap – Pounds Sterling x Dollar

In 2017, the Company, through its wholly owned subsidiary Petrobras Global Trading B.V. (PGT), entered into cross currency swaps maturing in 2026 and 2034, with notional amounts of £ 700 million and £ 600 million, respectively, in order to hedge its Pound/U.S. Dollar exposure arising from bonds issued amounting to £ 1,300.

Over the last few years, Petrobras repurchased part of these bonds, reducing its position in this derivative instrument. Between October and November 2022, after carrying out an integrated analysis of the main risk factors to which the Company is exposed, Petrobras terminated the position in this derivative instrument.

Swap contracts – IPCA x CDI and CDI x Dollar

In September 2019, Petrobras contracted a cross currency swap aiming to protect against exposure arising from the 7th issuance of debentures, settled on October 9, 2019, in the total notional amount of US\$ 367 for IPCA x CDI operations, maturing in September 2029 and September 2034, and US\$ 240 for CDI x U.S. Dollar operations, maturing in September 2024 and September 2029.

In July 2022, the Company approved a repurchase plan for these debentures, to hold them in treasury or resell them. At December 31, 2022, only an immaterial amount of this debt had been effectively repurchased. Thus, the position in this swap remains unchanged.

Changes in interest rate forward curves (CDI interest rate) may affect the Company's results, due to the market value of these swap contracts. In preparing a sensitivity analysis for these curves, a parallel shock on this curve was estimated based on the average maturity of these swap contracts, in the scope of the Company's Risk Management Policy. For possible and remote scenarios, the effects of 40% (500 b.p.) and 80% (1,000 b.p.) variations, respectively, on the interest rate forward curves were estimated. The effects of this sensitivity analysis, keeping all other variables remaining constant, are shown in the following table:

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	Possible Result	Remote Result
SWAP cambial (IPCA x USD)	(13)	(15)

The methodology used to calculate the fair value of this swap operation consists of calculating the future value of the operations, using rates agreed in each contract and the projections of the forward curves, IPCA coupon and foreign exchange coupon, discounting to present value using the risk-free rate. Curves are obtained from Bloomberg based on forward contracts traded in stock exchanges.

Finally, the mark-to-market is adjusted to the credit risk of the financial institutions, which is not relevant in terms of financial volume, since the Company makes contracts with highly rated banks.

c) Sensitivity analysis for foreign exchange risk on financial instruments

A sensitivity analysis is set out below, showing the probable scenario for foreign exchange risk on financial instruments, computed based on external data along with reasonably possible and remote scenarios (20% and 40% changes in the foreign exchange rates prevailing on December 31, 2022, respectively), except for assets and liabilities of foreign subsidiaries, when transacted in a currency equivalent to their respective functional currencies. This analysis only covers the exchange rate variation and maintains all other variables constant.

Risk	Financial Instruments	Exposure at 12.31.2022	Probable Scenario (*)	Reasonably possible scenario	Remote Scenario
Dollar/Real	Assets	7,448	75	1,490	2,979
	Liabilities	(96,873)	(971)	(19,374)	(38,749)
	Exchange rate - Cross currency swap	(576)	(6)	(115)	(231)
	Cash flow hedge on exports	62,120	623	12,424	24,848
	Total	(27,881)	(279)	(5,575)	(11,153)
Euro/Dollar	Assets	1,018	32	204	407
	Liabilities	(2,173)	(68)	(435)	(869)
	Total	(1,155)	(36)	(231)	(462)
Pound/Dollar	Assets	1,445	33	289	578
	Liabilities	(2,879)	(66)	(576)	(1,152)
	Total	(1,434)	(33)	(287)	(574)
Pound/Real	Assets	2	-	-	1
	Liabilities	(26)	(1)	(5)	(10)
	Total	(24)	(1)	(5)	(9)
Euro/Real	Assets	4	-	1	2
	Liabilities	(63)	(3)	(12)	(25)
	Total	(59)	(3)	(11)	(23)
Total at December 31, 2022		(30,553)	(352)	(6,109)	(12,221)

(*) At , the probable scenario was computed based on the following risks: R\$ x U.S. Dollar - a 1% depreciation of the Real; Euro x Dollar: a 3.1 appreciation of the Euro; Pound Sterling x U.S. Dollar: a 2.26% appreciation of the Pound Sterling; Real x Euro: a 4.2% depreciation of the Real; and Real x Pound Sterling - a 3.3% depreciation of the Real. Source: Focus and Thomson Reuters.

34.4. Interest rate risk management

The Company considers that interest rate risk does not create a significant exposure and therefore, preferably does not use derivative financial instruments to manage interest rate risk, except for specific situations faced by certain subsidiaries of Petrobras.

The sensitivity analysis of interest rate risk presented in the table below is carried out for a twelve-month term. Amounts referring to reasonably possible and remote scenarios mean the total floating interest expense if there is a variation of 40% and 80% in these interest rates, respectively, maintaining all other variables constant.

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The following table presents the amounts to be disbursed by Petrobras with the payment of interest related to debts with floating interest rates at December 31, 2022:

Risk	Probable Scenario (*)	Reasonably possible scenario	Remote Scenario
LIBOR 3M	12	16	19
LIBOR 6M	655	917	1,179
SOFR 3M	84	109	135
SOFR 6M	17	23	30
CDI	181	253	325
TJLP	70	98	126
IPCA	96	134	173
	1,115	1,550	1,987

(*) The probable scenario was calculated considering the quotations of currencies and floating rates to which the debts are indexed.

34.5. Liquidity risk management

The possibility of a shortage of cash or other financial assets in order to settle the Company's obligations on the agreed dates is managed by the Company. In the Company's consolidated financial statements for the year ended December 31, 2022, the net working capital was negative. To mitigate such position, the Company has investments in post-fixed Bank Deposit Certificates (CDB) classified as non-current assets (see note 7.2), with daily liquidity.

Following its liability management strategy, the Company regularly evaluates market conditions and may enter into transactions to repurchase its own securities or those of its affiliates, through a variety of means, including tender offers, make whole exercises and open market repurchases, in order to improve its debt repayment profile and cost of debt.

34.6. Credit risk

Credit risk management in Petrobras aims to mitigate risk of not collecting receivables, financial deposits or collateral from third parties or financial institutions through efficient credit analysis, granting and management based on quantitative and qualitative parameters that are appropriate for each market segment in which the Company operates.

The commercial credit portfolio is broad and diversified and comprises clients from the domestic and foreign markets. Credit granted to financial institutions is related to collaterals received, cash surplus invested and derivative financial instruments. It is spread among "investment grade" international banks rated by international rating agencies and Brazilian banks with low credit risk.

34.6.1. Credit quality of financial assets

a) Trade and other receivables

Most of Petrobras's clients do not have a risk rating granted by rating agencies. Thus, for the definition and monitoring of credit limits, management evaluates the customer's field of activity, commercial relationship, financial relationship with Petrobras and its financial statements, among other aspects.

b) Other financial assets

Credit quality of cash and cash equivalents, as well as marketable securities, is based on external credit ratings provided by Standard & Poor's, Moody's and Fitch. The credit quality of those financial assets, that are neither past due nor considered to be credit impaired, are set out below:

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	Cash and cash equivalents		Marketable securities	
	12.31.2022	12.31.2021	12.31.2022	12.31.2021
AA	-	1,152	-	-
A	3,806	1,145	820	-
BBB	212	2,308	-	-
BB	917	3,672	205	-
AAA.br	3,034	530	3,311	694
AA.br	1	1,639	1	-
Other ratings	26	21	-	-
	7,996	10,467	4,337	694

34.7. Fair value of financial assets and liabilities

	Level I	Level II	Level III	Total fair value recorded
Assets				
Balance at December 31, 2022	-	-	-	-
Balance at December 31, 2021	-	23	-	23
Liabilities				
Foreign currency derivatives	-	(64)	-	(64)
Commodity derivatives	(40)	-	-	(40)
Interest rate derivatives	-	(17)	-	(17)
Balance at December 31, 2022	(40)	(81)	-	(121)
Balance at December 31, 2021	(1)	(272)	-	(273)

The fair value of other financial assets and liabilities is presented in the respective notes: 7 – Marketable securities; 13 – Trade and other receivables; and 31 – Finance debt (estimated amount).

The fair values of cash and cash equivalents, current debt and other financial assets and liabilities are equivalent or do not differ significantly from their carrying amounts.

35. Related-party transactions

The Company has a related-party transactions policy, which is annually revised and approved by the Board of Directors in accordance with the Company's by-laws.

In order to ensure the goals of the Company are achieved and to align them with transparency of processes and corporate governance best practices, this policy guides Petrobras while entering into related-party transactions and dealing with potential conflicts of interest on these transactions, based on the following assumptions and provisions:

- Competitiveness: prices and conditions of services compatible with those practiced in the market;
- Compliance: adherence to the contractual terms and responsibilities practiced by the Company;
- Transparency: adequate reporting of the agreed conditions, as well as their effects on the Company's financial statements;
- Fairness: establishment of mechanisms that prevent discrimination or privileges and the adoption of practices that ensure the non-use of privileged information or business opportunities for the benefit of individuals or third parties; and
- Commutability: arm's length basis.

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The Audit Committee must approve in advance transactions between the Company and the Brazilian Federal Government, including its agencies or similar bodies; Petros Foundation; Petrobras Health Association; controlled and associated entities (including entities controlled by its associates); and entities controlled by key management personnel or by their close family members, taking into account the materiality established by this policy. The Audit Committee (CAE) reports monthly to the Board of Directors.

Transactions with the Brazilian Federal Government, including its agencies or similar bodies and controlled entities (the latter when classified as out of the Company's normal course of business by the CAE), which are under the scope of Board of Directors approval, must be preceded by the CAE and Minority Shareholders Committee assessment and must have prior approval of, at least, 2/3 of the board members.

The related-party transactions policy also aims to ensure an adequate and diligent decision-making process for the Company's key management.

35.1. Transactions with joint ventures, associates, government entities and pension plans

The Company has engaged, and expects to continue to engage, in the ordinary course of business in numerous transactions with joint ventures, associates, pension plans, as well as with the Company's controlling shareholder, the Brazilian Federal Government, which include transactions with banks and other entities under its control, such as financing and banking, asset management and other transactions.

The balances of significant transactions are set out in the following table:

	12.31.2022		12.31.2021	
	Assets	Liabilities	Assets	Liabilities
Joint ventures and associates				
State-controlled gas distributors (joint ventures)	-	-	255	42
Petrochemical companies (associates)	21	10	26	12
Other associates and joint ventures	72	21	104	13
Subtotal	93	31	385	67
Brazilian government – Parent and its controlled entities				
Government bonds	1,689	-	1,446	-
Banks controlled by the Brazilian Government	11,811	1,567	8,417	1,267
Petroleum and alcohol account - receivables from the Brazilian Government	602	-	506	-
Brazilian Federal Government (*)	-	1,422	2	-
Pré-Sal Petróleo S.A. – PPSA	-	57	-	-
Others	58	71	26	54
Subtotal	14,160	3,117	10,397	1,321
Petros	56	301	51	61
Total	14,309	3,449	10,833	1,449
Current	2,603	2,119	2,110	315
Non-Current	11,706	1,330	8,723	1,134

(*) It includes amounts related to dividends and lease liabilities.

The income/expenses of significant transactions are set out in the following table:

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	2022	2021	2020
Joint ventures and associates			
BR Distribuidora (now called Vibra Energia)	-	7,936	11,038
Natural Gas Transportation Companies	-	(308)	(1,478)
State-controlled gas distributors (joint ventures)	1,196	2,410	1,723
Petrochemical companies (associates)	4,465	3,553	2,769
Other associates and joint ventures	96	418	265
Subtotal	5,757	14,009	14,317
Brazilian government – Parent and its controlled entities			
Government bonds	204	64	41
Banks controlled by the Brazilian Government	71	(157)	(456)
Receivables from the Electricity sector	-	131	72
Petroleum and alcohol account - receivables from the Brazilian Government	62	58	235
Brazilian Federal Government	288	31	(4)
Pré-Sal Petróleo S.A. – PPSA	(657)	(139)	(135)
Others	(79)	(34)	(15)
Subtotal	(111)	(46)	(262)
Petros	(21)	-	(177)
Total	5,625	13,963	13,878
Revenues, mainly sales revenues	5,821	14,672	16,202
Purchases and services	(4)	(494)	(2,074)
Income (expenses)	(804)	(315)	(93)
Foreign exchange and inflation indexation charges, net	299	(59)	(102)
Finance income (expenses), net	313	159	(55)
Total	5,625	13,963	13,878

On December 23, 2022, Petrobras signed a contract with UEG Araucária S.A., in the amount of US\$ 925 (R\$ 4,850), with the purpose of selling 2,150,000 m³/day of gas, in the interruptible mode, to supply energy generation electricity by UTE Araucária. The contract is effective from January 1, 2023 to December 31, 2023.

Information on the judicialized debts from the Brazilian Federal Government (*precatórios*) issued in favor of the Company arising from the petroleum and alcohol accounts is disclosed in note 13.

The liability related to pension plans of the Company's employees and managed by the Petros Foundation, including debt instruments, is presented in note 17.

35.2. Compensation of key management personnel

The criteria for compensation of employees and officers are established based on the relevant labor legislation and the Company's Positions, Salaries and Benefits Plan (*Plano de Cargos e Salários e de Benefícios e Vantagens*).

The compensation of employees (including those occupying managerial positions) and officers in December 2022 and December 2021 were:

Compensation of employees, excluding officers (amounts in U.S. dollars)	2022	2021
Lowest compensation	759	678
Average compensation	4,367	3,775
Highest compensation	20,790	19,220
Employees	2022	2021
Number of employees	38,682	38,703

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Compensation of the Director of Petrobras (includes variable compensation)	2022	2021
Lowest compensation (*)	322,668	536,948
Average compensation (**)	586,324	697,110
Highest compensation (***)	437,916	544,862

(*) It corresponds to the lowest annual compensation, including former members, according to Circular Letter CVM/SEP no. 01/2021 of February 26, 2021. If the Company excluded from the calculation the amounts paid to former members, as termination of office and deferred variable compensation, and considered the amounts paid to members who held the position for less than 12 months, the lowest amount would be US\$ 65,172 in 2022 and US\$ 475,777 in 2021.

(**) It corresponds to the total value of the annual compensation, including expenses with former members, divided by the number of remunerated positions (9), according to Circular Letter CVM/SEP no. 01/2021 of February 26, 2021. If the Company excluded from the average compensation the amounts paid to former members, as termination of office and deferred variable compensation, the average amount would be US\$ 414,854 in 2022 and US\$ 526,021 in 2021.

(***) It corresponds to the annual compensation of the officer with the highest individual compensation and who held the position for 12 months of the fiscal year, according to Circular Letter CVM/SEP no. 01/2021 of February 26, 2021.

The criteria for compensation of members of the Board of Directors and the Board Executive Officers is based on the guidelines established by the Secretariat of Management and Governance of the State-owned Companies (SEST) of the Ministry of Economy, and by the MME. The total compensation is set out as follows:

	2022			2021		
	Executive Officers	Board of Directors	Total	Executive Officers	Board of Directors	Total
Wages and short-term benefits	2.7	0.1	2.8	2.6	0.1	2.7
Social security and other employee-related taxes	0.8	-	0.8	0.7	-	0.7
Post-employment benefits (pension plan)	0.4	-	0.4	0.3	-	0.3
Variable compensation	2.8	-	2.8	2.5	-	2.5
Benefits due to termination of tenure	0.3	-	0.3	0.6	-	0.6
Total compensation recognized in the statement of income	7.0	0.1	7.1	6.7	0.1	6.8
Total compensation paid	6.3	-	6.3	6.0	0.1	6.1
Monthly average number of members in the period	9.00	11.00	20.00	9.00	10.58	19.58
Monthly average number of paid members in the period	9.00	3.83	12.83	9.00	4.50	13.50

In 2022, expenses related to compensation of the board members and executive officers of Petrobras amounted to US\$ 13.7 (US\$ 14.7 for the same period of 2021).

On April 13, 2022, the Company's Annual Shareholders' Meeting set the threshold for the overall compensation for executive officers and board members at US\$ 8 (R\$ 39.59 million) from April 2022 to March 2023.

The compensation of the Advisory Committees to the Board of Directors is separate from the fixed compensation set for the Board Members and, therefore, has not been classified under compensation of Petrobras' key management personnel.

In accordance with Brazilian regulations applicable to companies controlled by the Brazilian Federal Government, Board members who are also members of the Statutory Audit Committees are only compensated with respect to their Audit Committee duties. The total compensation concerning these members was US\$ 613 thousand for 2022 December 31, 2022 (US\$ 728 thousand with tax and social security costs). For the same period of 2021, the total compensation concerning these members was US\$ 544 thousand (US\$ 642 thousand with tax and social security costs).

The average annual remuneration of the members of Petrobras' Fiscal Council, in fiscal year 2022, was US\$ 28 (US\$ 33, considering social security costs).

The Variable Compensation Program for Executive Officers is subject to compliance with prerequisites and performance indicators. The variable remuneration to be paid changes according to the percentage of goals achievement and its payment is deferred in 5 years.

In 2022, the Company provisioned US\$ 3 referring to the Performance Award Program – PPP 2022 for Executive Directors.

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Exemption from damage (indemnity)

The Company's Bylaws establish since 2002 the obligation to indemnify and keep its managers, members with statutory functions and other employees and agents who legally act by delegation of the Company's managers, in order to cover certain expenses due to complaints, inquiries, administrative, arbitration or judicial investigations and proceedings, in Brazil or in any other jurisdiction, which aim to impute any responsibility for regular management acts practiced exclusively in the exercise of its activities since the date of its investiture or the beginning of the contractual relationship with the Company.

The first Indemnity Commitment was approved by the Board of Directors on December 18, 2018, starting from its signature until the Ordinary General Meeting of 2020. The maximum exposure established by the Company (global limit for all eventual damages) was US\$ 500.

The second Indemnity Commitment was approved by the Board of Directors on March 25, 2020, starting from its signature until the Ordinary General Meeting of 2022. The maximum exposure established by the Company (global limit for all possible damages) was US\$ 300.

The third Indemnity Commitment was approved by the Board of Directors on March 30, 2022, starting from its signature, until the Ordinary General Meeting of 2024. The maximum exposure established by the Company (global limit for all possible damages) was US\$ 200.

In addition, the term of coverage provided for in the Commitment begins from the date of signature until the occurrence of the following events, whichever comes last: (i) the end of the fifth (5th) year following the date on which the beneficiary leave, for any reason, to exercise the mandate or function/position; (ii) the course of the time required in transit of any Process in which the Beneficiary is partly due to the practice of Regular Management Act; or (iii) the course of the limitation period according to law to events that can generate the obligations of indemnification by the Company, including, but not limited to, the criminal statute applicable deadline, even if such period is applied by administrative authorities or at any time when there is an indemnifiable event based on an imprescriptible fact.

Indemnity agreements shall not cover: (i) acts covered under Directors and Officers (D&O) insurance policy purchased by the Company, as formally recognized and implemented by the insurance Company; (ii) acts outside the regular exercise of the duties or powers of the Beneficiaries; (iii) acts in bad faith act, malicious acts, fraud or serious fault on the part of the Beneficiaries; (iv) self-interested acts or in favor of third parties that damage the Company's social interest; (v) obligation to pay damages arising from social action according to article 159 of Law 6,404/76 or reimbursement of the damages according to art. 11, § 5º, II of Law 6,385/76; (vi) other cases where a manifest conflict of interest with the Company is established.

Petrobras will have no obligation to indemnify the Beneficiaries for loss of profits, loss of business opportunity, interruption of professional activity, moral damages or indirect damages. eventually claimed by the Beneficiaries, with compensation or reimbursement limited to the cases provided for in the Indemnity Commitment.

In the case of conviction for an intentional act or committed with gross error, final and unappealable in criminal, public civil, impropriety, popular action, action proposed by a third party, or by shareholders in favor of the Company, or, still, of an unappealable administrative decision in which it concludes by the practice of a malicious act or committed with gross error and that has not been subject to judicial suspension, the beneficiary undertakes, regardless of any manifestation of the independent third party, to reimburse the Company for all amounts spent by the Company within the scope of this Commitment, including all expenses and costs related to the process, refunding them within a period of up to 30 (thirty) days from the competent notification.

In order to avoid the configuration of conflicts of interest, notably as provided for in art. 156 of Law 6,404/76, the Company will hire external professionals, who may act individually or jointly, with an unblemished, impartial and independent reputation ("Independent Third Party"), and with robust experience to analyze any claim by the Beneficiaries on the characterization of Regular Management Act or on the hypothesis of exclusions. In addition, Beneficiaries who are claiming said amounts are prohibited from participating in meetings or discussions that deal with

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the approval of the payment of expenses, in compliance with the provisions of art. 156, head provision of Law 6,404/76, Brazilian Corporate Law.

36. Supplemental information on statement of cash flows

	2022	2021	2020
Amounts paid/received during the year:			
Withholding income tax paid on behalf of third-parties	1,413	904	770
Transactions not involving cash			
Purchase of property, plant and equipment on credit	19	-	310
Lease	6,923	6,945	4,255
Provision/(reversals) for decommissioning costs	3,260	(1,082)	5,174
Use of tax credits and judicial deposit for the payment of contingency	1,236	1,173	2
Assets received due to the increase of interest in concessions without disbursement	-	165	-
Remeasurement of property, plant and equipment acquired in previous periods	24	-	-
Earn Out related to Atapu and S�epia groups	694	54	-

The balance of Cash and cash equivalents in the Statements of Cash Flows includes amounts related to assets classified as held for sale, as shown in the reconciliation below:

	2022	2021
Reconciliation of the balance at the beginning of the period		
Cash and cash equivalents in statements of financial position	10,467	11,711
Cash and cash equivalents classified as assets held for sale (note 30)	13	14
Cash and cash equivalents according to Statements of Cash Flows (opening balance)	10,480	11,725
Reconciliation of the balance at the end of the period		
Cash and cash equivalents in statements of financial position	7,996	10,467
Cash and cash equivalents classified as assets held for sale (note 30)	-	13
Cash and cash equivalents according to Statements of Cash Flows (closing balance)	7,996	10,480

36.1. Reconciliation of Depreciation, depletion and amortization with Statements of Cash Flows

	2022	2021	2020
Depreciation of Property, plant and equipment	14,618	12,955	12,326
Amortization of Intangible assets	77	60	66
Capitalized depreciation	(1,343)	(1,240)	(973)
Depreciation of right of use - recovery of PIS/COFINS	(134)	(80)	26
Depreciation, depletion and amortization in the Statements of Cash Flows	13,218	11,695	11,445

37. Subsequent events

Leniency Agreement

On January 16, 2023, Petrobras received the amount of US\$ 87 (R\$ 456 million), recovered through a leniency agreement of the company UOP LLC – a subsidiary of Honeywell International Inc. – entered into with General Federal Inspector's Office (CGU - *Controladoria Geral da Uni o*) and the Federal Attorney General's Office (AGU – *Advocacia Geral da Uni o*).

Receipt of the earn out relating to Atapu and S epia fields

In January 2023, Petrobras received the entire amount of US\$ 384 (R\$ 2,007 million), of the earn out related to 2022, from the partners in Atapu and S epia fields, including gross up of taxes, as follows:

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- US\$ 258 (R\$1,347 million) relating to the interest held by TotalEnergies (28%), Petronas Petr leo Brasil Ltda (21%) and QatarEnergy Brasil Ltda (21%), in the S pia field;
- US\$ 126 (R\$ 660 million) relating to the interest held by TotalEnergies (22.5%) and the interest of Shell (25%), in the Atapu field.

For more information, see note 24.

Sale of the Albacora Leste field

On January 26, 2023, after fulfilling all the conditions precedent, Petrobras concluded the sale of its entire interest in Albacora Leste producing field, located in the Campos Basin, to the company Petro Rio Jaguar Petr leo LTDA (PetroRio), a subsidiary of Petro Rio S.A.

The transaction was closed with the receipt, in cash, of US\$ 1,635, including price adjustments provided for in the contract.

With this closing, PetroRio becomes the operator of this field, with a 90% interest, in partnership with Repsol Sinopec Brasil, which holds the remaining 10%.

For more information, see note 30.

Receipt of the earn out relating to Ba na field

On January 30, 2023, Petrobras received US\$ 84, including price adjustments provided for in the contract, from Karoon Petr leo & G s Ltda (Karoon), a subsidiary of Karoon Energy Ltd, as a contingent payment related to Brent prices of 2022.

This receipt is in accordance with the terms of the agreement signed by the companies in 2020, relating to the sale of Petrobras' entire interest in Ba na field (concession area BM-S-40). The other contingent payments may be received by Petrobras until 2026, depending on Brent prices in future years.

Results on judgments of the Administrative Board of Tax Appeals (*Conselho Administrativo de Recursos Fiscais - CARF*)

On February 1, 2023, the First Panel of the Superior Chamber of Tax Appeals (CSRF), a member of the CARF, dismissed the appeals filed by the Company and decided that Petrobras owed income taxes (IRPJ and CSLL) on subsidiary abroad relating to 2011 and 2012. This decision was taken by exercising the casting vote of the President of the Class, based on Provisional Measure no. 1160/2023, after a tie between the judges. With this decision, tax debts amounting to US\$ 1,092 (R\$ 5,700) became final at administrative level. Accordingly, after the end of the administrative process, the Company will adopt the appropriate measures.

On March 14, 2023, the Third Panel of the CSRF, by majority, dismissed the special appeals filed by the Company, understanding that CIDE and PIS/COFINS over Import related to vessel charter payments to legal entities abroad in 2010 (PIS/COFINS), 2011 (CIDE) and 2013 (CIDE, PIS/COFINS). With this decision, tax debts of US\$ 3.5 billion (R\$ 18 billion) became final at administrative level. Accordingly, after the end of the administrative process, the Company will adopt the appropriate measures.

The expectation of loss in these contingencies is deemed possible (see note 18). These decisions do not trigger any provisioning in the Company's financial statements.

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Supplementary information on Oil and Gas Exploration and Production (unaudited)

In accordance with Codification Topic 932 - Extractive Activities – Oil and Gas, this section provides supplemental information on oil and gas exploration and production activities of the Company. The information included in items (i) through (iii) provides historical cost information pertaining to costs incurred in exploration, property acquisition and development, capitalized costs and results of operations. The information included in items (iv) and (v) presents information on Petrobras' estimated net proved reserve quantities, standardized measure of estimated discounted future net cash flows related to proven reserves, and changes in estimated discounted future net cash flows.

The Company, on December 31, 2022, maintains activities mainly in Brazil, in addition to activities in Argentina, Colombia and Bolivia, in South America. The equity-accounted investments are comprised of the operations of the joint venture company MP Gulf of Mexico, LLC (MPGoM), in which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake in United States of America, North America. The Company reports its reserves in Brazil, United States of America and Argentina. Bolivian reserves are not included due to restrictions determined by Bolivian Constitution. In Colombia, our activities are exploratory, and therefore, there are no associated reserves.

i) Capitalized costs relating to oil and gas producing activities

As set out in note 26, the Company uses the successful efforts method of accounting for appraisal and development costs of crude oil and natural gas production. In addition, notes 23 and 24 presents the accounting policies applied by the Company for recognition, measurement and disclosure of property, plant and equipment and intangible assets.

The following table summarizes capitalized costs for oil and gas exploration and production activities with the related accumulated depreciation, depletion and amortization, and asset retirement obligations:

	Consolidated entities					
	Abroad					Equity Method Investees
	Brazil	South America	Others	Total	Total	
December 31, 2022						
Unproved oil and gas properties	4,227	55	-	55	4,282	-
Proved oil and gas properties	83,030	205	-	205	83,235	762
Support Equipment	69,735	732	1	733	70,468	-
Gross Capitalized costs	156,993	992	1	993	157,986	762
Depreciation, depletion and amortization	(52,836)	(769)	(1)	(770)	(53,606)	(224)
Net capitalized costs	104,156	223	-	223	104,380	538
December 31, 2021						
Unproved oil and gas properties	4,455	115	-	115	4,570	-
Proved oil and gas properties	80,523	172	-	172	80,695	832
Support Equipment	67,988	777	1	778	68,766	-
Gross Capitalized costs	152,967	1,064	1	1,065	154,032	832
Depreciation, depletion and amortization	(51,621)	(733)	(1)	(734)	(52,355)	(296)
Net capitalized costs	101,345	331	-	331	101,677	536
December 31, 2020						
Unproved oil and gas properties	17,438	112	-	112	17,550	-
Proved oil and gas properties	61,857	140	-	140	61,997	792
Support Equipment	73,199	761	1	762	73,961	-
Gross Capitalized costs	152,494	1,013	1	1,014	153,508	792
Depreciation, depletion and amortization	(43,008)	(687)	(1)	(688)	(43,696)	(316)
Net capitalized costs	109,486	326	-	326	109,812	476

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ii) Costs incurred in oil and gas property acquisition, exploration and development activities

Costs incurred are summarized below and include both amounts expensed and capitalized:

	Consolidated entities				Equity Method Investees
	Abroad			Total	
	Brazil	South America	Total		
December 31, 2022					
Acquisition costs:					
Proved	-	-	-	-	-
Unproved	892	-	-	892	-
Exploration costs	707	51	51	758	1
Development costs	6,883	31	31	6,914	30
Total	8,482	82	82	8,564	31
December 31, 2021					
Acquisition costs:					
Proved	-	-	-	-	-
Unproved	-	-	-	-	-
Exploration costs	682	5	5	687	-
Development costs	6,035	44	44	6,079	37
Total	6,717	49	49	6,766	37
December 31, 2020					
Acquisition costs:					
Proved	315	-	-	315	-
Unproved	24	-	-	24	-
Exploration costs	805	10	10	815	-
Development costs	5,664	3	3	5,667	57
Total	6,808	13	13	6,821	57

(iii) Results of operations for oil and gas producing activities

The Company's results of operations from oil and gas producing activities for the years ended December 31, 2022, 2021 and 2020 are shown in the following table. The Company transfers substantially all of its Brazilian crude oil and gas production to the Refining, Transportation & Marketing segment in Brazil. The internal transfer prices calculated by the Company's model may not be indicative of the price the Company would have realized had this production been sold in an unregulated spot market. Additionally, the prices calculated by the Company's model may not be indicative of the future prices to be realized by the Company. Gas prices used are those set out in contracts with third parties.

Production costs are lifting costs incurred to operate and maintain productive wells and related equipment and facilities, including operating employees' compensation, materials, supplies, fuel consumed in operations and operating costs related to natural gas processing plants.

Exploration expenses include the costs of geological and geophysical activities and projects without economic feasibility. Depreciation and amortization expenses relate to assets employed in exploration and development activities. In accordance with Codification Topic 932 – Extractive Activities – Oil and Gas, income taxes are based on statutory tax rates, reflecting allowable deductions. Interest income and expense are excluded from the results reported in this table.

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	Consolidated entities						Equity Method Investees
	Abroad					Total	
	Brazil	South America	North America	Others	Total		
December 31, 2022							
Net operation revenues:							
Sales to third parties	1,153	158	-	-	158	1,311	275
Intersegment	76,579	-	-	-	-	76,579	-
	77,732	158	-	-	158	77,890	275
Production costs	(19,975)	(75)	-	-	(75)	(20,050)	(41)
Exploration expenses	(719)	(168)	-	-	(168)	(887)	-
Depreciation, depletion and amortization	(10,373)	(42)	-	-	(42)	(10,415)	(42)
Impairment of oil and gas properties	(1,216)	(2)	-	-	(2)	(1,218)	-
Other operating expenses	3,000	(1)	(8)	21	12	3,012	(22)
Results before income tax expenses	48,449	(130)	(8)	21	(117)	48,332	170
Income tax expenses	(16,474)	44	-	(3)	41	(16,433)	-
Results of operations (excluding corporate overhead and interest costs)	31,975	(86)	(8)	19	(76)	31,899	170
December 31, 2021							
Net operation revenues:							
Sales to third parties	974	131	-	-	131	1,105	220
Intersegment	54,479	-	-	-	-	54,479	-
	55,453	131	-	-	131	55,584	220
Production costs	(14,601)	(67)	-	-	(67)	(14,668)	(44)
Exploration expenses	(685)	(2)	-	-	(2)	(687)	-
Depreciation, depletion and amortization	(8,959)	(46)	-	-	(46)	(9,005)	(38)
Impairment of oil and gas properties	3,107	-	-	-	-	3,107	-
Other operating expenses	809	15	114	(118)	11	820	(17)
Results before income tax expenses	35,124	31	114	(118)	27	35,151	121
Income tax expenses	(11,984)	(11)	-	43	33	(11,951)	-
Results of operations (excluding corporate overhead and interest costs)	23,141	20	114	(75)	59	23,200	121
December 31, 2020							
Net operation revenues:							
Sales to third parties	763	108	-	-	108	871	148
Intersegment	33,524	-	-	-	-	33,524	-
	34,287	108	-	-	108	34,395	148
Production costs	(9,378)	(59)	-	-	(59)	(9,437)	(54)
Exploration expenses	(796)	(7)	-	-	(7)	(803)	-
Depreciation, depletion and amortization	(8,611)	(50)	-	-	(50)	(8,661)	(57)
Impairment of oil and gas properties	(7,364)	-	-	-	-	(7,364)	-
Other operating expenses	(825)	(2)	(167)	(26)	(195)	(1,020)	(158)
Results before income tax expenses	7,313	(10)	(167)	(26)	(203)	7,110	(121)
Income tax expenses	(2,486)	3	57	9	69	(2,417)	41
Results of operations (excluding corporate overhead and interest costs)	4,827	(7)	(110)	(17)	(134)	4,693	(80)

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(iv) Reserve quantities information

As presented in note 4.1, proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations – prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain. The project to extract the hydrocarbons must have commenced or there must be reasonable certainty that the project will commence within a reasonable time. Reserves estimate involves a high degree of judgment and complexity and its application affects different items of these Financial Statements.

The Company's estimated net proved oil and gas reserves and changes thereto for the years 2022, 2021 and 2020 are presented in the following table. Proved reserves are estimated in accordance with the reserve definitions prescribed by the Securities and Exchange Commission.

Proved developed oil and gas reserves are proved reserves that can be expected to be recovered: (i) through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is done by means not involving a well.

Proved reserves for which substantial new investments in additional wells and related facilities will be required are named proved undeveloped reserves.

Reserve estimates are subject to variations due to technical uncertainties in the reservoir and changes in economic scenarios. A summary of the annual changes in the proved reserves of oil is as follows (in millions of barrels):

Proved developed and undeveloped reserves(*)	Consolidated Entities			Equity Method Investees			Total
	Crude oil in Brazil	Crude Oil in South America	Synthetic Oil in Brazil	Consolidated Total	Crude Oil in North America	Crude Oil in Africa	
Reserves at December 31, 2019	8,083	1	8	8,092	23	42	8,156
Revisions of previous estimates	269	(1)	(7)	261	-	-	261
Extensions and discoveries	35	-	-	35	-	-	35
Improved Recovery	-	-	-	-	-	-	-
Sales of reserves	(61)	-	-	(61)	-	(41)	(102)
Purchases of reserves	-	-	-	-	-	-	-
Production for the year	(792)	-	(1)	(793)	(4)	(1)	(798)
Reserves at December 31, 2020	7,534	-	-	7,534	18	-	7,552
Extensions and discoveries	-	-	-	-	-	-	-
Revisions of previous estimates	1,654	2	11	1,667	1	-	1,668
Sales of reserves	(9)	-	-	(9)	-	-	(9)
Production for the year	(773)	-	(1)	(774)	(3)	-	(777)
Reserves at December 31, 2021	8,406	2	10	8,419	17	-	8,435
Revisions of previous estimates	1,705	-	-	1,705	3	-	1,708
Sales of reserves (1)	(455)	-	(10)	(465)	(1)	-	(465)
Production for the year	(748)	-	(1)	(749)	(3)	(1)	(752)
Reserves at December 31, 2022	8,908	2	-	8,910	16	-	8,926

(1) Includes the effects of the write-offs related to the Co-Participation Agreements of Atapu and Sepia fields

(*) Apparent differences in the sum of the numbers are due to rounding off.

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A summary of the annual changes in the proved reserves of natural gas is as follows (in billions of cubic feet):

Proved developed and undeveloped reserves (*)	Consolidated Entities				Equity Method Investees		Total
	Natural Gas in Brazil	Natural Gas in South America	Synthetic Gas in Brazil	Consolidated Total	Gas Natural in North America	Gas Natural in Africa	
Reserves at December 31, 2019	8,381	156	12	8,549	9	47	8,605
Revisions of previous estimates	(93)	(119)	(11)	(222)	-	-	(222)
Extensions and discoveries	36	-	-	36	-	-	36
Improved Recovery	-	-	-	-	-	-	-
Sales of reserves	(42)	-	-	(42)	-	(47)	(90)
Purchases of reserves	-	-	-	-	-	-	-
Production for the year	(735)	(12)	(1)	(749)	(2)	-	(750)
Reserves at December 31, 2020	7,547	26	-	7,572	8	-	7,580
Extensions and discoveries	-	-	-	-	-	-	-
Revisions of previous estimates	1,615	167	19	1,802	-	-	1,802
Sales of reserves	(15)	-	-	(15)	-	-	(15)
Production for the year	(692)	(16)	(1)	(709)	(1)	-	(710)
Reserves at December 31, 2021	8,455	177	18	8,650	7	-	8,657
Revisions of previous estimates	1,667	16	-	1,682	-	-	1,682
Sales of reserves (1)	(408)	-	(17)	(425)	(1)	-	(425)
Production for the year	(626)	(20)	(1)	(647)	(1)	-	(648)
Reserves at December 31, 2022	9,088	173	-	9,261	6	-	9,267

(1) Includes the effects of the write-offs related to the Co-Participation Agreements of Atapu and Sepia fields

(*) Apparent differences in the sum of the numbers are due to rounding off.

Natural gas production volumes used in these tables are the net volumes withdrawn from our proved reserves, including gas consumed in operations and excluding reinjected gas. Our disclosure of proved gas reserves includes gas consumed in operations, which represent 37% of our total proved reserves of natural gas as of December 31, 2022.

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The tables below summarize information about the changes in total proved reserves of crude oil and natural gas, in millions of barrels of oil equivalent, in our consolidated entities and equity method investees for 2022, 2021 and 2020:

Proved developed and undeveloped reserves(*)	Consolidated Entities			Equity Method Investees			Total
	Oil equivalent in Brazil	Oil equivalent in South America	Synthetic Oil in Brazil	Consolidated Total	Oil equivalent in North America	Oil equivalent in Africa	
Reserves at December 31, 2019	9,480	27	10	9,517	24	49	9,590
Revisions of previous estimates	253	(21)	(9)	224	-	-	224
Extensions and discoveries	41	-	-	41	-	-	41
Improved Recovery	-	-	-	-	-	-	-
Sales of reserves	(68)	-	-	(68)	-	(49)	(117)
Purchases of reserves	-	-	-	-	-	-	-
Production for the year	(914)	(2)	(1)	(918)	(5)	(1)	(923)
Reserves at December 31, 2020	8,792	5	-	8,796	19	-	8,816
Extensions and discoveries	-	-	-	-	1	-	1
Revisions of previous estimates	1,923	30	14	1,967	2	-	1,969
Sales of reserves	(11)	-	-	(11)	-	-	(11)
Production for the year	(888)	(3)	(1)	(892)	(3)	-	(896)
Reserves at December 31, 2021	9,816	31	13	9,860	18	-	9,878
Revisions of previous estimates	1,983	3	-	1,986	3	-	1,988
Sales of reserves (1)	(523)	-	(12)	(536)	(1)	-	(536)
Production for the year	(852)	(4)	(1)	(857)	(3)	-	(860)
Reserves at December 31, 2022	10,423	31	-	10,453	17	-	10,470

(1) Includes the effects of the write-offs related to the Co-Participation Agreements of Atapu and Sepia fields

(*) Apparent differences in the sum of the numbers are due to rounding off.

In 2022, we incorporated 1,988 million boe of proved reserves by revising previous estimates, including:

(i) addition of 1,279 million boe due to new projects, mainly in Búzios field and in other fields in the Santos and Campos Basins; and

(ii) addition of 709 million boe arising from other revisions, mainly due to good performance of reservoirs in the pre-salt layer of Santos Basin and to the contract term extension of Rio Urucu and Leste do Urucu fields.

We did not have relevant changes related to the variation in the oil price.

The addition in our proved reserves were partially offset by the reduction of 536 million boe, due to the effects of the transfer of interests of 5% of the Surplus Volume of the Transfer of Rights of Búzios field, of the write-offs related to the Co-Participation Agreements of Atapu and Sepia fields and of sales of properties in mature fields.

The company's total proved reserve resulted in 10,470 million boe in 2022, considering the variations above and the reduction from 2022 production of 860 million boe. Production refers to volumes that were previously included in our reserves and, therefore, does not consider natural gas liquids, since the reserve is estimated at a reference point prior to gas processing, except in the United States and Argentina. The production also does not consider volumes of injected gas, the production of Extended Well Tests in exploratory blocks and production in Bolivia, since the Bolivian Constitution does not allow the disclosure of reserves.

In 2021, we incorporated 1,969 million boe of proved reserves by revising previous estimates, including:

(i) addition of 1,376 million boe due to new projects, mainly in Búzios field and in other fields in the Santos and Campos Basins. The new projects in Búzios field were made possible due to the acquisition of the Transfer of Rights Surplus and the approval of Búzios Coparticipation Agreement;

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(ii) addition of 429 million boe related to economic revisions, mainly due to the increase in oil prices; and

(iii) addition of 164 million boe arising from technical revisions, mainly due to good performance and increased production experience in reservoirs in the pre-salt layer of Santos Basin.

The additions in our proved reserves were partially offset by the reduction of 11 million boe due to sales of proved reserves.

The company's total proved reserve resulted in 9,878 million boe in 2021, considering the variations above and the reduction from 2021 production of 896 million boe. Production refers to volumes that were previously included in our reserves and, therefore, does not consider natural gas liquids, since the reserve is estimated at a reference point prior to gas processing, except in the United States and Argentina. The production also does not consider volumes of injected gas, the production of Extended Well Tests in exploratory blocks and production in Bolivia, since the Bolivian Constitution does not allow the disclosure of reserves.

In 2020, we incorporated 224 million boe of proved reserves by revising previous estimates, including:

(i) addition of 637 million boe arising from technical revisions, mainly due to good performance and increased production experience in reservoirs in the pre-salt layer of Santos Basin;

(ii) addition of 254 million boe due to approvals of new projects in the Santos and Campos Basins; and

(iii) reduction of 667 million boe related to economic revisions, mainly due to the decrease in oil prices.

In addition, we added 41 million boe to our proved reserves due to extensions and discoveries in the pre-salt of Santos Basin, and reduced 117 million boe due to sales of proved reserves.

The company's total proved reserve resulted in 8,816 million boe in 2020, considering the variations above and the reduction from 2020 production of 923 million boe. Production refers to volumes that were previously included in our reserves and, therefore, does not consider natural gas liquids, since the reserve is estimated at a reference point prior to gas processing, except in the United States and Argentina. The production also does not consider volumes of injected gas, the production of Extended Well Tests in exploratory blocks and production in Bolivia, since the Bolivian Constitution does not allow the disclosure of reserves.

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The tables below present the volumes of proved developed and undeveloped reserves, net, that is, reflecting Petrobras' participation:

	2020				
	Crude Oil	Synthetic Oil	Natural Gas	Synthetic Gas	Total oil and gas
	(mmbbl)		(bcf)		(mmboe)
Net proved developed reserves (*):					
Consolidated Entities					
Brazil	4,858	-	5,714	-	5,810
South America, outside Brazil (1)	-	-	26	-	5
Total Consolidated Entities	4,858	-	5,740	-	5,814
Equity Method Investees					
North America (1)	17	-	7	-	18
Total Equity Method Investees	17	-	7	-	18
Total Consolidated and Equity Method Investees	4,875	-	5,747	-	5,833
Net proved undeveloped reserves (*):					
Consolidated Entities					
Brazil	2,676	-	1,833	-	2,982
South America, outside Brazil (1)	-	-	-	-	-
Total Consolidated Entities	2,676	-	1,833	-	2,982
Equity Method Investees					
North America (1)	1	-	1	-	1
Total Equity Method Investees	1	-	1	-	1
Total Consolidated and Equity Method Investees	2,678	-	1,833	-	2,983
Total proved reserves (developed and undeveloped)	7,552	-	7,580	-	8,816

(1) South America oil reserves includes 21% of natural gas liquid (NGL) in proved developed reserves. North America oil reserves includes 6% of natural gas liquid (NGL) in proved developed reserves and 5% of NGL in proved undeveloped reserves.

(*) Apparent differences in the sum of the numbers are due to rounding off.

	2021				
	Crude Oil	Synthetic Oil	Natural Gas	Synthetic Gas	Total oil and gas
	(mmbbl)		(bcf)		(mmboe)
Net proved developed reserves (*):					
Consolidated Entities					
Brazil	4,711	10	5,591	18	5,656
South America, outside Brazil (1)	1	-	79	-	14
Total Consolidated Entities	4,712	10	5,669	18	5,670
Equity Method Investees					
North America (1)	15	-	6	-	16
Total Equity Method Investees	15	-	6	-	16
Total Consolidated and Equity Method Investees	4,727	10	5,675	18	5,686
Net proved undeveloped reserves (*):					
Consolidated Entities					
Brazil	3,695	-	2,865	-	4,173
South America, outside Brazil (1)	1	-	98	-	17
Total Consolidated Entities	3,696	-	2,963	-	4,190
Equity Method Investees					
North America (1)	2	-	1	-	2
Total Equity Method Investees	2	-	1	-	2
Total Consolidated and Equity Method Investees	3,698	-	2,964	-	4,192
Total proved reserves (developed and undeveloped)	8,425	10	8,639	18	9,878

(1) South America oil reserves includes 24% of natural gas liquid (NGL) in proved developed reserves and 24% of NGL in proved undeveloped reserves. North America oil reserves includes 2% of natural gas liquid (NGL) in proved developed reserves and 3% of NGL in proved undeveloped reserves.

(*) Apparent differences in the sum of the numbers are due to rounding off.

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	2022				
	Crude Oil (mmbbl)	Synthetic Oil	Natural Gas (bncf)	Synthetic Gas	Total oil and gas (mmboe)
Net proved developed reserves (*):					
Consolidated Entities					
Brazil	4,185	-	5,447	-	5,093
South America, outside Brazil (1)	1	-	91	-	16
Total Consolidated Entities	4,186	-	5,538	-	5,109
Equity Method Investees					
North America (1)	14	-	5	-	15
Total Equity Method Investees	14	-	5	-	15
Total Consolidated and Equity Method Investees	4,200	-	5,543	-	5,124
Net proved undeveloped reserves (*):					
Consolidated Entities					
Brazil	4,723	-	3,641	-	5,330
South America, outside Brazil (1)	1	-	82	-	14
Total Consolidated Entities	4,724	-	3,723	-	5,345
Equity Method Investees					
North America (1)	2	-	1	-	2
Total Equity Method Investees	2	-	1	-	2
Total Consolidated and Equity Method Investees	4,726	-	3,724	-	5,347
Total proved reserves (developed and undeveloped)	8,926	-	9,267	-	10,470

(1) South America oil reserves includes 24% of natural gas liquid (NGL) in proved developed reserves and 24% of NGL in proved undeveloped reserves. North America oil reserves includes 2% of natural gas liquid (NGL) in proved developed reserves and 4% of NGL in proved undeveloped reserves.

(*) Apparent differences in the sum of the numbers are due to rounding off

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(v) Standardized measure of discounted future net cash flows relating to proved oil and gas quantities and changes therein

The standardized measure of discounted future net cash flows, related to the above proved oil and gas reserves, is calculated in accordance with the requirements of Codification Topic 932 – Extractive Activities – Oil and Gas.

Estimated future cash inflows from production in Brazil are computed by applying the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. Future price changes are limited to those provided by contractual arrangements existing at the end of each reporting year. Future development and production costs are those estimated future expenditures necessary to develop and produce year-end estimated proved reserves based on current costs, including abandonment costs, assuming continuing economic conditions. Estimated future income taxes (including future social contributions on net income - CSLL) are calculated by applying appropriate year-end statutory tax rates. The amounts presented as future income taxes expenses reflect allowable deductions considering statutory tax rates. Discounted future net cash flows are calculated using 10% mid-period discount factors. This discounting requires a year-by-year estimate of when the future expenditures will be incurred and when the reserves will be produced.

The valuation prescribed under Codification Topic 932 – Extractive Activities – Oil and Gas requires assumptions as to the timing and amount of future development and production costs. The calculations are made as of December 31 each year and should not be relied upon as an indication of Petrobras' future cash flows or the value of its oil and gas reserves.

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Standardized measure of discounted future net cash flows:

	Consolidated entities			Equity Method Investees
	Brazil	South America	Total	
December 31, 2022				
Future cash inflows	983,826	837	984,663	1,581
Future production costs	(399,655)	(357)	(400,012)	(273)
Future development costs	(62,548)	(128)	(62,676)	(21)
Future income tax expenses	(178,412)	(88)	(178,500)	-
Undiscounted future net cash flows	343,211	264	343,475	1,287
10 percent midyear annual discount for timing of estimated cash flows (1)	(151,828)	(124)	(151,951)	(401)
Standardized measure of discounted future net cash flows	191,383	141	191,524	886
December 31, 2021				
Future cash inflows	612,924	587	613,511	1,129
Future production costs	(264,158)	(261)	(264,419)	(329)
Future development costs	(44,027)	(107)	(44,134)	(28)
Future income tax expenses	(104,568)	(61)	(104,628)	-
Undiscounted future net cash flows	200,171	159	200,330	772
10 percent midyear annual discount for timing of estimated cash flows (1)	(85,391)	(70)	(85,461)	(303)
Standardized measure of discounted future net cash flows	114,780	89	114,869	470
December 31, 2020				
Future cash inflows	333,248	69	333,317	667
Future production costs	(182,534)	(51)	(182,585)	(465)
Future development costs	(31,236)	(16)	(31,252)	(48)
Future income tax expenses	(46,862)	-	(46,862)	(79)
Undiscounted future net cash flows	72,616	2	72,618	75
10 percent midyear annual discount for timing of estimated cash flows (1)	(26,638)	-	(26,638)	(1)
Standardized measure of discounted future net cash flows	45,978	1	45,979	74

(1) Semiannual capitalization

Apparent differences in the sum of the numbers are due to rounding off.

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Changes in discounted net future cash flows:

	Consolidated entities			Equity Method Investees
	Brazil	South America	Total	
Balance at January 1, 2022	114,780	89	114,869	470
Sales and transfers of oil and gas, net of production cost	(54,230)	(62)	(54,291)	(235)
Development cost incurred	6,883	31	6,913	29
Net change due to purchases and sales of minerals in place	(17,030)	-	(17,030)	-
Net change due to extensions, discoveries and improved recovery related costs	-	-	-	10
Revisions of previous quantity estimates	64,535	17	64,553	82
Net change in prices, transfer prices and in production costs	129,462	122	129,584	349
Changes in estimated future development costs	(23,317)	(39)	(23,356)	(4)
Accretion of discount	11,478	14	11,492	93
Net change in income taxes	(41,178)	(17)	(41,194)	-
Other - unspecified	-	(15)	(15)	92
Balance at December 31, 2022	191,383	141	191,524	886
Balance at January 1, 2021	45,978	1	45,979	74
Sales and transfers of oil and gas, net of production cost	(38,074)	(43)	(38,117)	(177)
Development cost incurred	6,035	44	6,079	37
Net change due to purchases and sales of minerals in place	(246)	-	(246)	-
Net change due to extensions, discoveries and improved recovery related costs	-	-	-	10
Revisions of previous quantity estimates	41,211	205	41,416	30
Net change in prices, transfer prices and in production costs	108,268	58	108,326	401
Changes in estimated future development costs	(19,900)	(119)	(20,019)	3
Accretion of discount	4,598	-	4,598	49
Net change in income taxes	(33,089)	(47)	(33,136)	48
Other - unspecified	-	(9)	(9)	(7)
Balance at December 31, 2021	114,780	89	114,869	470
Balance at January 1, 2020	88,121	69	88,190	1,412
Sales and transfers of oil and gas, net of production cost	(24,908)	(14)	(24,922)	(94)
Development cost incurred	5,664	3	5,666	57
Net change due to purchases and sales of minerals in place	(847)	-	(847)	(1,047)
Net change due to extensions, discoveries and improved recovery related costs	509	-	509	-
Revisions of previous quantity estimates	3,160	(35)	3,125	(10)
Net change in prices, transfer prices and in production costs	(54,606)	(145)	(54,751)	(375)
Changes in estimated future development costs	(4,716)	97	(4,618)	67
Accretion of discount	8,812	9	8,821	12
Net change in income taxes	24,788	24	24,812	51
Other - unspecified	-	(7)	(7)	1
Balance at December 31, 2020	45,978	1	45,979	74

Apparent differences in the sum of the numbers are due to rounding off.

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Climate change (unaudited)

The Company considered the impacts related to its climate goals and climate risks in its Strategic Plan (PE). The assumptions and projections of the Plan baseline scenario are used for certain accounting estimates, including the value in use used in asset impairment tests (note 4.2).

i) Climate goals

In 2021, the Company assumed the ambition to neutralize emissions in activities under our control (Scopes 1 and 2) and influence partners to achieve the same ambition in non-operated assets, within a period compatible with the Paris Agreement (net zero ambitions). However, the Company recognizes that there are relevant technological gaps for achieving its net zero ambitions.

The central objective of the Paris Agreement is to strengthen the global response to the threat of climate change by keeping the global temperature rise this century well below 2°C compared to pre-industrial levels and by striving to limit the temperature rise to 1.5 °C.

The Company's net zero ambition adds to the portfolio of sustainability commitments with a horizon of 2025 and 2030, where 6 commitments are related to the mitigation of greenhouse gases (GHG):

- Reduction of absolute operating emissions by 30% by 2030 (compared to 2015);
- Zero routine flaring by 2030, as per the World Bank's Zero Routine Flaring initiative;
- Reinjection of 80 MM ton CO₂ by 2025 in CCUS (Carbon Capture, Usage and Storage) projects;
- Greenhouse Gas (GHG) intensity in the E&P segment: achieve portfolio intensity of 15 kgCO_{2e}/boe by 2025, maintained at 15 kgCO_{2e}/boe by 2030;
- GHG intensity in the Refining segment: Achieve an intensity of 36 kgCO_{2e}/CWT by 2025 and 30 kgCO_{2e}/CWT by 2030; and
- Consolidation of the 55% reduction (compared to 2015) in the intensity of methane emissions in the upstream segment by 2025, reaching 0.29 t CH₄/thousand tHC.

The above commitments do not constitute guarantees of future performance by the Company and are subject to assumptions that may not materialize and to risks and uncertainties that are difficult to predict.

The Company's commitments to reduce GHG emissions, as well as the ambition to zero its net operating GHG emissions (scopes 1 and 2) up to 2050, were considered in the preparation of PE 23-27, plan updated every year.

ii) Climate risks

Risk of transition to a low-carbon economy

The risk of the transition to a low-carbon economy is mainly reflected in the price of Brent, demand for products and the price of carbon.

The Baseline scenario of the PE contemplates climate and environmental policies that are in line with the goals already announced, in their most general aspects. In such a scenario, there is greater concern with mobility and air quality in large urban centers. More direct solutions for the energy transition, driven by large cities and driven by population pressure, characterize this scenario. The global energy matrix has undergone important changes, especially with regard

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to the participation of coal and renewable sources. The result of this scenario is a more diversified energy matrix, with growth in the share of renewables and commodity prices in line with what has been observed historically.

In this context, the Base scenario considers an oil price range ranging from an average of US\$ 85/bbl in 2023 and reaching US\$ 55/bbl from 2030 onwards, that is, price expectations similar to the Announced Pledges scenario (APS) by the International Energy Agency, which is aligned with a 50% probability of keeping the temperature increase below 1.7°C by 2100. The APS scenario assumes that all aspirational targets announced by governments are met on time and in full, including its long-term net zero and energy access targets.

The valuation of the portfolio in the Base scenario of the Company used for approval of the Strategic Plan is carried out without the incidence of the carbon price. Despite the publication of Decree No. 11,075/2022, the definition of the instrument to be adopted in Brazil is still being discussed by the federal legislature (PL 412-2022), and the regulated sectors and segments will still be defined within the scope of the national executive power. Thus, at the moment, there are uncertainties regarding the functioning of a future carbon market in Brazil, due to the lack of sufficient and reliable information about the future intentions of regulators that allow considering the impact of the price of carbon in the valuation of our portfolio for accounting estimates purposes. More than 97% of the Company's operational GHG emissions occur in Brazilian territory.

When simulating the net present value of our portfolio in the Base scenario, through sensitivity to the price of Brent and the price of carbon contained in the APS scenario of the International Energy Agency, it was verified that there would be a 23% total positive impact when compared to the value calculated based on the internal assumptions detailed above.

The simulation considers the impact of the Brent price in the APS scenario only on the E&P segment and the maintenance of margins in the other segments. Regarding the effect of the carbon price in the simulation, the carbon price of the APS scenario was adopted, applied based on assumptions referenced in international carbon markets in operation, since there are still uncertainties regarding the functioning of a future carbon market in Brazil. In the APS scenario, a carbon price range of US\$ 40/bbl in 2030 is considered, going to US\$ 110/bbl in 2040 and reaching US\$ 160/bbl from 2050.

Physical Risks

The company identifies and monitors the physical parameters considered potentially more susceptible to variations that may cause changes in standards in the operating conditions of its assets, such as water availability for our refineries and thermoelectric plants, and wave, wind and ocean current patterns for our platforms .

For environmental variables in the oceanic region, we currently rely on technological partners to simulate atmospheric conditions, ocean circulation and future waves under the effect of climate projections in the Santos, Campos and Espírito Santo Basins, which concentrate approximately 90% of current production of the company. For the studied offshore meteoceanographic variables, in general, over the useful life of our assets, the magnitude of the impacts is within the safety parameters considered in our projects.

The operating conditions of the assets affect certain accounting estimates of the Company.

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Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing, adequately maintaining and assessing the effectiveness of internal control over financial reporting. Such internal control is a process designed by, or under the supervision of our CEO and CFO, and effected by our board of directors, management and other employees.

The internal control over financial reporting is designed to provide reasonable assurances regarding the reliability of financial reporting and of the preparation of our consolidated financial statements for external purposes, in accordance with IFRS, as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk of becoming inadequate because of changes in its conditions and assumptions.

Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2022 based on the criteria established in "Internal Controls – Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of Treadway Commission ("COSO"). Our management has concluded that our internal control over financial reporting was effective.

Jean Paul Terra Prates

Chief Executive Officer

Rodrigo Araujo Alves

Chief Financial Officer and Chief Investor Relations Officer



Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Petróleo Brasileiro S.A. - Petrobras
Rio de Janeiro

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated statements of financial position of Petróleo Brasileiro S.A. – Petrobras and subsidiaries (“the Company”) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, changes in shareholders’ equity and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s consolidated financial statements and an opinion on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other



procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the measurement of the defined benefit obligations for pension and health care plans

As discussed in notes 4.3 and 17.3 to the consolidated financial statements, the Company sponsors defined benefit pension and health care plans that provide supplementary retirement benefits and medical care to its employees. As of December 31, 2022, the defined benefit obligations for these pension and health care plans were US\$ 11,246 million. The measurement of the Company's defined benefit obligations with respect to these plans requires the determination of certain actuarial assumptions. These assumptions include the discount rates and projected medical and hospital costs. The Company hires external actuarial professionals to assist in the process of determining the actuarial assumptions and the valuation of the defined benefit obligations for its pension and health care plans.

We identified the assessment of the measurement of the defined benefit obligations for the pension and health care plans as a critical audit matter. Subjective auditor judgment was required because changes to the discount rates and projected medical and hospital costs used to determine the defined benefit obligations can cause significant changes to the measurement of the defined benefit obligations for the pension and health care plans.

The following are the primary procedures we performed to address this critical audit matter:

- we evaluated the design and tested the operating effectiveness of certain internal controls over the Company's process for determining the defined benefit obligations for pension and health care plans. This included controls related to the determination, review and approval of the discount rates and projected medical and hospital costs;
- we evaluated the scope of the work, competency, and objectivity of the external actuarial professionals hired by the Company to assist in the process of determining the actuarial

assumptions and the measurement of the defined benefit obligations for the pension and health care plans. This included assessing the nature and scope of the work performed by these external actuarial professionals and their professional qualifications and experience; and

- we involved actuarial professionals with specialized skills and knowledge, who assisted in evaluating the Company's discount rates and projected medical and hospital costs including comparisons to external sources.

Evaluation of the impairment testing of exploration and production cash generating units

As discussed in notes 4.1(b), 4.2 and 25 to the consolidated financial statements, for the purposes of impairment testing, the Company identifies its cash generating units ("CGUs"), estimates the recoverable amount of these CGUs and compares the recoverable amount with the carrying amount of these CGUs. The carrying amount of the exploration and production CGUs as of December 31, 2022 was US\$ 8,307 million. For the year ended December 31, 2022, the amount of impairment losses recognized in relation to the exploration and production CGUs was US\$ 628 million.

We identified the evaluation of the impairment testing of exploration and production CGUs as a critical audit matter. A high degree of complexity and subjectivity of auditor judgment was involved in evaluating the Company's determination of these CGUs and the estimate of the recoverable amount. The determination of exploration and production CGUs requires auditor judgment in the consideration of operational factors that impact the interdependencies between oil and gas assets. These interdependencies alter the aggregation or segregation of the oil and gas assets into CGUs. The expected future cash flows used to determine the recoverable amount depend on certain assumptions about the future including average Brent oil and natural gas prices; exchange rate (Brazilian Real / US Dollar); capital and operating expenditure and volume and timing of recovery of the oil and gas reserves. The recoverable amount is also sensitive to changes in the discount rate. The assessment of these assumptions required significant auditor judgment.

The following are the primary procedures we performed to address this critical audit matter:

- we evaluated the design and tested the operating effectiveness of certain internal controls over the Company's impairment assessment process. These included controls related to the review and approval of the Company's determination of the CGUs and of the key assumptions used to estimate the recoverable amount;
- for changes in exploration and production CGUs during the year, we assessed the operational factors considered by the Company when determining these changes by comparing to information obtained from internal and external sources;
- we evaluated the Company's internally prepared projections of recovery of oil and gas reserves, by comparing them with estimated volumes certified by an external reservoir specialist hired by the Company and, for a selection of CGUs, with historical production;
- we evaluated the scope of the work, competency, and objectivity of the internal engineers responsible for the estimate of the oil and gas reserves, as well as the external reservoir specialist hired by the Company that certified the estimated reserve volumes. This included assessing the nature and scope of the work they were engaged to perform and their professional qualifications and experience;
- we evaluated, for a selection of CGUs, the Company's projected future capital and operating expenditures by comparing these projections with the latest approved business and management plan and long-term budgets;
- we evaluated the Company's ability to accurately project cash flows by comparing, for a selection of CGUs, the prior years' estimated cash flows for the year ended December 31, 2021 with actual cash flows in this year; and



- we involved a valuation professional with specialized skill and knowledge, who assisted in evaluating certain assumptions used in the impairment testing such as the discount rates, average Brent oil and natural gas prices and the exchange rates by comparing them against available external market data.

Evaluation of provisions and disclosures for certain specific labor, civil and tax lawsuits

As discussed in notes 4.4 and 18 to the consolidated financial statements, the Company is involved in labor, civil and tax lawsuits during the normal course of its activities. The Company records provisions for these lawsuits when it is probable that an outflow of resources embodying economic benefits will be required to settle a present obligation and when the outflow can be reasonably estimated. The Company discloses a contingent liability whenever the likelihood of an outflow to settle a present obligation is considered possible, or when the likelihood is considered probable, but it is not possible to reasonably estimate the amount of the outflow.

We identified the evaluation of the provisions and / or disclosures for certain specific labor, civil and tax lawsuits as a critical audit matter. Challenging auditor judgment and effort was required due to the subjective nature of the estimates and assumptions. Specifically, judgments about the likelihood of an outflow and estimates of the amounts of outflows.

The following are the primary procedures we performed to address this critical audit matter:

- we evaluated the design and tested the operating effectiveness of certain internal controls over the Company's evaluation of lawsuits. These included controls related to the review and approval of the determination of the likelihood of an outflow to settle a present obligation and the estimate of amounts of outflows, as well as over the financial statement disclosures;
- we evaluated the scope of work, competency, and objectivity of the internal and external legal counsel that determined the likelihood of an outflow to settle a present obligation and the estimate of the amounts of outflows. This included assessing the nature and scope of the work performed by the internal and external legal counsel and their professional qualifications and experience;
- we obtained and evaluated letters received directly from the Company's external legal counsel and from the Company's in-house legal counsel that included an assessment of the likelihood of loss and the estimate of the amounts of outflows. For certain specific legal proceedings, we compared these assessments and estimates to those used by the Company and evaluated the sufficiency of the Company's legal contingency provisions and disclosures; and
- we evaluated the Company's ability to accurately estimate amounts to be paid related to labor, civil and tax lawsuits by comparing the amounts paid upon resolution of legal proceedings during the year to the provision amounts as of the prior year end.

Evaluation of the estimate of the provision for decommissioning costs

As discussed in notes 4.1(c), 4.5 and 19 to the consolidated financial statements the Company records a provision for decommissioning costs which reflects its obligations to restore the environment and dismantle and remove oil and gas production facilities upon abandonment. As of December 31, 2022, the carrying amount of the provision for decommissioning costs was US\$18,600 million. The Company's estimate of the provision for decommissioning costs includes assumptions in relation to the nature and extent of the environmental restoration and the dismantlement and removal work as well as the cost and timing of this work.

We identified the evaluation of the estimate of the provision for decommissioning costs as a critical audit matter. Subjective auditor judgment was necessary to evaluate the key assumptions used in the estimate such as the extent of the decommissioning work that will be required by contract and regulations, the criteria to be met when the decommissioning actually occurs and the costs and related timing of the future payments that will be incurred in the decommissioning process.

The following are the primary procedures we performed to address this critical audit matter:



- we evaluated the design and tested the operating effectiveness of certain internal controls over the Company's process to estimate the provision for decommissioning costs. This included controls related to the determination, review and approval of the key assumptions, including estimates of the timing of abandonment and estimated costs of decommissioning;
- we assessed the estimates of timing until abandonment used by the Company by comparing the production curves and life of the oil and gas reserves used with estimated reserve volumes certified by the external reservoir specialist hired by the Company;
- we assessed the estimated costs of decommissioning by comparing certain key assumptions with external industry reports;
- we evaluated the scope of the work, competency, and objectivity of the internal engineers that estimated the production curves and life of the oil and gas reserves and the external reservoir specialist hired by the Company that certified the estimated reserve volumes. This included assessing the nature and scope of the work they were engaged to perform and their professional qualifications and experience; and
- we evaluated the Company's ability to accurately forecast costs of decommissioning work, by comparing a selection of actual expenditure incurred with the decommissioning of oil and gas production facilities during the year to the Company's forecasts of that expenditure at the prior year-end.

/s/ KPMG Auditores Independentes Ltda.

KPMG Auditores Independentes Ltda.

We have served as the Company's auditor since 2017.

Rio de Janeiro – Brazil
March 29, 2023



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