CLIMATE CHANGE
SUPPLEMENT

PETROBRAS

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A MESSAGE FROM OUR SENIOR MANAGEMENT

Letter from the Chairman of the Board of Directors and Chairman of the HSE Committee

We believe that Petrobras' 70 years of experience, combined with cooperation with governments, society and the entire industry value chain, will be crucial for conducting a responsible and just energy transition and achieving the goals of the Paris Agreement. The annual publication of the Climate Change Supplement is an important tool in our commitment to maintaining open and ongoing dialogue with our stakeholders.

We acknowledge the challenges and opportunities associated with Climate Change and we have reflected our best choices for Petrobras' long-term sustainability in our Strategic Plan.

In this Climate Change Supplement, we reinforce our support for Petrobras' position regarding climate change, according to the ambitions and investments approved in the 2024-2028+ Strategic Plan. The solutions and plans announced for new energies and decarbonization of operations represent our commitment to a sustainable and low-carbon future.
Emissions management is now an integral part of our strategy and governance. We have already achieved important results and are moving towards operational emission neutrality by 2050.

Pietro Adamo Sampaio Mendes
Chairman of the Board of Directors

Rosangela Buzanelli Torres
Director, Chairman of the HSE Committee

Letter from the President of Petrobras and Energy Transition and Sustainability Executive Officer

It is with great pleasure that we present to you the new Climate Change Supplement.

The release of this edition reflects the transparency of our achievements and plans in pursuit of decarbonization and a just energy transition in the face of the climate change. We aim to provide our stakeholders with a view of the consolidation of our emission reduction journey, as well as our positioning and commitment in view of the challenges posed by Climate Change.

The year 2023 was of great importance for Petrobras. We turned our eyes to the future, seeking to integrate ourselves into the global transition process towards a low-carbon economy. Our priority is to enable solutions in new energies and decarbonize our operations, focusing on emission reduction and promoting social inclusion and development. Therefore, in the 2024-2028+ Strategic Plan, we have revised our strategic elements, reconciling current businesses with the search for diversification through the evaluation of investments in low-carbon projects.

We intend to invest from 2024 to 2028 a total of $102 billion, the largest investment plan among Brazilian companies, with $11.5 billion allocated to decarbonization of operations, businesses and R&D in new low-carbon competencies. We plan to allocate $5.5 billion of this amount to low-carbon energies, including investments in wind (onshore and offshore) and photovoltaic solar, hydrogen and CCUS (CO_2 capture, utilization and storage).

Continuing our investments in bio-refining, we are planning to expand the production of fuels with renewable content in our refineries, with resources earmarked for the installation of two dedicated plants for aviation bio-kerosene and 100% renewable diesel. We are also analyzing hydrogen projects, as well as CCUS (CO_2 capture, utilization and storage) projects, in which we are world leaders.

Regarding the decarbonization of operations, we are committed to continuing ongoing actions and tackling new challenges. Between 2015 and 2023, our absolute operational greenhouse gas emissions decreased by 41%, in line with our target of a 30% reduction by 2030. In January 2023, we joined the Oil and Gas Methane Partnership (OGMP 2.0) and in the same year, we were recognized with the Gold Standard seal. We also made progress in our commitments related to climate change: We increased the methane

emission reduction target in the upstream segment by 2025 and extended the commitment until 2030, in addition to announcing the ambition to maintain current levels of absolute operational emissions during the 2024-28+ Strategic Plan five-year period, despite the expected increase in production and the forecasted start-up of new processing units. We announced our adherence to OGDC (Oil and Gas Decarbonization Charter, an initiative unveiled at COP28 that brings together 50 oil and gas companies around ambitions to lead the sector to emission neutrality by, or before, 2050, as well as the elimination of routine flaring by 2030.

We are aware of our role in the global challenge of mitigating the effects of climate change and we are moving towards the forefront of a just energy transition, recognizing the need to continue producing oil at low cost and with low emissions, given its importance to the global economy in the coming decades. We aim for a gradual, responsible and growing transition.

Through dialogue and planning, involving the entire value chain and leveraging solutions from its experience and synergies with current businesses, Petrobras is positioning itself in a transitioning world. This Climate Change Supplement reinforces our commitment to decarbonization and integrity, demonstrating our determination to act with ethics, transparency and coherence between speech and practice.

Jean Paul Prates
President of Petrobras

Maurício Tolmasquim
Energy Transition and Sustainability Executive Officer

EXECUTIVE SUMMARY

CLIMATE CHANGE SUPPLEMENT - SHORT VERSION

Worldwide scenario and brazilian context

The 28th United Nations Climate Change Conference (COP28) pointed out significant gaps in the implementation of climate commitments and indicated the urgency of reducing greenhouse gas emissions and transforming energy systems. Countries were called upon to review and strengthen their goals for 2030, considering their different circumstances, pathways, social and national approaches.

The energy sector must continue to contribute to minimizing climate change, maintaining or increasing the contribution of renewable sources and improving the efficiency of fossil fuels, through investments and measures that reduce and offset their emissions. In this context, the oil and gas industry must seek to decarbonize its operations and meet the growing demand for low-carbon products, providing accessible and reliable energy while also contributing to a Just Transition and the achievement of the Sustainable Development Goals (SDGs).

Brazilian Context

With a distinct profile compared to the global scenario, Brazil has distinct regional vocations and a predominantly renewable electricity mix, resulting from effective public policies implemented for many decades.

With the potential to expand its supply of renewable energy and low-carbon intensity oil and gas competitively and cost-effectively, Brazil has a significant role to play in achieving global climate mitigation goals, having already committed to aligning its Nationally Determined Contribution (NDC) with the 1.5°C global warming limit, with adaptation and mitigation goals that consider a Just Transition.

With a distinctive profile in the decarbonization scenario, Brazil's energy mix is one of the least carbon-intensive in the world, being the second least intensive in the entire G20 (33.34 $KgCO_2/GJ$, compared to the global average of 56.91 $KgCO_2/GJ$). In 2023, it achieved record-breaking renewable energy generation in the electricity mix (amounting to 93.1%), expected to increase to 95% by 2026 (IEA, 2024).

Despite the listed competitive advantages, Brazil faces challenges because of its high dependence on long-distance road transport, responsible for 33% of Brazil's final energy consumption. The concentration on road transport results in a high demand for liquid fuels per GDP, around 0.33 boe/thousand USD GDP in 2022, equivalent to twice the global average.

In this context, the use of biofuels plays a relevant role in the carbon intensity of the Brazilian transport sector, using existing technologies and infrastructure. Brazil is the only country where the use of biofuels exceeds 10% of the transportation energy demand (OECD-FAO, 2022), reaching approximately 22% market share in the transportation segment (EPE, 2023), a level much higher than expected by the IEA in 2030 in its Net Zero Emissions scenario by 2050 (NZE).

Positioning, strategies and commitments

We work on building future visions through scenario development and monitoring. In all three scenarios described below, a slowdown and subsequent reduction of fossil sources is observed, with an increase in demand for renewables and low-carbon solutions, especially in developed and developing markets.

Adaptation (former Growth scenario): The world adapts to climate changes. Despite citizens' perception of the risks of climate change, actions evolve moderately, with low international coordination.

Negotiation (former Base scenario): Emissions reduction through negotiation, balancing interests. The perception of climate change risks guides countries and society to make more significant efforts in emission reduction.

Commitment (former Resilience scenario): A significant commitment allows for an accelerated transition. The incidence of extreme climate events increases the perception of risks associated with climate change.

We project the peak of our production in the early 2030s, a horizon aligned with the International Energy Agency's (IEA) projections that identify scenarios with a greater participation of Latin American oils in the global supply and peak oil and gas demand by the late 2020s.

Even with lower global demand, the natural decline in production will require investments in Exploration & Production to meet the demand. We hold relevant reserves, and our strategy is to continue to supply oil and gas in a competitive and environmentally responsible manner, balancing oil and gas investment with the search for portfolio diversification into low-carbon businesses.

Our positioning, actions and performance related to carbon management and climate change are supported by three fundamental pillars: (1) Transparency, Carbon Management and Just Transition; (2) O&G Competitiveness; and (3) Low Carbon Business and Scope 3.

Our Energy Transition and Decarbonization Strategies

The 2024-2028+ Strategic Plan has brought forth new movements that materialize the transformations that have been envisioned to prepare Petrobras for the future. Fossil fuels continue to play a significant role in the global energy mix, but the advancement of renewables is an important and necessary path.

New strategic directions have been established, in light of a Just Transition and business practices that favor the achievement of the Sustainable Development Goals (SDGs), aiming to prepare the company for a more sustainable future, in pursuit of a just and safe energy transition in the country, balancing the current focus on oil and gas with the search for portfolio diversification into low-carbon businesses.

The strategies dealing in Environmental, Social and Governance (ESG) and Innovation have been reinforced in order to encourage the aspects of business sustainability and the development of new energies.

Ambitions and Commitments to reduce carbon footprint

Our long-term ambition is to neutralize emissions in activities under our control (Scopes 1 and 2) by 2050 and influence partners to achieve the same ambition in non-operated assets[1].

We have joined the "Aim for zero methane emissions" initiative promoted by the Oil and Gas Climate Initiative (OGCI) and we have the ambition of achieving "near-zero methane emissions" by 2030.

In the 2024-28+ Strategic Plan, we have added a new ambition to consolidate the already achieved 40% reduction in our absolute operational emissions, maintaining the current emission level over the five-year period, even with the expected production increase in the coming years with the operation of fourteen FPSO-type platforms[2].

Our six commitments to reduce carbon footprint focusing on climate change mitigation cover 100% of emissions under our operational control (Scopes 1 and 2), bringing targets for the 2025 and 2030 horizons, as detailed in the table:

			GOAL 2025	GOAL 2030
OPERATIONAL ABSOLUTE EMISSIONS	Ambition not to exceed the 2022 level between 2024-28	**Millions tCO_2e**	**NA**	**-30%***
ROUTINE FLARING	100% of the new projects adopt zero routing flaring concept	**Millions m^3**	**NA**	**ZERO**
REINJECTION IN CCUS PROJECTS	World's largest offshore CO2 reinjection program	**Millions tCO_2e** (accumulated)	**80**	**NA**
GHG INTENSITY IN E&P SEGMENT	Operational excellence and energy efficiency	**$kgCO_2e/boe$****	**15**	**15**
GHG INTENSITY IN REFINING SEGMENT	Optimization and improvements in energy performance	**$kgCO_2e/CWT$*****	**36**	**30**
UPSTREAM METHANE EMISSIONS INTENSITY	Consolidation of 62% reduction	**tCH_4/mil t HC**	**0.25**	**0.20 Expanded target**

* Compared to 2015
** The kg CO2e/boe indicator considers in its denominator the gross production of oil and gas ("wellhead").
*** The kg CO2e/CWT indicator uses the activity unit named CWT (Complexity Weighted Tonne) considering both the effect of processed cargo and the complexity of each refinery, allowing for the comparison of GHG emission potential between refineries with different profiles and sizes.

1 Our ambition refers to emissions in Brazilian territory, where over 98% of our operational emissions occur. For other emissions, we aim to achieve neutrality within a period compatible with the Paris Agreement, in line with local commitments. 2 Thirteen of which are operated by us and one by third parties.

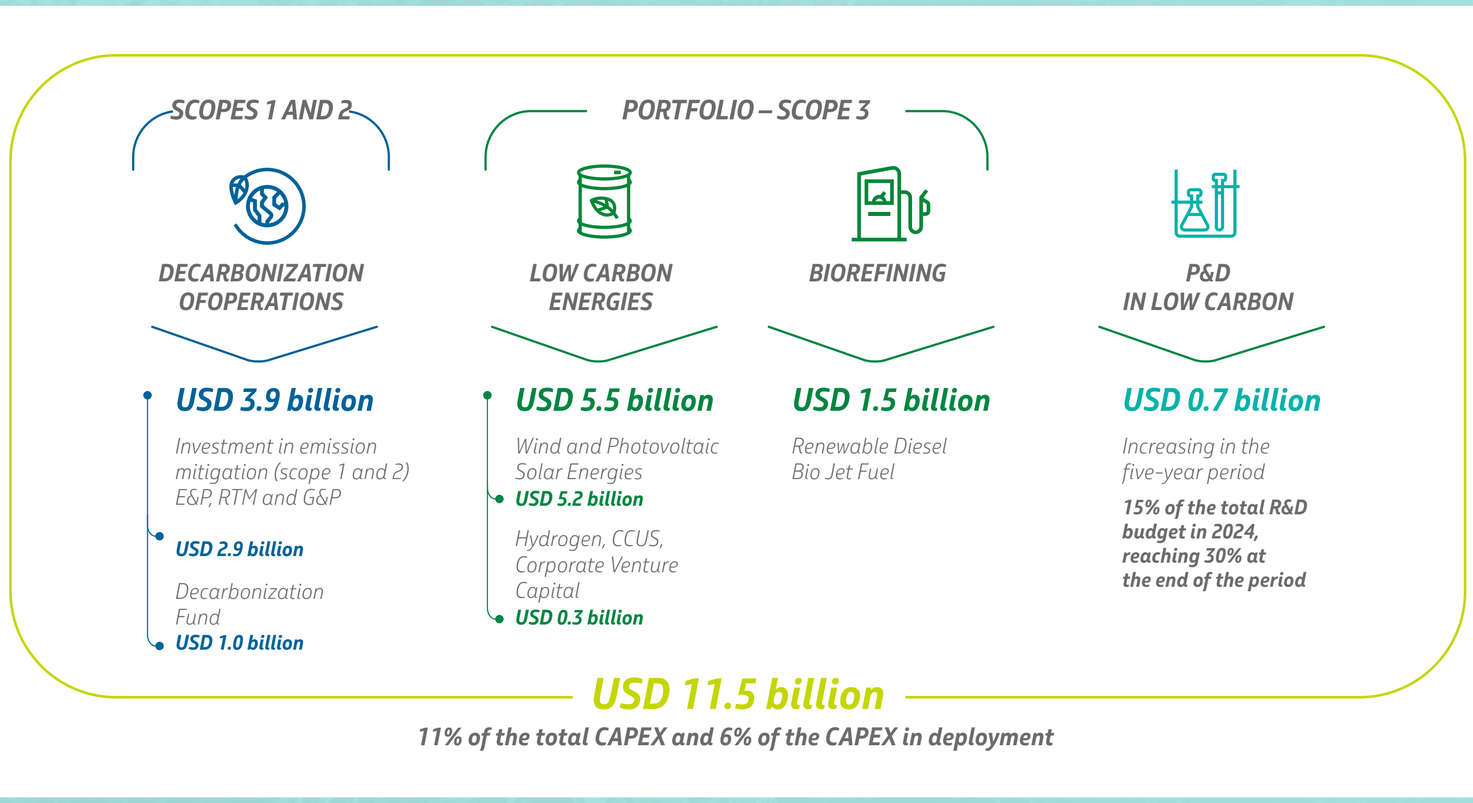
We plan to achieve the expected results through mitigation actions intrinsic to our operations and we consider the possibility of using carbon credits as a supplemental strategy. We are committed to high-quality carbon credits and integrity, with utilization aligned with international best practices, ensuring transparency and traceability.

Credits generated in Brazilian biomes, which bring socioeconomic benefits to the country, will be prioritized.

Investments in Low Carbon

To sustain our commitments and reinforce our low-carbon positioning, our 2024-28+ Strategic Plan provides for a CAPEX of USD 11.5 billion for actions in this theme, more than twice the investment compared to the last Strategic Plan.

In order to meet the growing demand from society for low carbon products and in order to advance the discussion of Scope 3, we aim to expand the supply of renewable fuels, with a potential to increase up to four times the capacity of biofuel production by 2030. In the renewable electricity generation segment, we see potential to match renewable generation capacity by means of renewable sources with thermal power generation capacity by 2030, seeking integration of various energy sources and energy efficiency and security. Considering this potential, we can reduce the emission intensity of our portfolio by up to 3% by 2030[3].



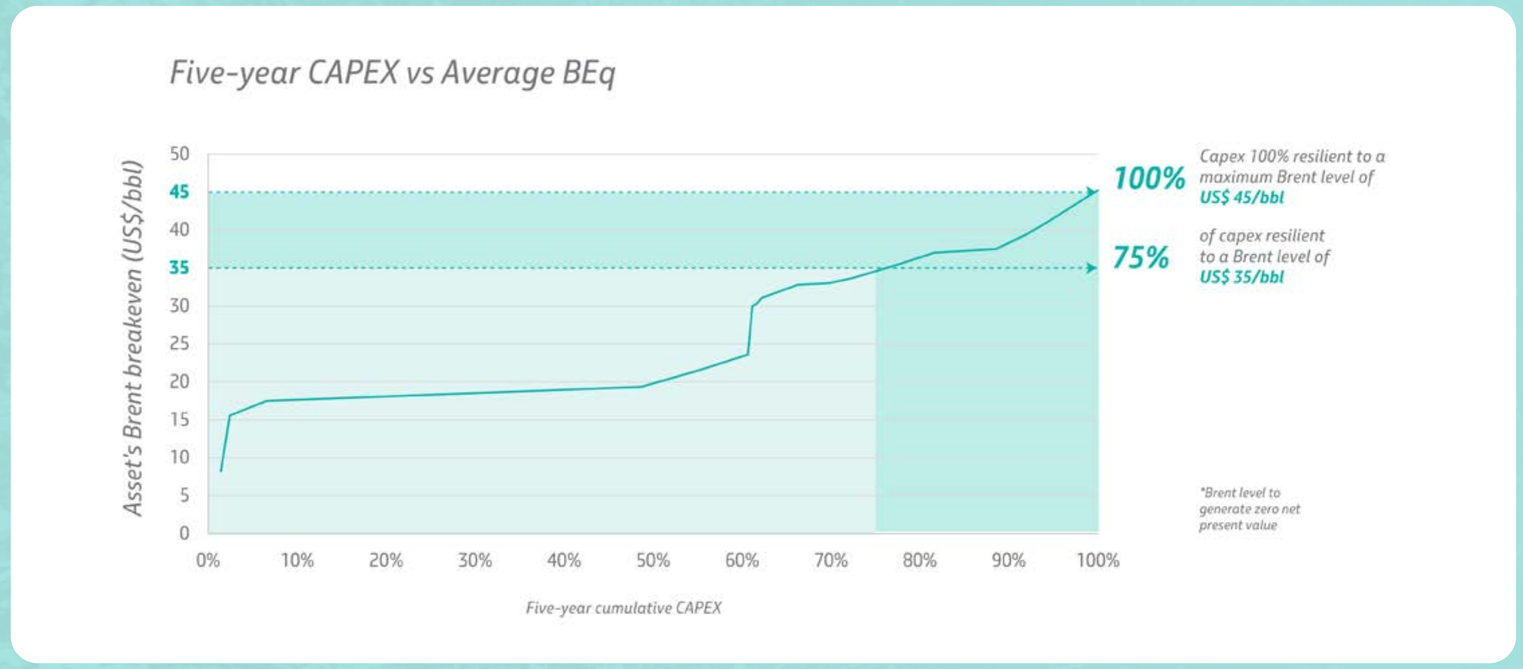
3 Note: The values presented refer to projections of the potential impact that diversification may cause on the metrics presented, not being ambitions or commitments.

Financial resilience analysis

We aim to continue producing oil and gas in a manner compatible with scenarios predicting a slowdown in demand for fossil fuels.

Our Negotiation scenario (the reference scenario for quantifying our plan) considers an oil price range varying from an average of USD 80/bbl in 2024, reaching USD 70/bbl in 2028, similar price expectations to the APS (Announced Pledges Scenario) scenario from the International Energy Agency, which is aligned with a 50% probability of keeping the temperature increase below 1.7°C by 2100.

Our Investment Project approval governance requires that all Exploration and Production (E&P) projects must also be resilient to the Commitment scenario, which points to a long-term Brent of USD 45/bbl. This way, there is an incentive for only projects compatible with accelerated energy transition scenarios to comprise our portfolio.



Our resilience tests indicate that 100% of our E&P investment projects create value, meaning they have positive net present value (NPV), under the assumptions of the APS scenario from the IEA, aligned with a 50% chance of achieving a temperature rise of 1.7°C, ensuring our resilience when confronted with this external scenario. Additionally, the tests indicate that approximately 70% of our E&P investment projects also demonstrate economic attractiveness in the Net Zero scenario from the IEA, with an extremely accelerated transition and compatible with a 50% chance of achieving a temperature rise of 1.5°C.

International Energy Agency Scenarios

APS – *Announced Pledges Scenario:* Scenario assumes that governments will meet, in full and on time, all of the climate related commitments that they have announced, including longer term net zero emissions targets and pledges in Nationally Determined Contributions (NDCs), considering carbon pricing for countries not yet regulated, such as Brazil. The APS is associated with a temperature rise of 1.7°C above pre-industrial levels in 2100 (with a 50% probability). This scenario is consistent with the goals of the Paris Agreement, which aims to decarbonize global economies and sets as one of its long-term objectives limiting the increase in global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C.

NZE – *Net Zero Scenario:* Normative scenario portrays a pathway for the global energy sector to achieve net-zero CO_2 emissions by 2050, with advanced economies reaching net-zero emissions before others. This scenario models significant changes in energy demand profiles to achieve neutrality by 2050 (with a 50% probability of limiting the temperature rise of 1.5°C above pre-industrial levels in 2100).

STEPS - *Stated Policies Scenario:* Scenario designed to provide a sense of the prevailing direction of energy system progression, based on a detailed review of the current policy landscape. The STEPS scenario is associated with a temperature rise of 2.4°C in 2100 (with a 50% probability).

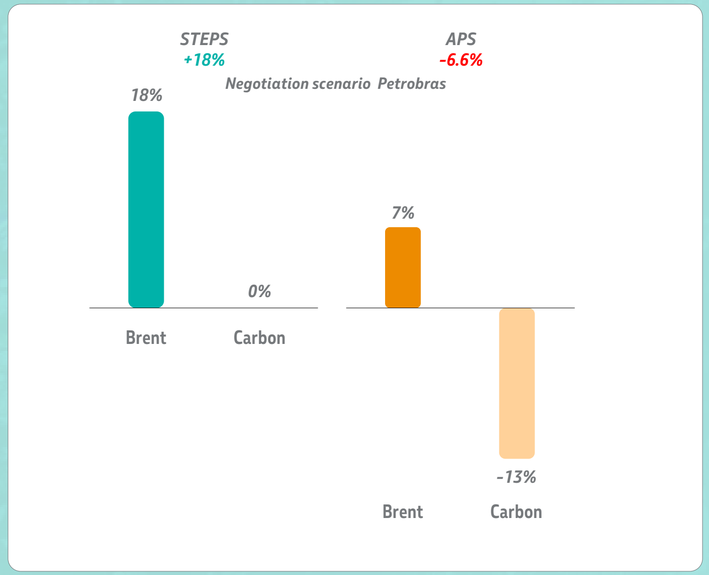
Portfolio financial resilience analysis

We carried out simulations of the net present value of our portfolio in the Negotiation scenario, through sensitivity to the brent price and the carbon price of the external reference scenarios (STEPS - Stated Policies Scenario, APS - Announced Pledges Scenario).

The total impact on each scenario is the sum of the two outcomes, as shown in the graphs. The calculation of oil price sensitivity considers the impact of Brent price only in the E&P segment, while maintaining the margins of the other segments. For the calculation of the carbon price effect, we consider a monetary value charged per ton of CO2 emissions starting from 2028, and the existence of free emission quotas, taking into account the uncertainties regarding the form and dynamics of a future carbon market in Brazil.

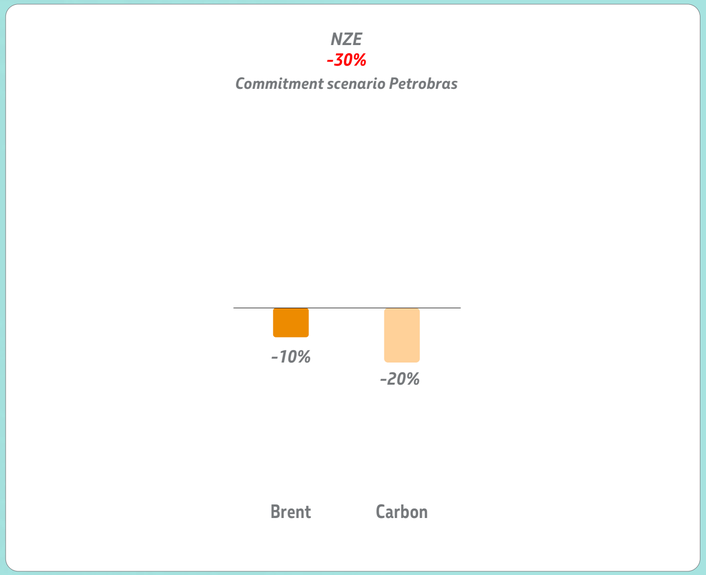
Using the assumptions of the external STEPS scenario, there would be an increase in the portfolio value compared to the calculation with our assumptions of the Negotiation scenario (18%) due to the higher oil prices assumed in the IEA scenario.

In comparison with the external APS scenario, the gain in portfolio value with slightly higher Brent in the short term assumed by IEA is offset by the carbon cost,



as the Negotiation scenario does not consider the incidence of carbon price. The simulation results in a 6.6% loss in portfolio value .

We also conducted our resilience assessment using the price assumptions of the NZE normative scenario. In this case, we simulated the variation of the portfolio value compared to our Commitment scenario, in order to simulate the impact of the IEA's normative scenario in relation to our corporate scenario of accelerated transition. In this case, there would be a potential impact of a 30% reduction in portfolio value due to the combined effect of lower long-term Brent price and higher carbon price in the IEA scenario. We emphasize that the prices in our Commitment scenario are aligned



with the prices of the NZE scenario in the short and medium term horizon.

When compared to the Negotiation scenario, there would be a negative impact of 56% on the net present value (NPV) due to both the incidence of carbon prices and the significantly lower oil price in the NZE scenario.

It is important to highlight that the NZE scenario is highly challenging and far from the current reality, requiring an immediate shift in the energy paradigm with the transformation of the global energy system. The scenario projects a demand of 24 million barrels of oil per day by 2050, with an associated decline in oil prices to approximately $42/bbl by 2030 and $25/bbl by 2050.

Metrics and performance

for over a decade, we have been working on decarbonization actions and have a trajectory of gradual and consistent reduction in GHG emissions. These are significant gains in carbon efficiency that must be measured by their cumulative contribution over time.

Reducing absolute emissions

Total 2015: 78 million tCO_2e; 2023: 46 thousand tCO_2e;

Except thermal energy 2015: 58 million tCO_2e; 2023: 43 thousand tCO_2e

Approximate 41% drop in total operational emissions since 2015.

Excluding thermoelectricity, drop of about 24% since 2015

Low dispatch of thermal power plants and implemented actions in operational segments, as well as some divestments, are the main drivers of the result

Ambitions and Goals (Base for comparison - 2015)

Total operational emissions reduction by 30% by 2030

Ambition: Net zero by 2050

More efficiency and less emissions in Exploration and Production

Emissions per barrel (intensity) more than halved since 2009.

2023: 14.2 $kgCO_2e/boe$

Tupi and Búzios (pre-salt oils): 50% of our production in 2023 with performance of 9.9 $kgCO_2e/boe$ and 10.2 $kgCO_2e/boe$ respectively

Low flaring and high utilization of associated gas: average of 97.6% in 2023

All new projects adopt zero flaring concepts in its routine

CCUS-EOR
13 million tCO_2 reinjected in the year 2023, with a total of 53.7 million tCO_2.

Largest CCUS project in the world (in annual injection, as per the Global Status of CCUS 2022 report)

Ambitions and Goals

Achieve GHG intensity in the E&P segment of 15 $kgCO_2e/boe$ until 2025, maintaining 15 $kgCO_2e/boe$ by 2030

Zero routine flaring by 2030
*according to World Bank initiative for the E&P segment

Reinjection of 80 million tCO_2 by 2025 in CCUS projects (Carbon Capture, Utilization and Storage)

Less emissions and more methane efficiency
Methane emissions intensity
2015: 0.65 tCH_4/thousand tHC
2023: 0.22 tCH_4/thousand tHC

Absolute methane emissions
Reduction of approximately 68%
2015: 150 thousand tCH_4
2023: 48 thousand tCH_4

Consolidation of a 62% reduction in methane emission intensity in the upstream segment by 2025, reaching 0.25 tCH_4/thousand tHC (revised from 0.29 tCH_4/thousand tHC to 0.25 tCH_4/thousand tHC) and addition of a new target of 0.20 tCH_4/thousand tHC by 2030

More Efficiency in Refining

GHG emission intensity in carbon refining reduced by approximately 14% since 2015
2015: 43.0 $kgCO_2e$/CWT
2023: 36.8 $kgCO_2e$/CWT.

Ambitions and Goals

Achieve GHG intensity in the Refining segment of 36 $kgCO_2e$/CWT by 2025 and 30 $kgCO_2e$/CWT by 2030

Energy: energy security in the low carbon mix

Average intensity of electrical energy supply 0.32 tCO_2e/MWh
Result affected by low dispatch of thermal power plants in 2023

Ambitions and Goals

Net Zero Ambition

Neutrality Ambition

In addition to our short- and medium-term commitments, our long-term ambition is to neutralize emissions in activities under our control (Scopes 1 and 2) by 2050 and influence partners to achieve the same ambition in non-operated assets.

Transparency in value chain emissions (Scope 3)

We maintain transparency in the emissions of the value chain of our global energy product portfolio. In addition to our operational emissions (Scopes 1 and 2), we calculate our Scope 3 emissions, including indirect emissions related to the use (category 11) and processing (category 10) of our products. In 2023, our Scope 3 categories 10 and 11 emissions exceeded 440 million tCO_2e, amounting to 90.5% of the total emissions of the value chain.

GHG Protocol Gold Seal

Our inventory has been published voluntarily since 2002 and verified annually by a third party, representing our pioneering spirit in GHG management. We are also founding members of the Brazilian GHG Protocol Program and we publish our inventory in its Public Emission Registry. Our 2023 inventory was classified as a Gold Seal for the sixth consecutive year, a standard of excellence in data quality and availability.

Governance and incentives

Governance of Climate Change-Related Risks and Opportunities

Our governance for the topic of climate change and energy transition is structured so that these issues are addressed at all levels of the company. We have the active supervision of the Board of Directors' Health, Safety and Environment committee, with executive committees advising the Executive Board and committees at the tactical level in all segments. Integration of the theme between the different levels is carried out by the Executive Management of Climate Change and Decarbonization, dedicated to the theme of emissions, climate and energy performance and linked to the Executive Board for Energy Transition and Sustainability, created in 2023.

The Greenhouse Gas Goals Achievement Indicator (IAGEE), which represents the consolidation of meeting the greenhouse gas intensity targets of our E&P and Refining segments, is one of our top metrics and impacts the variable compensation of all employees, including senior management.

Decarbonization Incentive in Investment Projects

Since 2021, mandatory sensitivities related to Scopes 1, 2 and 3 emissions have been carried out in the economic-financial analysis of investment projects in the Negotiation scenario.

As of October 2023, during the phase-gate process of all E&P projects, these began to incorporate the internal carbon price into their economic calculation in the three corporate scenarios. According to the established governance, only economically attractive projects in all scenarios are sanctioned.

The adoption of the internal carbon price aims to accelerate the implementation of greenhouse gas mitigation opportunities to achieve our carbon commitments.

In addition to financial requirements, new projects must have efficiency and emission intensity within the established limits for the project type/segment and evaluate technologies and solutions that promote GHG reduction.

Management of Socio-environmental Risks and Climate in Projects

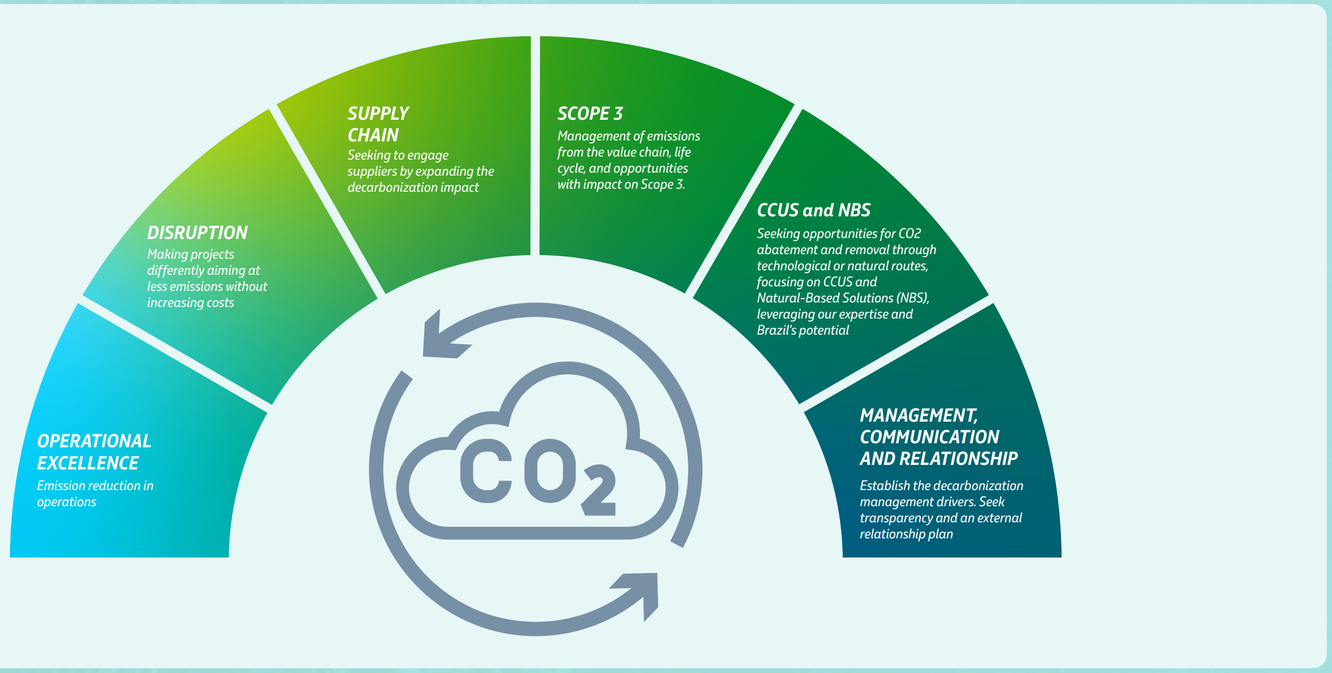
In addition to the legal obligations of the environmental licensing process, we have defined an internal system for assessing socio-environmental and climate risks, in addition to other aspects, during the phase-gate process of the investment projects. The system requires the presentation of project information compatible with each development phase, which must be included in the package of decision supporting documents, including the Technical and Economic Feasibility Study Report (EVTE) of the phase. Among the documents that make up the EVTE Report of investment projects are the Social Responsibility, Health, Safety and Environment (HSE) Report and Climate Report.

CARBON NEUTRAL PROGRAM AND DECARBONIZATION INITIATIVES

Carbon Neutral Program: Leveraging Solutions for the Net Zero Trajectory

The challenge of achieving operational emission neutrality involves the need to technically and financially enable the technologies that will support this commitment. In order to overcome this challenge, the Carbon Neutral Program was structured for the purpose of strengthening our current position in low carbon, as well as accelerating and reducing the costs of decarbonization solutions, bringing greater competitiveness to the Company. The Program is the cross-cutting instrument that seeks an integrated corporate vision of all our initiatives, developed by different business areas.

This program has the following lines of action:



The Carbon Neutral Program has a Decarbonization Fund aimed at accelerating the decarbonization of operations (Scopes 1 and 2), for the purpose of meeting climate commitments and net zero ambition. The fund has a specific budget, currently USD 1.0 billion for the five-year period (2024-28). The governance for access to the fund involves analyses to identify and prioritize decarbonization alternatives, using criteria such as MACC (Marginal Abatement Cost Curve), total GHG abated, technological maturity, project phase (window of opportunity), among others. We also considered the evaluation of the Net Present Value of the alternatives considering the internal price of carbon and submission of the selected projects in specific governance.

Decarbonization Initiatives

Operational Excellence

Initiatives seeking operational excellence involve assets in operation and new projects for reducing greenhouse gas emissions. We continuously improve and update the energy performance requirements to be applied in the development of investment projects in the Conceptual and Basic Project phases.

Among our main decarbonization initiatives are:

· Reduction of flaring, venting and fugitive emissions;

· Energy efficiency actions in E&P;

· RefTOP Program Phase 2;

· Reduction of emissions in natural gas processing;

· Reduction of emissions in electricity generation;

· Reduction of emissions in downstream logistics and support activities for Exploration and Production.

Disruption

New concepts and technologies are necessary to ensure the path towards emission neutrality at affordable costs. These technologies aim to reduce carbon emissions, increase energy efficiency and promote the transition to cleaner and more renewable energy sources.

· Among the concepts under evaluation and study, we highlight:

· Capture of exhaust gases from power generation turbines;

· Importation of energy from an external source (Topside and subsea electrification);

· Ultra-deep seawater capture.

Supply Chain

We are intensifying collaboration to accelerate the maturity of our suppliers in engaging in decarbonization, focusing on knowledge sharing, encouraging the measurement and disclosure of emissions and assessing effective technologies for reducing operational emissions.

Scope 3

In 2023, we launched new, more sustainable products, demonstrating our efforts to providing the market quality products aligned with the needs of the energy transition. Through our BioRefino Program, we invested in projects for the production of a new generation of more modern and sustainable fuels. Diesel R, with renewable content and produced by co-processing, is already available in the market and we expect to build dedicated plants for the production of sustainable aviation kerosene and diesel from 100% renewable raw material.

We introduced to the market the new Petrobras Podium Carbon Neutral gasoline, the first in the Brazilian market to have its greenhouse gas (GHG) emissions fully offset. In this product, we offset the GHG emissions generated throughout the gasoline's lifecycle, from origin to use, through carbon credits generated by forest preservation actions in national biomes. We also launched a portfolio of new asphalt products, the CAP Pro line, with lower GHG emissions, greater reuse of pavement residues and more sustainable application. In the maritime sector, we began tests for bunker fueling with renewable content which are pioneering in the country.

CCUS and NBS

We seek opportunities for CO_2 abatement and removal through technological or natural routes, focusing on Carbon Capture, Utilization and Storage (CCUS) and Nature-Based Solutions (NBS), leveraging our expertise and Brazil's potential.

In addition to the pre-salt CCUS-EOR projects, we are studying the feasibility of developing CCUS hub projects in Brazil, aimed at providing services for both our own emissions and those of third parties.

In 2023, we made our entry into the voluntary carbon credit market, acquiring 175 thousand credits from the Envira Amazon REDD+ project - developed in the city of Feijó, in Acre.

Risks and opportunities

We have a history of managing risks related to climate change. Our risk management process is integrated, which allows for the standardization of analysis and effective management of all identified risks. The set of risks related to climate change and energy transition was assessed with a very high degree of severity, being monitored by the senior management.

Transition and Physical risk factors of Climate Change were identified, which are monitored and reviewed annually: Market, Technological, Regulatory, Legal, Reputational and Physical, such as water scarcity for onshore assets and metoceanographic changes for offshore assets.

We note the progress in our studies to improve the predictability of physical climate changes. Based on these analyses, the company estimates that the offshore structures in the Southeast basins, which total the highest percentage of our production (96%), are adequately sized for the expected changes in wind, wave and ocean currents patterns in the region.

The interest in low-carbon products and services brings new opportunities to the business, which can lead to revenue diversification and reduced carbon exposure. In this regard, we are working on further studies in offshore wind, hydrogen and carbon capture and storage, in addition to our involvement in the bio-refining segment. With the disclosure of the 2024-28+ Strategic Plan, the expansion of such movement became evident, with the inclusion of onshore solar and wind generation areas as potential low-carbon businesses.

The main activities we are developing to expand our involvement in low-carbon businesses are:

· Solar and onshore wind: partnerships, acquisitions and investments in project development in Brazil;

· Offshore Wind: studies in Brazil aiming for participation in area auctions and environmental licensing in Brazil;

· CCUS: pilot project in Rio de Janeiro, along with studies for CCUS projects;

· Hydrogen: studies for projects in Brazil;

· Biorefining: expansion of biorefining projects, focusing on BioQAV and Renewable Diesel.

Engagement

We value transparency in our dealings with our stakeholders, guided by our Code of Ethical Conduct, our social responsibility and HSE policies and our Supplier Code of Conduct. We systematically monitor and adhere to world-class climate reporting codes such as sustainability reporting guidelines of the the Global Reporting Initiative (GRI Standards), the DJSI (Dow Jones Sustainability Index) requirements, CDP and TCFD (Task Force on Climate-related Financial Disclosures), as well as guidance from our

industry, such as the IPIECA supplemental reporting methodology (Oil and Gas Industry Voluntary Reporting Guide). We contribute to and adhere to reporting and transparency parameters agreed upon in the OGCI (Oil and Gas Climate Initiative).

Our strategic approach to addressing climate change involves a comprehensive assessment of the external landscape, aiming to integrate the perspectives of our stakeholders into crucial decision-making processes for climate change mitigation. This includes gap analysis, identification of synergies in positions and incorporation of new insights into our communication strategy, both internally and externally. We firmly believe in the importance of collaboration in transitioning to a low-carbon economy and as part of this commitment, we have established partnerships with other companies and the science, technology and innovation community.

We seek to extend our collaboration beyond the industry, committing to dialogue and the search for solutions. We work in partnership with prominent institutions that promote sustainable development, such as the Organization for Economic Cooperation and Development (OECD); World Economic Forum (WEF); Brazilian Business Council for Sustainable Development (CEBDS); National Confederation of Industry (CNI); State Industrial Federations and Brazilian Climate Change Forum.

We also seek to contribute to technical discussions aimed at strengthening the assumptions and definitions of the legal and regulatory framework related to instruments and mechanisms for enabling technologies and businesses that contribute to climate change mitigation and adaptation. Through direct representatives or technical representatives of the associations to which we are linked, we participate in events such as public hearings promoted in the National Congress and meetings with representatives of the executive branch to discuss the regulation of activities and businesses, such as the carbon market, carbon capture and storage, hydrogen production and offshore wind energy generation.

1 - WORLDWIDE SCENARIO AND BRAZILIAN CONTEXT

Climate Emergency and the role of fossil fuels

The 28th United Nations Climate Change Conference (COP28), held in the United Arab Emirates, took place at a decisive moment of pressure for a global response to climate change. The first cycle of the Global Stocktake (GST), based on climate science and the conclusions of the Intergovernmental Panel on Climate Change's (IPCC) 6th Assessment Report, had the purpose of assessing collective progress towards the goals of the Paris Agreement.

Its outcome pointed out significant gaps in the implementation of climate commitments and indicated the urgency of reducing greenhouse gas emissions and transforming energy systems. In this regard, countries were called upon to review and strengthen their 2030 targets in their Nationally Determined Contributions (NDCs) by the end of 2024, aiming to contribute to global efforts, considering their different circumstances, pathways, equity and national approaches, based on the adoption of the following solutions:

- Tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030;
- Accelerating efforts towards the phase-down of unabated coal power;
- Accelerating efforts globally towards net zero emission energy systems, utilizing zero- and low-carbon fuels, well before or by around mid-century;
- Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science;
- Accelerating zero- and low-emission technologies, including, inter alia, renewables, nuclear, abatement and removal technologies such as carbon capture and utilization and storage, particularly in hard-to-abate sectors, and low-carbon hydrogen production;
- Accelerating the substantial reduction of non-carbon-dioxide emissions globally, in particular methane emissions by 2030;
- Accelerating the reduction of emissions from road transport on a range of pathways, including through development of infrastructure and rapid deployment of zero- and low-emission vehicles;
- Phasing out inefficient fossil fuel subsidies that do not address energy poverty or just transitions, as soon as possible;

The IPCC's 6th Assessment Report indicates multiple pathways to achieving the goal of the Paris Agreement. These pathways involve the implementation of all available energy sources and technological solutions, including oil and gas, renewable fuels and negative emission technologies.

The energy sector is expected to contribute to minimizing the effects of climate change by increasing the contribution of renewable sources and improving the efficiency of fossil fuels through investments and measures that reduce and offset their emissions.

In turn, the oil and gas industry must seek to decarbonize its operations, considering the relevance and materiality of its emissions, estimated at 5.1 $GtCO_2e$ (equivalent to 9% of global emissions) (IEA, 2023; UNEP, 2023) and meet the growing demand for low-carbon products, providing affordable and reliable energy, which is essential for economic growth. Additionally, the industry needs to undertake a Just Transition and contribute to the achievement of the United Nations Sustainable Development Goals (SDGs), reducing or avoiding the aggravation of local, regional and inter-country inequalities.

Brazilian Context

With a distinct profile compared to the global scenario, Brazil has distinct regional vocations and a predominantly renewable electricity mix, resulting from effective public policies implemented many decades ago.

In recent years, advances have been observed in the regulatory and normative agenda, notably in offshore wind, carbon capture and storage technology, biofuels and the regulation of carbon markets.

With the potential to expand its supply of renewable energy and low-carbon intensity oil and gas competitively and cost-effectively, Brazil has a significant role to play in achieving global climate mitigation goals, having already committed to aligning its NDC with the 1.5°C global warming limit, with adaptation and mitigation goals that take a Just Transition into consideration.

Sustainable development is one of the relevant topics that connect with international economic cooperation within the discussions of the G20, an international forum composed of the world's leading economies, including industrialized and emerging countries, presided by Brazil for the first time in 2024.

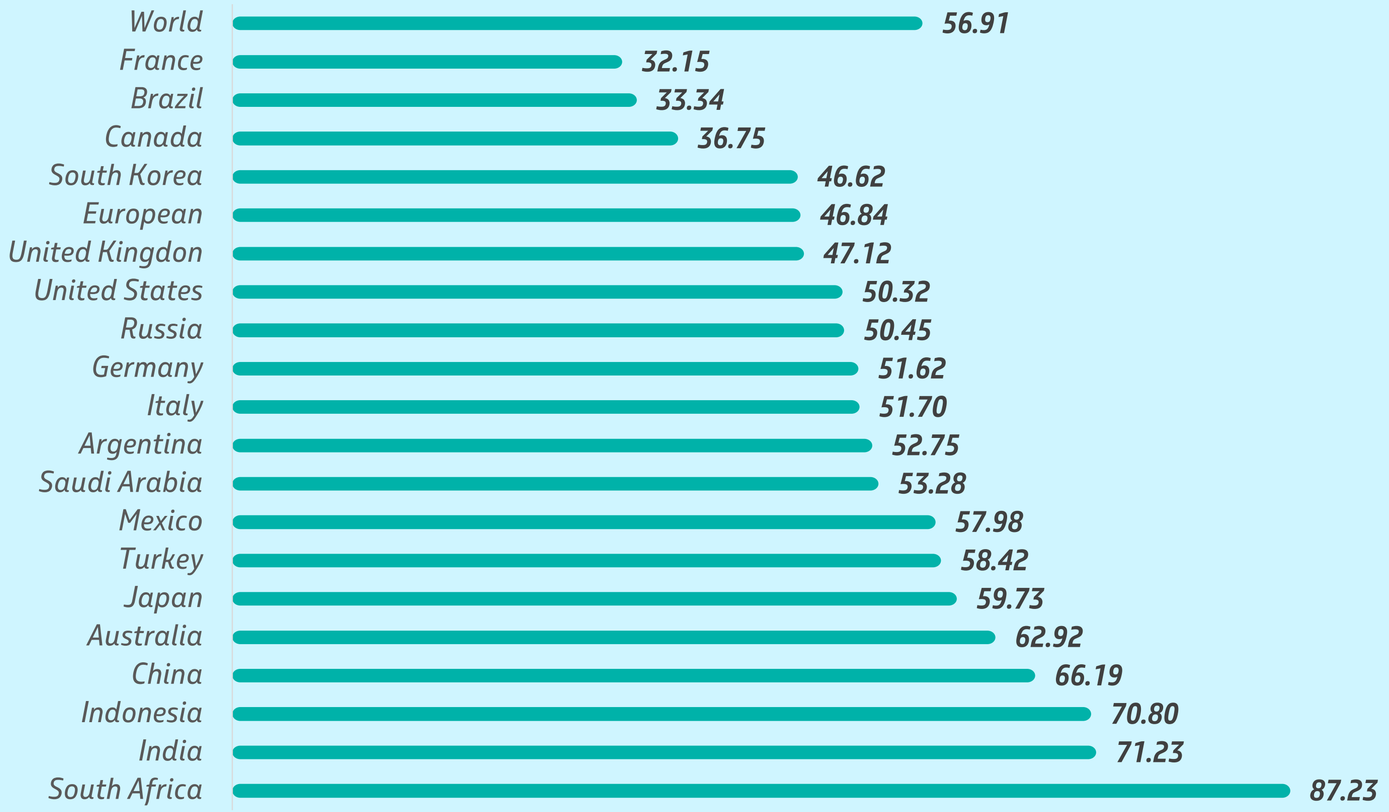
Emission Profile

Brazil has a distinct profile in the decarbonization scenario. While energy production and use emissions predominate globally (about 75%), in Brazil, energy emissions account for 23.2%, with the largest emission categories being land use and land-use change (38%), followed by emissions from the agriculture sector (29%) (MCTI, 2024).

As a result of the abundance of resources and a history of public policies aimed at diversifying and increasing energy security, Brazil has a distinguished position, with a high share of renewables (47%, compared to the global average of 14.1%) and reduced carbon intensity in its energy mix (EPE, 2023).

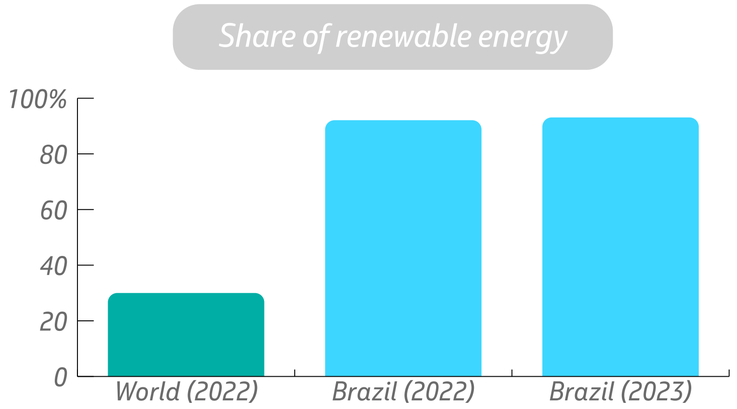
Brazil's energy mix is presented as the second least carbon-intensive among all G20 countries.

***G20:** GHG Intensity of the Energy Sector by Primary Energy Consumption ($KGCO_2/GJ$), 2022*



Graph Note: Own preparation based on "Energy Institute Statistical Review of World Energy 2023" (ENERGY INSTITUTE, 2023) and "National Energy Balance 2023" (EPE, 2023).

In 2023, renewable energy generation in the electricity mix amounted to 93.1%, considered the highest in the country's history and this share is expected to increase to 95% by 2026 (IEA, 2023). This record is attributed to hydroelectric generation and the increase in installed capacity of solar and wind energy, resulting from effective policies and incentives. As a reference, according to the International Renewable Energy Agency (IRENA), a reduction in GHG emissions consistent with the 1.5°C target requires a 90% share of renewable energy in the global electricity mix by 2050 (IRENA, 2023).



Despite the competitive advantages listed, Brazil faces challenges as a result of its high dependence on long-distance road transport. The transportation sector accounts for 33% of Brazil's final energy consumption, with road transport alone amounting to 31%. Its consumption is influenced by several factors, such as per capita GDP, availability and efficiency of logistics infrastructure, environmental policies and people's behavior.

Our road infrastructure results in one of the economies that most require liquid fuels in the world, around 0.33 boe/thousand USD GDP in 2022, equivalent to twice the world average (0.16 boe/thousand USD GDP in 2019), reflecting the economy's sensitivity to its costs (IEA, 2020; EPE, 2023; WORLD BANK, 2024). In this regard, opportunities to increase the efficiency of logistical infrastructure and transport play a significant role in the sector's decarbonization, which may lead to lower primary energy demand and lower cost for the same energy service.

The use of biofuels currently plays a relevant role in the carbon intensity of the Brazilian transport sector, using existing technologies and infrastructure. According to the OECD, Brazil is the only country where the use of biofuels exceeds 10% of the transport energy demand (OECD-FAO, 2022), reaching approximately 22% of the share in the transportation segment (EPE, 2023). As a reference, in the Net Zero Emissions by 2050 Scenario (NZE) from the International Energy Agency (IEA) in 2030, a contribution is expected of 10% from biofuels in the global transportation sector.

2 - POSITIONING, STRATEGIES AND COMMITMENTS

Our positioning on climate change

Considering the broad spectrum of uncertainties faced by the energy sector, we work on building future visions through scenario development and monitoring.

Our scenarios explore new possibilities and dynamics of the energy sector, ranging from geopolitical arrangements and conflicts to changes in consumer habits and behaviors, as well as new technologies and government policies. From all these variables, we seek to map what may be the major critical uncertainty for the future of the energy sector, the pace of the energy transition.

We consider the impacts of the energy transition in our scenarios. Across all scenarios, a slowdown is observed and subsequent reduction of fossil sources and an increase in the demand for renewables and low-carbon solutions, especially in developed and developing markets. Specifically in the Negotiation scenario, used as a reference for quantifying the company's Strategic Plan, we consider that fossil fuels, which currently amount to approximately 80% of primary energy sources, will decrease to around 55% by 2050. The share of oil will decrease from the current 29% to around 21%.

Our Corporate Scenarios

Adaptation
(former Growth scenario)
The world adapts to climate changes. Despite citizens' perception of the risks of climate change, actions evolve moderately, with low international coordination.

Negotiation
(former Base scenario)
Emissions reduction through negotiation, balancing interests. The perception of climate change risks guides countries and society to make more significant efforts in emission reduction.

Commitment
(former Resilience scenario)
A significant commitment allows for an accelerated transition. The incidence of extreme climate events increases the perception of risks associated with climate change.

We hold relevant reserves and it is our priority to continue supplying oil and gas in a competitive and environmentally responsible manner. Even with lower global demand, the natural decline in production will require investments in Exploration & Production to meet the demand.

We continue to invest in oil and gas production development, focusing on excellence in greenhouse gas emission performance and we project the peak of our production for the early 2030's, a horizon aligned with projections from the International Energy Agency (IEA), which identify scenarios with greater participation of Latin American oils in global supply and the peak demand for oil and gas by the end of the 2020's.

Our oil and gas production is integrated downstream, capturing value and trying to meet fossil energy demands while providing products for the low-carbon market.

We are a company in transformation, aiming for leadership in a just energy transition, gradually, responsibly and increasingly.

We plan to expand investments in new energies, balancing investment in oil and gas with the search for portfolio diversification in low-carbon businesses.

We present actions to strengthen transparency and our low-carbon position, with investments in decarbonizing operations, development of products with lower carbon intensity and advances in the diversification of our businesses.

The Pillars of Carbon Management and Climate Change

Our positioning, actions and performance related to carbon management and climate change are supported by three fundamental pillars: (1) Transparency, Carbon Management and Just Transition; (2) O&G Competitiveness; and (3) Low Carbon Business and Scope 3.

TRANSPARENCY, CARBON MANAGEMENT AND JUST TRANSITION

CONFIDENCE IN INFORMATION, PROCESSES AND DECISIONS

Our climate change and energy transition risk management governance is structured so that all levels of the company, including senior management, are involved in the topic.

We work to ensure that carbon risks and opportunities are adequately captured in scenarios, quantified and considered in our choices and decision-making processes, seeking the sustainability of our business and value generation for all stakeholders.

All employees' variable compensations incorporate performance elements linked to carbon intensity commitments in our operations, engaging the workforce in achieving expected results.

We follow TCFD recommendations as a reference in disclosing climate change-related information, promoting carbon transparency for all stakeholders.

O&G COMPETITIVENESS

RESILIENCE AND VALUE OF FOSSIL PORTFOLIO AMIDST TRANSITION

In our understanding, companies will become more competitive in the long-term market the more they are able to produce at low costs and with lower greenhouse gas emissions, thriving in scenarios of low oil prices, carbon pricing and possible oil differentiation practices based on the intensity of GHG emissions in production.

We aim to maintain our operations with a decreasing trajectory of emissions and lower carbon intensity than major companies in the sector, safeguarding the competitiveness of our oils in global markets in a scenario of slowdown and subsequent decline in demand.

We focus on supplying oil and gas in a competitive and environmentally responsible manner, aiming to meet the persistent demand for oil aligned with scenarios compatible with the goals of the Paris Agreement.

LOW CARBON BUSINESS AND SCOPE 3

REDUCTION OF PORTFOLIO EXPOSURE TO CARBON RISK

We recognize that the goals of the Paris Agreement require a profound reduction in greenhouse gas emissions and transformation of energy supply. Our scenarios point to an unequivocal energy transition, albeit at an uncertain pace.

We are anchored in the balance between oil and gas production compatible with society decarbonization scenarios and the progressive development of new low-carbon businesses.

Our strategy involves portfolio diversification as leverage for decarbonization and value generation in the face of transition, through profitable initiatives that make use our technological capacity and project management to exploit the regional competitive advantages of Brazil.

Our Energy Transition and Decarbonization Strategies

The 2024-2028+ Strategic Plan has brought forth new movements that materialize the transformations that have been envisioned to prepare Petrobras for the future. Fossil fuels continue to play a significant role in the global energy mix, but the advancement of renewables is an important and necessary path.

New Elements and Strategic Drivers

Our 2024-28+ Strategic Plan was designed considering the following strategic drivers, established in the first half of 2023, in compliance with current governance practices, the commitment to value generation and our long-term financial sustainability:

- Total attention to people, with priority given to developing, retaining and retraining talent in order to provide the company with an increasingly inclusive, diverse and qualified technical staff to meet the dynamic demands of the market, especially the energy transition.
- Focus on profitable exploration and production assets, with increasing decarbonization of the company's operations and those of its suppliers.
- Emphasis on adapting and improving the current refining park by gaining efficiency and combining renewable raw materials in the development of resilient industrial processes and sustainable products.
- Striving for a just energy transition, in line with international counterparts, primarily through partnerships of technical excellence and social responsibility programs that mitigate the externalities of the company's operations and foster local production chains.
- Taking advantage of Brazil's different potential as a country with continental dimensions and energy capacities that favors sustainable development, by regionalizing the company's activities based on production chains and local operating units.
- Strengthen access to markets and seek the global vanguard in the energy transition, acting internationally through technological and operational partnerships.

Considering these drivers, the strategic elements were revised for the 2024-28+ Strategic Plan to prepare the company for a more sustainable future, in search for a fair and secure energy transition in the country, balancing the current focus on oil and gas with the search for portfolio diversification in low-carbon business, as can be observed in our new versions of Vision, Purpose and Values:

VISION

To be the best diversified and integrated energy company in value generation, building a more sustainable world, reconciling the focus in oil and gas with diversification in low-carbon business (including petrochemical and fertilizing products), sustainability, safety, respect for the environment and total attention to people

PURPOSE

To provide energy that ensures prosperity in an ethical, just, safe and competitive way

VALUES

CARE FOR PEOPLE

INTEGRITY

SUSTAINABILITY

INNOVATION

COMMITMENT TO PETROBRAS AND THE COUNTRY

Our Strategies

Our business strategies aim to make an effective contribution to a prosperous and sustainable future. They represent our major choices, the paths through which we intend to achieve our purposes.

Exploration and Production

Maximize the value of the portfolio with a focus on profitable assets, replenish oil and gas reserves including exploration of new frontiers, increase the supply of natural gas, and promote the decarbonization of operation

Refining, Transportation and Marketing

Act competitively and safely, maximize the capture of value by the adequacy and improvement of our industrial park and supply chain and logistics, seek selfsufficiency in oil products, with vertical integration, more efficient processes, improvement of existing products and development of new products towards a lowcarbon market

Gas and Energy

Act in a competitive and integrated manner in the operation and commercialization of gas and energy, optimizing the portfolio and acting in the insertion of renewable source

Sustainability

Act in low carbon businesses, diversifying the portfolio in a profitable way and promoting the perpetuation of Petrobras

Act in our businesses with integrity and sustainability with safety, seeking decreasing emissions, promoting diversity and social development, contributing to a fair energy transition and training experts in sustainability; and

Innovate to generate value for the business, supporting operational excellence and enabling solutions in new energies and decarbonization

In the 2024-28+ Strategic Plan, **reducing carbon footprint, protecting the environment, taking care of people and operating with integrity** are among our priorities. We reaffirm our ambition for **zero fatalities** and **zero oil spills**, in alignment with our commitment to life and the environment, which are non-negotiable values for us.

We reinforce our position related to ESG themes, integrating their elements into a single vision, with emphasis on four driving ideas, as follows:

Innovation in Low Carbon

Some decarbonization opportunities have considerable technological challenges that need research, development and innovation (RD&I) to overcome throughout our value chain.

Technological innovation has been the foundation for our pioneering spirit over our 70 years and will drive the construction of the future to enable decarbonization pathways, taking into account the social aspect of energy cost. We believe that the competitiveness of renewable electricity generation technologies, liquid fuels with lower carbon footprint, less energy-intensive processes, hydrogen, Carbon Capture, Utilization and Storage (CCUS) and underwater CO_2 separation will be essential for creating new low-carbon energy paradigms, generating value for society.

We are committed to investing in research, development and innovation in low carbon. The development of low-carbon solutions has a 15% allocation of the total RD&I budget in 2024, reaching 30% in 2028.

Our research portfolio explores opportunities in the oil and gas chain and renewables. We have been developing and evaluating technologies that contribute to achieving established decarbonization goals, reducing emissions in internal processes, adding greater sustainability to our products, but also aiming for long-term diversification.

Our main RD&I initiatives in low carbon are:

- **Energy efficiency;**
- **CCUS;**
- **Underwater CO_2 Separation;**
- **Methane Emission Mitigation;**
- **Low Carbon Products;**
- **Low Carbon Hydrogen;**
- **Wind and Solar Generation.**

Just Transition

Just energy transition is an attribute of the decarbonization trajectory, representing, in broad terms, a global effort to progressively reduce greenhouse gas emissions to limit global warming to 1.5°C, while reducing or avoiding the aggravation of local, regional and inter-country social inequalities, fully meeting the United Nations Sustainable Development Goals (SDGs).

Just transition and climate justice, focusing on the most vulnerable groups, were topics in discussion at COP28. As a result of negotiations among the parties, priorities were established for the Work Programme on Just Transition Pathways (WPJT), to be developed from 2024 to 2026 with the involvement of multiple stakeholders and considering specific national circumstances.

In this global scenario, companies all over the world are being called upon to play a fundamental role in promoting an energy transition that is not only effective from an environmental standpoint but also just and inclusive.
We have the opportunity to lead this process in Brazil by example. We recognize our role in advancing Brazil's sustainable development and reaffirm our commitment to Just Energy Transition, guided by respect for human rights, in the search for expansion of the supply and access to low-carbon energy. In this regard, we are seeking dialogue and collaboration with our stakeholders to accelerate the development of opportunities in renewable energies and the decarbonization of our oil and gas operations, integrating regional vocations into value generation and the expansion of quality jobs.

In the 2024-2028+ Strategic Plan, we have adopted the Just Energy Transition as one of our strategic drivers, reflecting our willingness to go beyond reducing greenhouse gas emissions and providing low-carbon energy and products in line with the purpose of

"Providing energy that ensures prosperity in an ethical, just, safe and competitive manner."

We revised our values in a collaborative process with our employees and the commitment to Just Transition was emphasized within the “Sustainability” value, to guide our decisions, our way of being, how we work and relate. We revised the drivers of our ESG Strategy in light of Just Transition and business practices that favor the success of the Sustainable Development Goals (SDGs), particularly those related to reducing carbon footprint, protecting the environment, caring for people and acting with integrity, focusing on the regions where our businesses and activities have an impact.

As mentioned in the Climate Change Supplement published in 2023, our corporate social responsibility and compliance with legislation, applied in portfolio management (new ventures and divestments) and in mitigating the socio-environmental impacts of our operating assets, are already in line with many aspects applicable to a just transition. Additionally, we are engaged in structuring new projects and initiatives that provide employees, communities and the supply chain with fair opportunities to access and develop new sustainable livelihoods.

To advance the adoption of practices aligned with Just Transition, including the revision of internal rules and the adoption of metrics referenced in the SDGs, we have established 4 main axes:

MAIN AXES

1 SUPPLY AND ACCESS TO LOW-CARBON ENERGY AND PRODUCTS

Expansion of supply and access to low-carbon energy and products and cost-effective decarbonization

2 JOB OPPORTUNITY AND CAPACITY BUILDING

Expansion of job opportunities and capacity building in low-carbon businesses

3 COLLABORATION AND ENGAGEMENT

Collaboration and engagement with stakeholders

4 COMMUNITY SUSTAINABILITY

Diligence for protection and resilience of the communities affected by the transition

TRANSPARENCY AND INNOVATION TRAVERSE ALL THE AXES

Demonstrating our commitment to Just Transition, we revised our Social Responsibility Policy in December 2023, built through a broad listening process, including our goal of promoting the reduction of energy poverty and sustainable development. Following the principle of total attention to people, the new Social Responsibility Policy establishes guidelines for continuous and inclusive dialogue, seeking responsible relationships with communities.

There is also encouragement for professional training and the use of local labor, as well as the development of socio-environmental initiatives in partnership with the government, companies and civil society organizations to promote sustainable development.
We have developed various corporate citizenship practices for the purpose of responding to the demands of communities in the territories where we operate, achieving positive socio-environmental transformations, contributing to a just energy transition, protecting the environment through preservation efforts, restoration actions, biodiversity gains and also consolidating our relationship with stakeholders and strengthening our reputation.
These actions can occur through socio-environmental investments and sponsorships, donations, community relationship actions and volunteer work.

One of our actions that contribute to strengthening vulnerable communities and, therefore, align with just transition practices, is our voluntary socio-environmental investment, structured through the Petrobras Socio-environmental Program. In 2023, we launched the largest public selection in Petrobras' socio-environmental investment history, totaling BRL 432 million invested over 3 years in more than 60 socio-environmental projects in all Brazilian regions. In this selection process, opportunities were defined to support projects for the purpose of guaranteeing human rights, with indigenous peoples and traditional communities identified as priority groups, as well as opportunities whose expected results are related to education for human rights, gender equality and cultural diversity appreciation, as well as the promotion of awareness focusing on environmental justice, fight against racism, promotion of racial equity and fight against prejudice.

In employment and training opportunities, we note our Autonomy and Income Program launched in January 2024, aiming to offer professional training courses, in the form of continued initial training (FIC) and technical courses, to people in situations of socio-economic vulnerability. The program will prioritize marginalized groups, such as women, black people, people with disabilities and refugees. The selected individuals will be trained to work in the Energy sector, in locations within the scope of our operations, aiming to contribute to the implementation of the 2024–2028+ Strategic Plan.

For our employees, we also note the expansion of internal opportunities to work on topics related to energy transition, especially in the Energy Transition Executive Board, at Cenpes and at Petrobras University. We also completed the training of 100% of our workforce in Climate Change and Human Rights, topics intrinsically linked to the construction of the just transition plan.

In expanding the supply and access to low-carbon energy and products, we update our investment and greenhouse gas emission reduction plans annually, seeking to align the pace and scale of actions with progressive advances in technology, evolving risk perception and regulatory changes in the energy transition theme.
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Ambitions and commitments to reduce carbon footprint

We recognize the climate urgency and, for over a decade, have been working on decarbonizing our operations, ensuring a robust trajectory of reducing operational emissions from oil and gas. Our long-term ambition is to neutralize emissions in activities under our control (Scopes 1 and 2) by 2050 and influence partners to achieve the same ambition in non-operated assets[1].

We have joined the "Aim for zero methane emissions" initiative promoted by the Oil and Gas Climate Initiative (OGCI) and we have the ambition of achieving "near-zero methane emissions" by 2030.

In the 2024-28+ Strategic Plan, we have added a new ambition to consolidate the already achieved 40% reduction in our absolute operational emissions, maintaining the current emission level over the five-year period, even with the expected production increase in the coming years with the operation of fourteen FPSO-type platforms[2].

Our six commitments to reduce carbon footprint focusing on climate change mitigation cover 100% of emissions under our operational control (Scopes 1 and 2), bringing targets for the 2025 and 2030 horizons, as detailed in the table below:

			GOAL 2025	GOAL 2030
OPERATIONAL ABSOLUTE EMISSIONS	Ambition not to exceed the 2022 level between 2024-28	**Millions tCO_2e**	**NA**	**-30%***
ROUTINE FLARING	100% of the new projects adopt zero routing flaring concept	**Millions m^3**	**NA**	**ZERO**
REINJECTION IN CCUS PROJECTS	World's largest offshore CO2 reinjection program	**Millions tCO_2e** (accumulated)	**80**	**NA**
GHG INTENSITY IN E&P SEGMENT	Operational excellence and energy efficiency	**$kgCO_2e/boe$****	**15**	**15**
GHG INTENSITY IN REFINING SEGMENT	Optimization and improvements in energy performance	**$kgCO_2e/CWT$*****	**36**	**30**
UPSTREAM METHANE EMISSIONS INTENSITY	Consolidation of 62% reduction	**$tCH_4/mil\ t\ HC$**	**0.25**	**0.20 Expanded target**

** Compared to 2015*
*** The kg CO2e/boe indicator considers in its denominator the gross production of oil and gas ("wellhead").*
**** The kg CO2e/CWT indicator uses the activity unit named CWT (Complexity Weighted Tonne) considering both the effect of processed cargo and the complexity of each refinery, allowing for the comparison of GHG emission potential between refineries with different profiles and sizes.*

1 Note: Our ambition refers to emissions in Brazilian territory, where over 98% of our operational emissions occur. For other emissions, we aim to achieve neutrality within a period compatible with the Paris Agreement, in line with local commitments.
2 Thirteen of which are operated by us and one by third parties.

Of our 6 public commitments related to the carbon theme, the methane emission intensity commitment has been revised to a more challenging outcome. The revision of the target from 0.29 tCH_4/thousand tCO_2e to 0.25 tCH_4/thousand tCO_2e in 2025 and the addition of a new target for the year 2030 of 0.20 tCH_4/thousand tCO_2e, are aligned with various sector initiatives, such as the Oil and Gas Methane Partnership 2.0 (OGMP 2.0), which we joined in January 2023 and the Near Zero Methane Ambition, of which we are signatories.

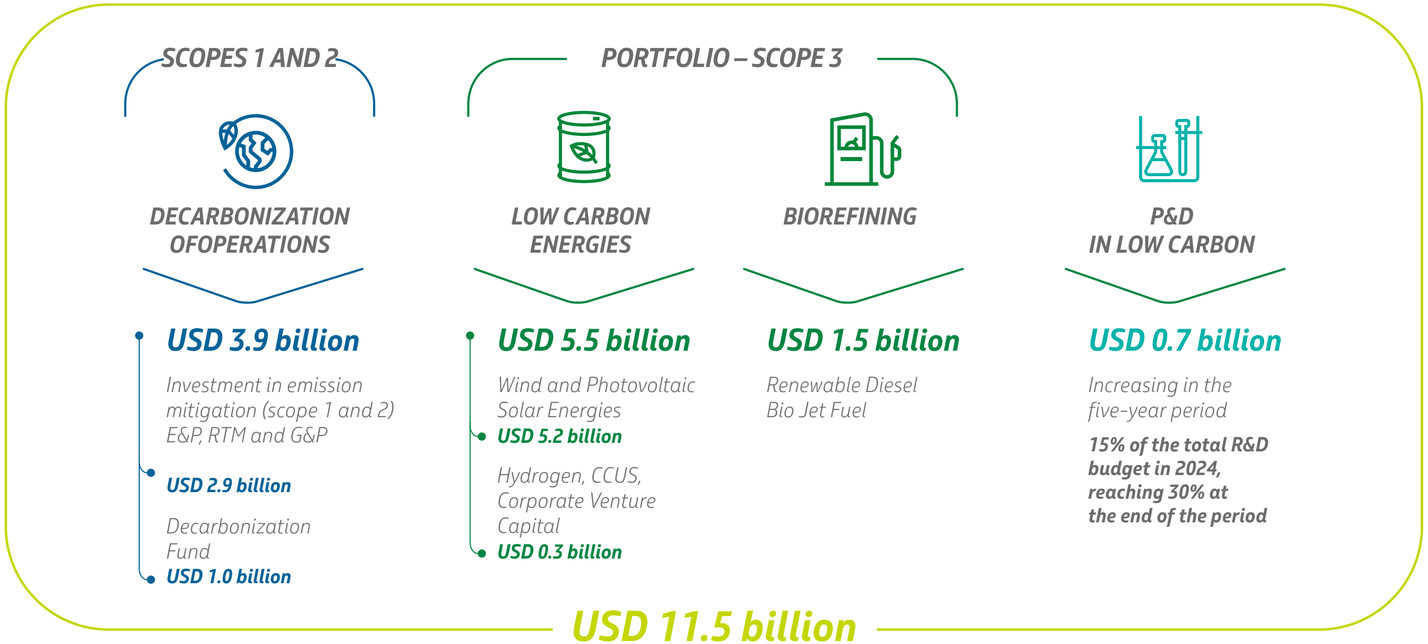
We plan to achieve the expected results primarily through mitigation actions intrinsic to our operations and consider the possibility of using carbon credits as a supplemental strategy. We are committed to high-quality carbon credits and integrity, with utilization aligned with international best practices, ensuring transparency and traceability. Credits generated in Brazilian biomes, which bring socioeconomic benefits to the country, will be prioritized.

Investments in Low Carbon

To support our commitments and reinforce our position on low carbon, our Board of Directors (BoD) approved in the 2024-28+ Strategic Plan a CAPEX of USD 11.5 billion for actions on the topic, more than double the planned investment compared to the last Strategic Plan.

Of this amount, USD 5.5 billion was allocated to low carbon energies.

It is important to note that there were no investment projects planned for these new energy sources in the previous Plan, such as wind, solar, photovoltaic, hydrogen, CCUS and Corporate Venture Capital (CVC). Planned investments in decarbonization of operations (Scopes 1 and 2), biorefining and R&D for new low carbon competencies were also expanded.



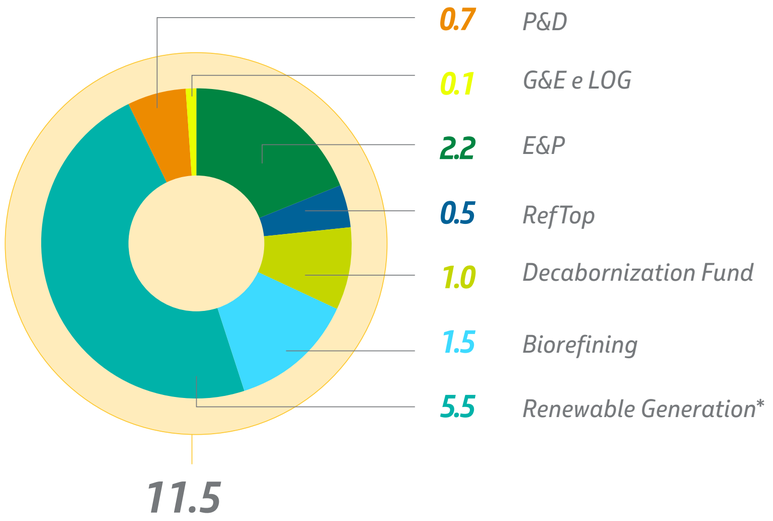
Portfolio Diversification

In order to meet the growing demand from society for low carbon products and in order to advance the discussion of Scope 3, we aim to expand the supply of renewable fuels, with a potential to increase up to four times the capacity of biofuel production by 2030. In the renewable electricity generation segment, we see potential to match renewable generation capacity by means of renewable sources to thermal power generation capacity by 2030, seeking integration of various energy sources and energy efficiency and security. Considering this potential, we can reduce the emission intensity of our portfolio by up to 3% by 2030.

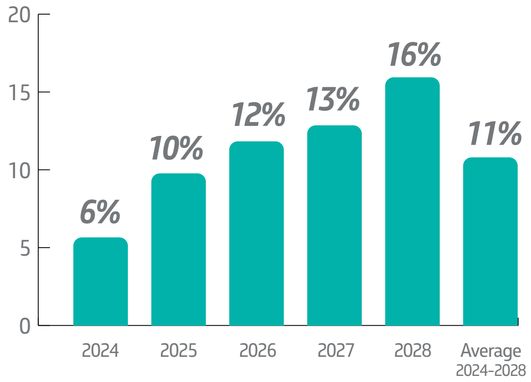
The values presented refer to projections of the potential impact that diversification may cause on the metrics presented. They are not ambitions or commitments.

On average for the period 2024-28, investment in low carbon amounts to 11% of our total investment, indicating progress in the company's current position compared to its market peers. The expectation is that investment in low carbon will gradually gain space in the company's portfolio over the period, reaching 16% in 2028.

***2024/28** – USD billion*



% LOW-CARBON CAPEX**



** Includes CCUS, H2 and Venture Capital*
*** Considering the portfolio under evaluation*

Our Strategic Plan, as approved by the Board of Directors, incorporate some elements of the transition plan, in accordance with the recommendations of the TCFD Guidance on Metrics, Targets and Transition Plans, in addition to the aspects already described and which can be viewed in the TCFD Map. The transition plan is defined as an aspect of the business strategy establishing a set of goals supporting the transition to a low carbon economy.

Some of the most relevant issues approved in our 2024-2028+ Strategic Plan include:

- Approval of greenhouse gas reduction targets and their time horizons;
- Action plans to achieve the targets;
- CAPEX supporting decarbonization strategy;
- Alignment with business strategies;
- Incentives in compensation and other incentives aligned with decarbonization strategy.

3 - FINANCIAL RESILIENCE ANALYSIS

We aim to continue producing oil and gas in a manner compatible with scenarios predicting a slowdown in demand for fossil fuels.

Thus, our Negotiation scenario (reference scenario for quantifying our plan) considers an oil price range varying from an average of USD 80/bbl in 2024, reaching USD 70/bbl in 2028, expectations of prices similar to the APS scenario (Announced Pledges Scenario) of the International Energy Agency, which is aligned with a 50% probability of keeping the temperature increase below 1.7°C by 2100.

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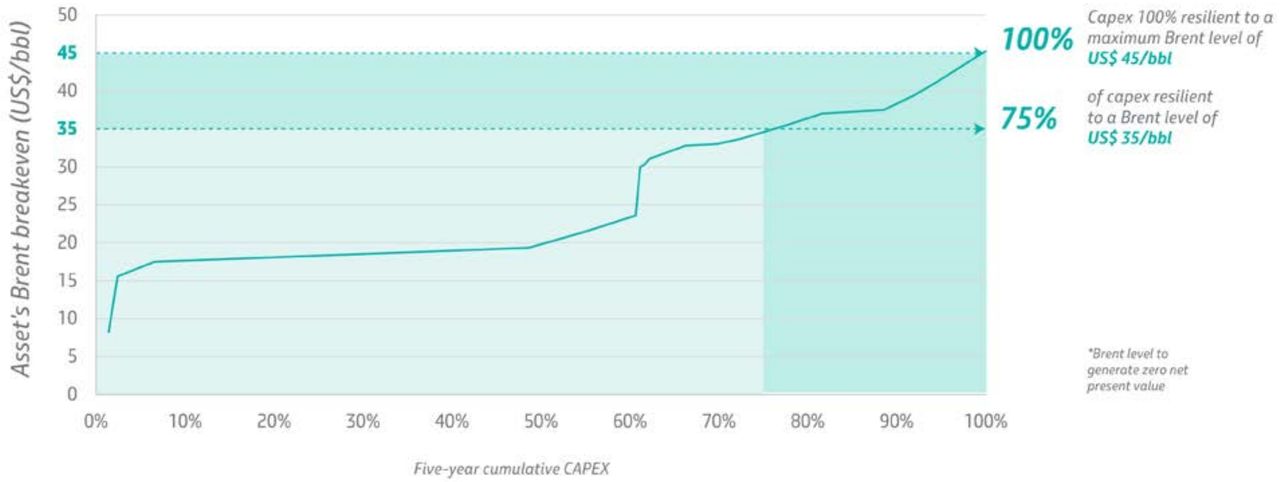
Brent Price US$/Barril	2030	2050
SP 2024-28+ (Petrobras)	65	65
APS (AIE)	74	60
NZE (AIE)	42	25

Our governance for Investment Project approval requires that all Exploration and Production (E&P) projects also be resilient to the Commitment scenario, which points to a long-term Brent of USD45/bbl. In this way, there is an incentive for only projects compatible with accelerated energy transition scenarios to comprise our portfolio.

Our E&P project portfolio demonstrates high resilience to low oil prices, with 75% of the CAPEX expected for the 2024-2028 period resilient to a Brent price of USD 35/bbl and 100% resilient to a Brent price of USD 45/bbl, as shown in the graph below.

Five-year CAPEX vs Average BEq



International Energy Agency Scenarios

APS – *Announced Pledges Scenario:* Scenario assumes that governments will meet, in full and on time, all of the climate related commitments that they have announced, including longer term net zero emissions targets and pledges in Nationally Determined Contributions (NDCs), considering carbon pricing for countries not yet regulated, such as Brazil. The APS is associated with a temperature rise of 1.7°C above pre-industrial levels in 2100 (with a 50% probability). This scenario is consistent with the goals of the Paris Agreement, which aims to decarbonize global economies and sets as one of its long-term objectives limiting the increase in global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C.

NZE – *Net Zero Scenario:* Normative scenario portrays a pathway for the global energy sector to achieve net-zero CO_2 emissions by 2050, with advanced economies reaching net-zero emissions before others. This scenario models significant changes in energy demand profiles to achieve neutrality by 2050 (with a 50% probability of limiting the temperature rise of 1.5°C above pre-industrial levels in 2100).

STEPS - *Stated Policies Scenario:* Scenario designed to provide a sense of the prevailing direction of energy system progression, based on a detailed review of the current policy landscape. The STEPS scenario is associated with a temperature rise of 2.4°C in 2100 (with a 50% probability).

Our resilience tests indicate that 100% of our E&P investment projects create value, meaning they have positive net present value (NPV), under the assumptions of the APS scenario from the IEA, aligned with a 50% chance of achieving a temperature rise of 1.7°C, ensuring our resilience when confronted with this external scenario. Additionally, the tests indicate that approximately 70% of our E&P investment projects also demonstrate economic attractiveness in the Net Zero scenario from the IEA, with an extremely accelerated transition and compatible with a 50% chance of achieving a temperature rise of 1.5°C.

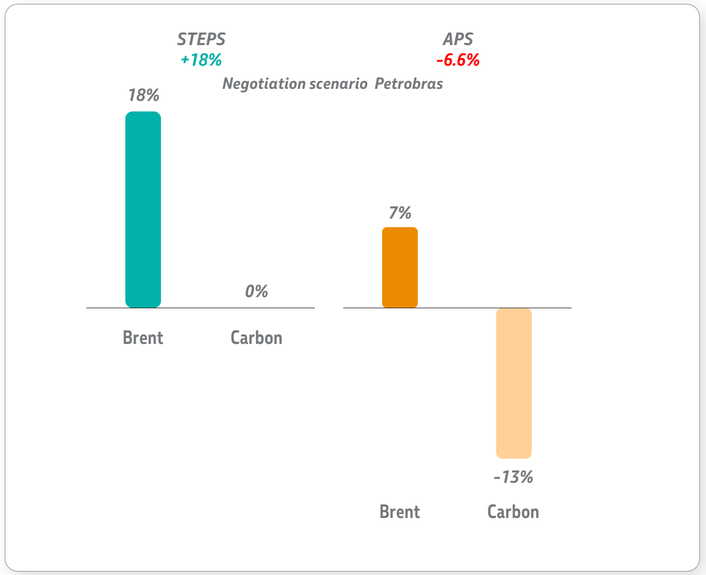
Portfolio financial resilience analysis

We carried out simulations of the net present value of our portfolio in the Negotiation scenario, through sensitivity to the brent price and the carbon price of the external reference scenarios (STEPS - Stated Policies Scenario, APS - Announced Pledges Scenario).

The total impact on each scenario is the sum of the two outcomes, as shown in the graphs. The calculation of oil price sensitivity considers the impact of Brent price only in the E&P segment, while maintaining the margins of the other segments. For the calculation of the carbon price effect, we consider a monetary value charged per ton of CO2 emissions starting from 2028, and the existence of free emission quotas, taking into account the uncertainties regarding the form and dynamics of a future carbon market in Brazil.

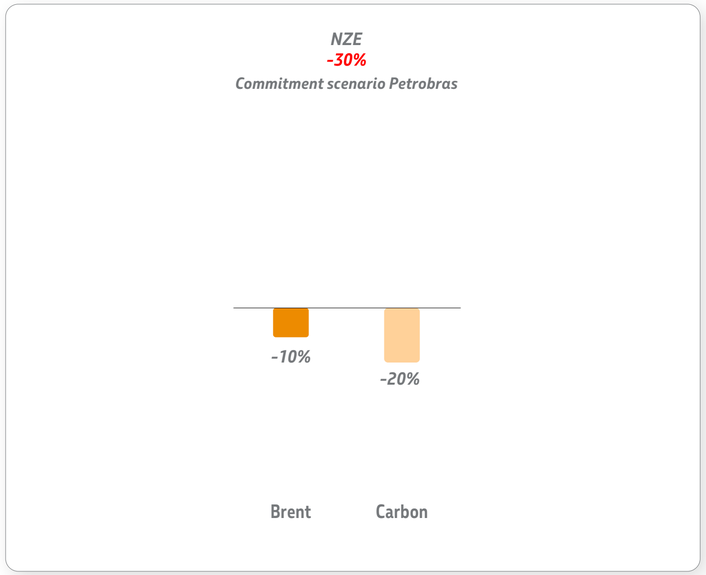
Using the assumptions of the external STEPS scenario, there would be an increase in the portfolio value compared to the calculation with our assumptions of the Negotiation scenario (18%) due to the higher oil prices assumed in the IEA scenario.

In comparison with the external APS scenario, the gain in portfolio value with slightly higher Brent in the short term assumed by IEA is offset by the carbon cost,



as the Negotiation scenario does not consider the incidence of carbon price. The simulation results in a 6.6% loss in portfolio value .

We also conducted our resilience assessment using the price assumptions of the NZE normative scenario. In this case, we simulated the variation of the portfolio value compared to our Commitment scenario, in order to simulate the impact of the IEA's normative scenario in relation to our corporate scenario of accelerated transition. In this case, there would be a potential impact of a 30% reduction in portfolio value due to the combined effect of lower long-term Brent price and higher carbon price in the IEA scenario. We emphasize that the prices in our Commitment scenario are aligned



with the prices of the NZE scenario in the short and medium term horizon.

When compared to the Negotiation scenario, there would be a negative impact of 56% on the net present value (NPV) due to both the incidence of carbon prices and the significantly lower oil price in the NZE scenario.

It is important to highlight that the NZE scenario is highly challenging and far from the current reality, requiring an immediate shift in the energy paradigm with the transformation of the global energy system. The scenario projects a demand of 24 million barrels of oil per day by 2050, with an associated decline in oil prices to approximately $42/bbl by 2030 and $25/bbl by 2050.

Climate risk in accounting estimates

In note number 5 to the Financial Statements for the fiscal year of 2023, we addressed the effects of climate risks on accounting estimates. In this context, the note includes quantitative analyses of the following items: amount in use in asset impairment tests, decommissioning of areas, “highly likely future exports” used in export cash flow hedge accounting and the useful lives of its assets.

The Financial Statements and Note 5 (Climate Change) can be consulted at *https://www.investidorpetrobras.com.br/en/results-and-announcements/results-center//*

4 - CARBON METRICS AND PERFORMANCE

Emission Management

We are an integrated energy company and provide crude oil, natural gas, petroleum products and electricity to society. Our purpose is to continue supplying energy in a competitive, environmentally responsible and highly efficient manner in emissions. Thus, we monitor absolute greenhouse gas (GHG) emissions and emissions intensity of our activities and the value chain of our products.

We believe that operational performance in terms of emissions is one of the strategic requirements for the company's long-term resilience. Therefore, we have developed metrics to manage emissions and monitor our climate-related commitments and energy efficiency. We have been maintaining dedicated teams for the topic of emissions and climate change for over 20 years and we inventory all assets under operational control.

Our Emissions Inventory

As a basis for monitoring our emission performance, since 2002, we have had proprietary software for managing our emission inventory, the Atmospheric Emission Management System (SIGEA®). This computerized system consolidates our inventory through monthly processing of information from about 7,000 sources in 2023. In SIGEA®, GHG emissions are calculated: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6) and hydrofluorocarbons (HFCs), as well as emissions of air pollutants: NOx, SOx, CO, PM, HCNM and HCT.

Our emission inventory is prepared according to the technical specifications of the Brazilian GHG Protocol Program, in alignment with the directions of the "A Corporate Accounting and Reporting Standard" of the Greenhouse Gas Protocol, developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) and with specific guidelines published by IPIECA in the Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions.

The scope of our inventory includes all activities under our operational control, both in Brazil and abroad. Thus, we include all assets where our policies and guidelines are implemented in operations. Therefore, organizational limits cover emissions from Petrobras, Transpetro, TBG (Transportadora Brasileira Gasoduto Bolívia-Brasil S.A.), Petrobras Biocombustível, Petrobras Bolivia and Petrobras Colombia.

In our inventory, we adopt the detailed methodology, i.e., source by source, known as "bottom-up". Thus, the total result is composed of the sum of emissions from each emitting source. Emission calculations are based on international references, such as the American Petroleum Institute Compendium, the Compilation of Air Pollutant Emission Factors from the U.S. Environmental Protection Agency (US-EPA AP-42) and calculation tools of the Brazilian GHG Protocol Program.

Our inventory has been voluntarily published since 2002, being verified by a third party annually. We are also founding members of the Brazilian GHG Protocol Program and we publish our inventory in its Public Emission Registry. In 2023, our inventory (reference year 2022) was awarded a Gold Seal for the sixth consecutive year, a standard of excellence in data quality and availability.

We closely monitor trends in results publications, especially regarding global warming potential (GWP) factors, periodically provided by the Intergovernmental Panel on Climate Change (IPCC). Our public commitments have been defined since 2019, considering the GWP values contained in the IPCC's 4th Assessment Report (AR4). Thus, in order to maintain consistency with our commitments, in this publication, all CO_2 equivalent values are aligned with the AR4.

An emission inventory of a company include both its direct and indirect emissions. Therefore, in addition to operational emissions, it also include emissions that occur throughout the entire value chain, from the production of supplies to the use of products. In order to quantify the different emissions, the GHG Protocol created a globally harmonized methodology based on carbon scopes:

Scope 1 Emissions	Scope 2 Emissions	Scope 3 Emissions
Direct emissions. These occur as a result of the company's own operations in emission sources that are owned or controlled by the company.	Indirect emissions related to emissions from the production of electrical and/or heat energy purchased for consumption by the company. These occur at third-party sources.	Other indirect emissions. These occur at sources not owned or controlled by the company but exist as a result of its activities.

Emissions Performance

We are achieving significant results in decarbonizing our operations, enabling us to connect future challenges with the delivery capability we have demonstrated in recent years.

Absolute Operational Emissions of Greenhouse Gases

Between 2015 and 2023, our absolute operational GHG emissions decreased by 41%. Compared to 2022, the 2023 result also showed a reduction in emissions, totaling 46 million tons of GHGs for the year, an amount approximately 4% lower than the 48 million tCO_2e recorded in the previous year.

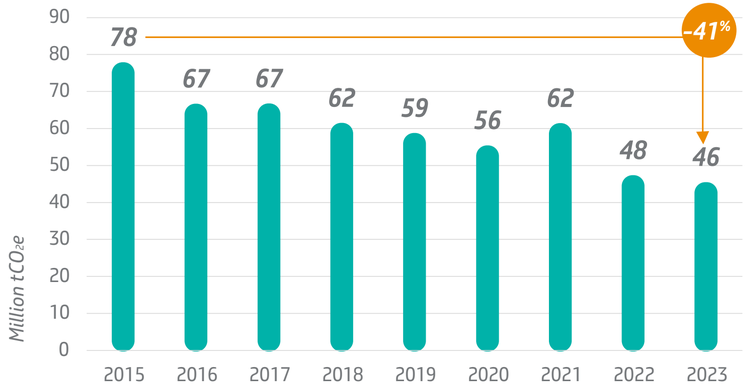
Actions reflecting in efficiency gains and losses reduction implemented in operational segments, as well as some divestments throughout 2022, were also contributors to the lower GHG emissions in 2023.
It is important to note that low thermoelectric dispatch has positively affected our absolute emission result.

Just like in 2022, we chose to neutralize our Scope 2 emissions in Brazil through the purchase of Renewable Energy Certificates (RECs). These certificates ensure that 100% of the electricity purchased for use in our industrial and administrative operations in Brazil is generated from renewable sources. We neutralized 128 thousand tCO_2, equivalent to 3.37 million MWh of renewable electricity purchased. The initiative reinforces our carbon sustainability commitments, encouraging and contributing to Brazil's predominantly renewable electricity grid. Overseas, our Scope 2 emissions totaled 150 tCO_2, representing only 0.0003% of our absolute operational emissions in 2023.

Our goal to reduce absolute operational emissions by 30% by 2030, compared to 2015, is aligned with the progressive reduction trajectory of our operational emissions, already considering the expected production increase for the period, supported by a set of systemic actions to be implemented in the coming years. This target encompasses 100% of the Scope 1 and 2 emissions of the assets operated in all our businesses, including power generation, for all greenhouse gases, representing a material, relevant, short and medium-term contribution to climate change mitigation.

In our 2024-2028+ Strategic Plan, we also announced the ambition not to exceed the level of absolute emissions of 2022 during the five-year period, in addition to the ambition to neutralize operational emissions by 2050.

Absolute Operational Emissions



** These values refer to total operational emissions without considering the use of carbon credits to offset GHG emissions from Petrobras Podium Carbon Neutral Gasoline calculated through LCA. Of the offset emissions, approximately 11.7 thousand tCO_2e correspond to operational emissions.*

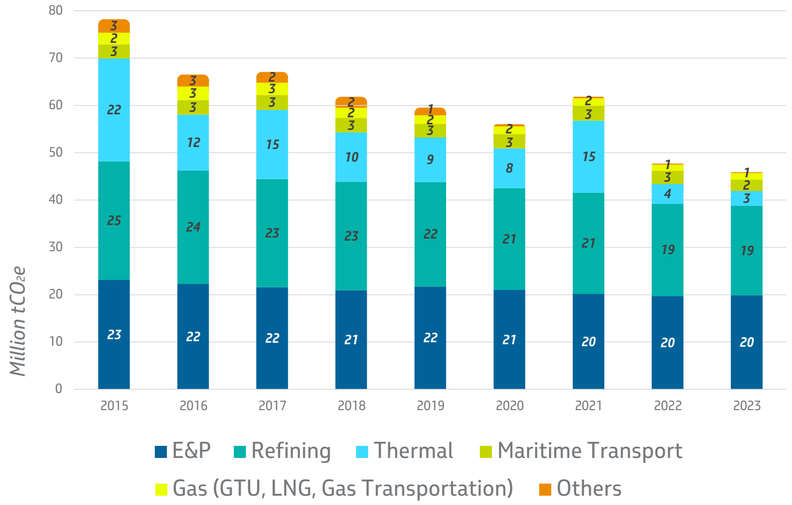
Operational GHG emissions by business segment

The quantification of our absolute operational emissions considers not only exploration, production and oil refining activities and electricity generation. We include in our inventory emissions from all of our operational activities, such as maritime transport and logistical support activities, gas processing and transport, biofuel production, administrative activities, among others.

In our governance, we monitor absolute operational emissions per business segment.

The E&P and Refining segments account for the most significant portion of our total absolute operational emissions. Our public commitments to GHG emission intensity (GHG-E&P and GHG-Refining) covered 84.5% of emissions from the activities we operated in 2023. Our top metric IAGEE (Greenhouse Gas Emission Intensity Achievement Index) is composed of the GHG emission intensities of these two segments and has shown a reduction trajectory in recent years.

Operational Emissions by segment

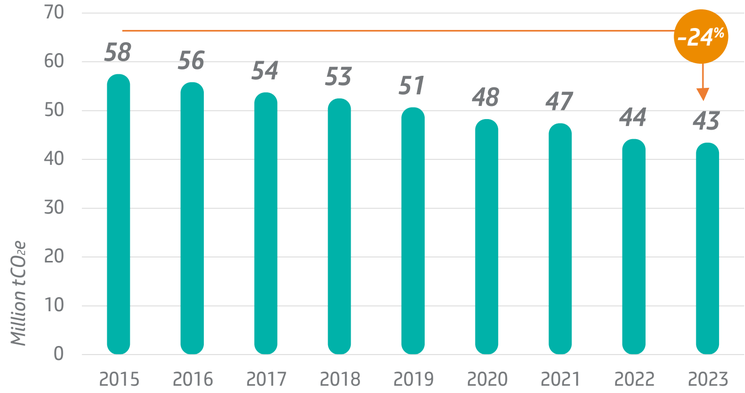


Operational Emissions from Oil and Gas Activities

We also monitor operational emissions only from our oil and gas activities, whose calculation of operational emissions does not include emissions arising from our activities in the thermoelectricity market. Thus, we can verify the results of our efforts to reduce absolute emissions without the influence of the thermoelectric dispatch requested by the ONS (National Eletric System Operator).

Total operational emissions (Scopes 1 and 2) from our O&G activities have shown a continuous downward trend over recent years, reaching a 24% reduction between 2015 and 2023.

Operational Emissions from Oil and Gas Activities



E&P GHG emissions intensity

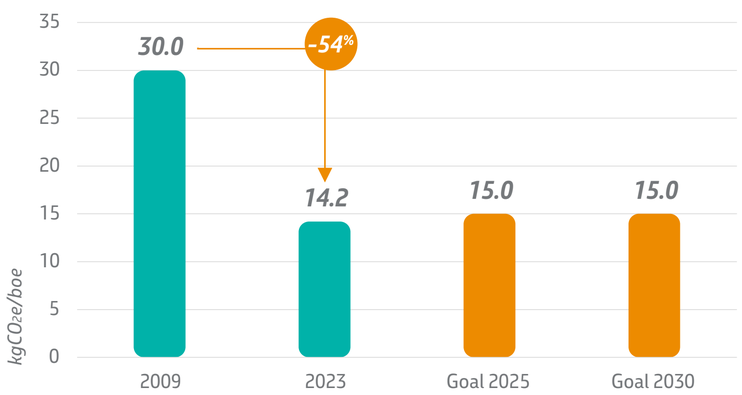
We monitor our performance in terms of GHG emissions intensity in the oil and gas production segment, with outstanding results in the pre-salt fields.

Between 2009 and 2023, we achieved a 54% reduction in GHG emission intensity in E&P activities, reaching 14.2 $kgCO_2e/boe$. This result stems from actions related to energy efficiency improvements, loss reduction, greater utilization of gas with reduction of flaring as well as improvements in accounting, emission inventory and portfolio management.

In oil and gas projects, it is natural for the fields to mature over time, showing a progressive increase in water production and energy demand, as well as a drop in the oil production rate. Therefore, in order to increase its production levels, it becomes necessary to employ energy-intensive techniques, such as water and/or gas injection, what affects the GHG emissions intensity. This natural trend towards increased portfolio intensity poses an additional challenge to the carbon performance of the upstream segment's. In this regard, the 18 new FPSOs that we plan to deploy in this five-year period become a challenge and an opportunity to reduce the intensity of emissions.

Our goal for 2025 is to produce oil and gas in our E&P segment with a maximum GHG emissions intensity of 15.0 $kgCO_2e/boe$, maintaining this intensity until 2030.

E&P GHG emissions intensity



Some of the main drivers for reducing the intensity of emissions in E&P:

· High operational efficiency profile of the new assets;

· Reduction of flaring, fugitive emissions and venting;

· Power efficiency;

· Portfolio management;

· CCUS-EOR (CO_2 reinjection associated with Enhanced Oil Recovery).

We further note that the main pre-salt oil streams we produce have even lower carbon intensities than the average value of our operations. Together, the Tupi and Búzios streams amounted to nearly 50% of our total production in 2023 and present greenhouse gases emissions intensities of 9.9 $kgCO_2e/boe$ and 10.2 $kgCO_2e/boe$, respectively.

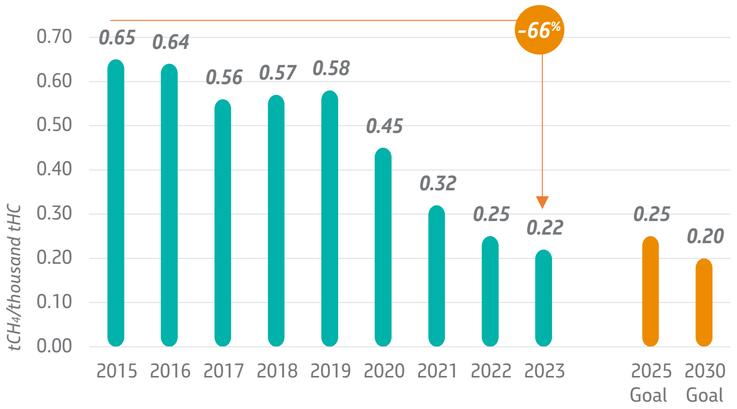
Methane Emissions

The carbon intensity targets of our segment incorporate all greenhouse gases, including methane. However, given the characteristics of methane, of which warming potential is very high in the short term, we monitor this gas with specific metrics.

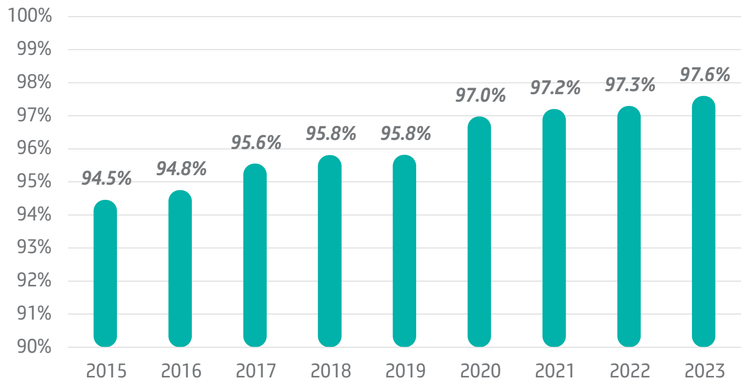
In the 2024-28+ Strategic Plan, we expanded our commitment to reduce methane emissions in the upstream segment, revising our public methane intensity commitment for 2025 to a target value of 0.25 tCH_4 /thousand tHC. We also added the commitment to reach 0.20 tCH_4 /thousand tHC by 2030, in line with the "Aiming for Zero Methane Emissions" initiative promoted by the Oil and Gas Climate Initiative (OGCI), of which we have been signatories since 2022.

From 2015 to 2023, our reduction in methane emission intensity in the upstream segment reached 66%. This result is mainly due to the reduction in the volume of gas sent to flare with a consequent increase in the associated gas utilization index, the optimization of ventilation emission and flaring estimates.

Methane emission intensity in upstream



Associated Gas Utilization Index



Main drivers for reducing the intensity of methane emissions in E&P:

· Implementation of the mitigation portfolio for flaring, venting and fugitive emissions in operating units.

· New design guidelines: closed flare pits, low emission valves and gas recovery systems from cargo tanks, gas recovery from closed drainage and TEG regeneration systems.

Our E&P methane emissions intensity reduction target supports the E&P GHG intensity reduction goal and Petrobras' absolute emission reduction goal. It also contributes to the goals of the Global Methane Pledge, the commitment established by Brazil at COP26, to reduce methane emissions by 30% by 2030 (based on 2020).

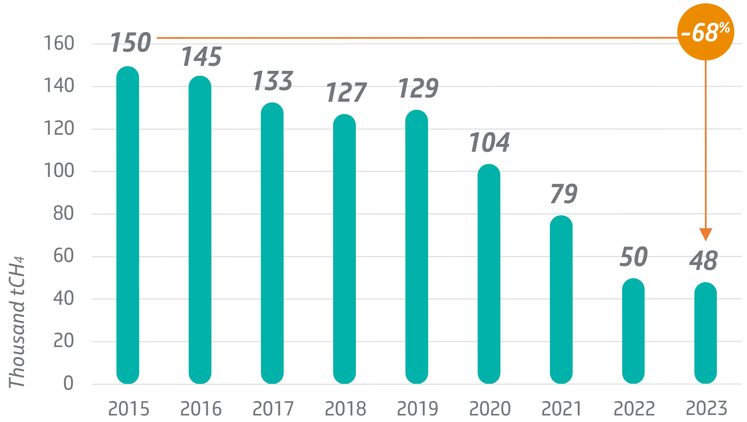
In January 2023, we joined the OGMP 2.0 initiative – Oil and Gas Methane Partnership, reinforcing our commitment to topic of methane.

OGMP 2.0 is a global initiative coordinated by the UN dedicated to quantifying, reporting and managing methane emissions, focused on mitigating climate change in the O&G sector. Recognized as the most relevant in the sector for transparency and credibility in providing methane emissions data, OGMP 2.0 brings together over 100 companies from the oil and gas industry.

In the same year as we joined the initiative, OGMP awarded Petrobras with the Gold Standard seal in recognition of our methane emissions management implementation plan in upstream, midstream and downstream gas, in line with industry best practices. For the first time, we were part of the International Methane Emissions Observatory report, released during the United Nations Climate Change Annual Meeting (COP28), held in Dubai.

Regarding direct methane emissions, between 2015 and 2023, we achieved a 68% reduction.

Direct Methane Emissions



Zero Routine Flaring

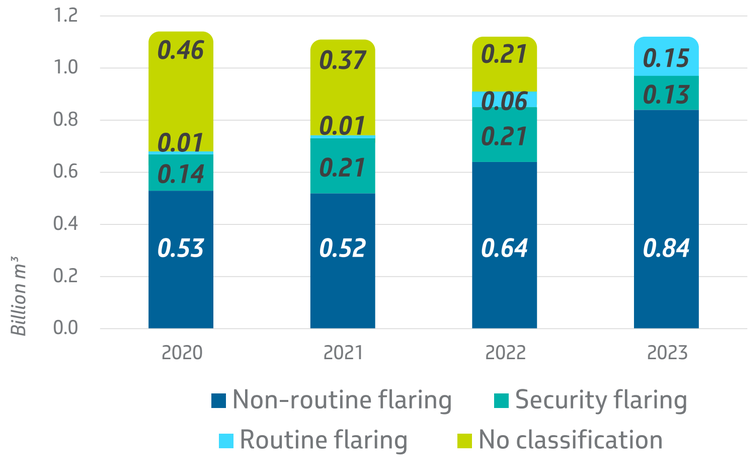
In 2018, we announced our support for the initiative Zero Routine Flaring by 2030 of the World Bank and meeting its criteria is one of our public commitments.

We work to map and reduce routine flaring volumes in our E&P assets in operation and in the projects for new assets. We incorporated the concept of zero routine flaring into our engineering guidelines and the design bases of oil and gas production units, so that all new projects will start operating in compliance with the commitment. As an example, we can mention the Flare Gas Recovery Units (FGRUs) implemented in our new units, in addition to gas recovery from cargo tanks, closed drainage systems and glycol regeneration, actions that also have an effect on methane emissions.

Throughout 2022, we improved the identification of the reasons for flaring, classifying the entire volume of flaring among routine flaring, non-routine flaring and safety flaring categories. In 2023, we achieved a 100% classification rate. For the clarity of the classification diagnosis, we continue to identify opportunities to reduce routine flaring for units in operation, in line with the commitment made in the World Bank initiative.

In 2023, routine flaring amounted for 14% of the total flaring volume in the E&P segment, resulting in 150.9 million Sm^3. We note that we already have a high average utilization rate of produced gas, reaching 97.6% in 2023.

Flaring Volume



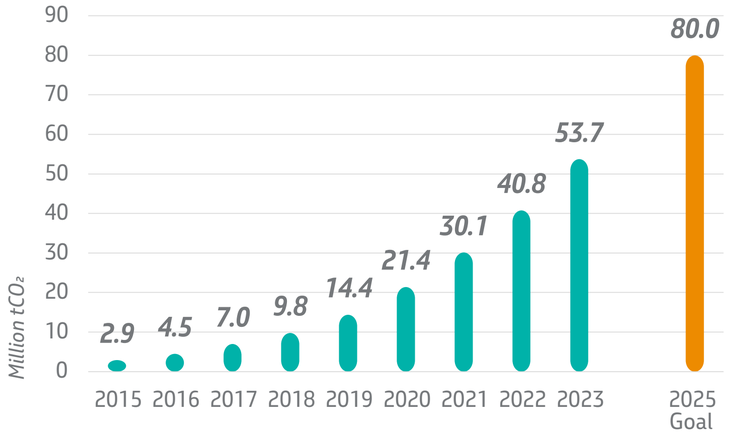
CO_2 Reinjection

In 2023, we injected 13 million tCO_2, the highest amount injected in a single year. Since the beginning of our CO_2 capture, the use and geological storage program, which began in the form of a pilot project in the Tupi field in 2008, we have already reached an accumulated volume of 53.7 million tCO_2 reinjected.

Our public commitment is to reach an accumulated total of 80 million tCO_2 by 2025, which will contribute to technological evolution, cost reduction and demonstration of the security of CCUS technology for application in the oil and gas industry and other sectors.

We currently operate 23 platforms in the pre-salt that incorporate CCUS technology associated with Enhanced Oil Recovery (EOR), with continuously evolving performance. The reinjection of CO2 in production fields, associated with EOR, will continue to play an important role in the path of reducing the intensity of greenhouse gas emissions in oil and gas production.

Accumulated CO_2 Reinjection



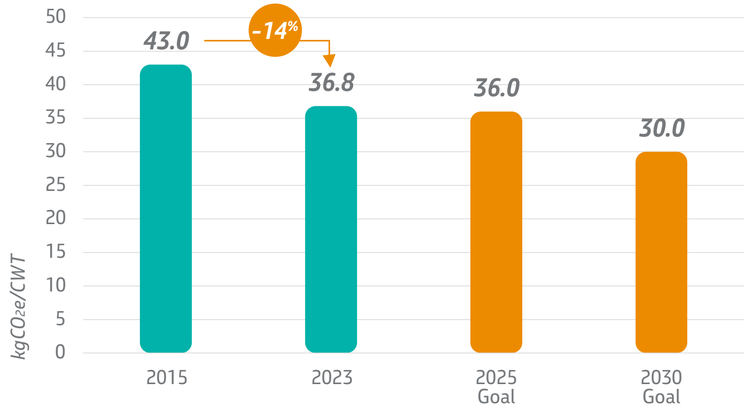
Intensity of GHG emissions in Refining

In the Refining segment, greenhouse gas (GHG) emissions intensity continued its downward trajectory in recent years, reaching a result of 36.8 $kgCO_2e$/CWT in 2023, a 3% reduction compared to 2022 and a 14% reduction compared to 2015. Our public commitment is to achieve 36 $kgCO_2e$/CWT by 2025 and continue reducing to reach 30 $kgCO_2e$/CWT by 2030.

The improvement observed in the indicator is mainly due to the implementation of projects to increase energy recovery in refining processes, to significant reduction of vapor and condensate losses, significant reduction of gas flaring and maintenance of energy efficiency in process furnaces. The result in 2023, compared to 2022, amounts to a reduction of emissions by 535 thousand tons of CO_2e, equivalent to a reduction in the burning of 490 thousand m^3/day of natural gas.

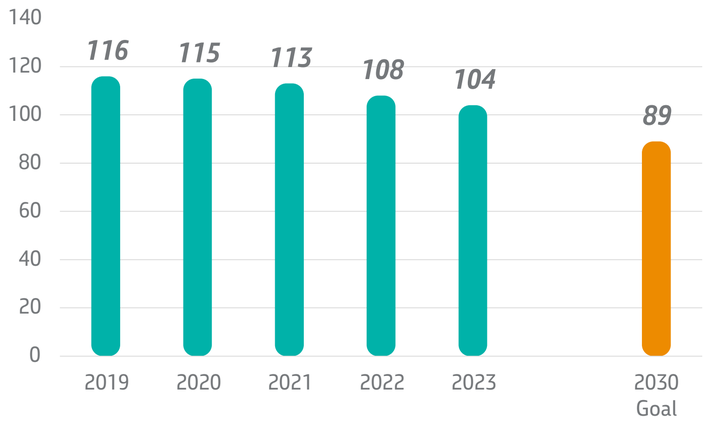
We also point out that actions to reduce the intensity of GHG emissions bring gains in the reduction of the intensity of other pollutants, such as particulate matter, sulfur oxides and nitrogen oxides.

Intensity of GHG emissions in Refining



The main driver for reducing the intensity of greenhouse gas emissions in refining is the improvement in energy performance. We monitor our energy intensity in Refining through the relationship between the total primary energy consumption of a refinery and standard energy consumption, which considers the volume and quality of processed load, as well as the complexity and severity of the process units. The energy intensity index of our park continues to decrease, reaching 104 in 2023. Our goal is to reduce our energy intensity in Refining to 89 by 2030.

Energy Intensity Index in Refining



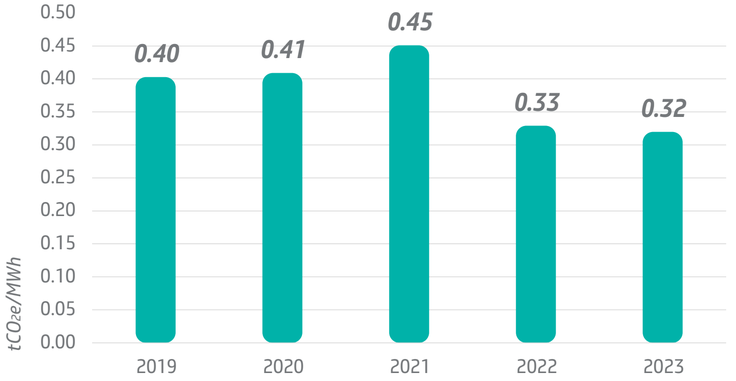
Intensity of GHG Emissions in Electric Power Generation

The generation of electricity in our thermal power plants reflects the decisions of the National Electric System Operator (ONS), which determines the moment in which a certain energy generating unit is dispatched. Therefore, our emissions in this segment depend on a number of factors that include the availability of other power generating units in the country, climatic conditions and intrinsic seasonality of the Brazilian electrical system.

Although we do not have goals referring exclusively to our energy generation activities, we monitor the intensity of our emissions in these operations. Our electricity generation park is essentially gas-powered, and we have highly energy-efficient units that operate in a combined cycle and are integrated with our other steam export assets.

For the calculation of the GHG emission intensity of our thermoelectric hub, we appropriated only the emissions related to the generation of electricity, without considering the share of emissions related to the generation of steam in our plants that operate with cogeneration. Considering this methodology, our thermoelectric hub operated, in 2023, with an average intensity of greenhouse gas emissions per electrical energy of 0.32 tCO_2e/MWh, a slightly lower value than that obtained in 2022. The maintenance of the intensity level of our park between 2022 and 2023 is consistent with the lower demand for thermoelectric energy during the period, resulting in the priority dispatch of our most efficient units, i.e., those operating with combined cycle and cogeneration.

Intensity of GHG Emissions by Electric Power



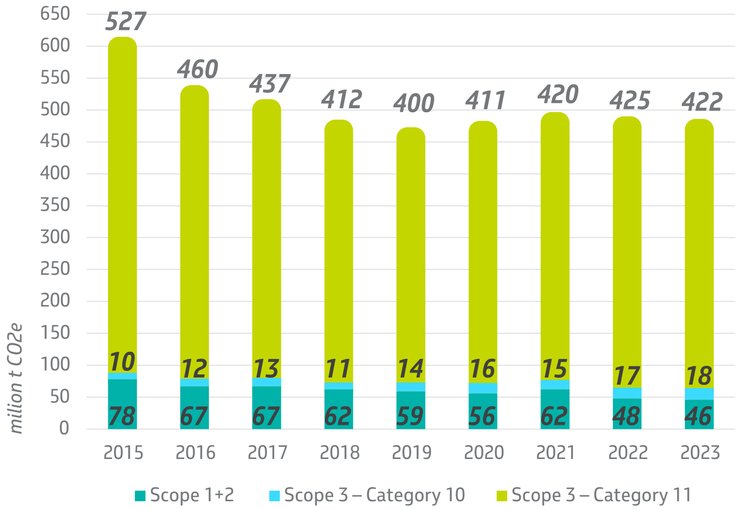
Value Chain Emissions

As an integrated energy company, we track the absolute emissions and carbon intensity of the value chain of our global energy mix. We also consider the carbon performance of each individual product to be relevant, as there are significant differences in the carbon intensity of different oils, natural gas streams and electricity itself from fossil fuels.

In the oil and gas value chain, most emissions occur in the use stage by final consumers. Therefore, to understand the real impact of our products, it is necessary to calculate our Scope 3 emissions. For Scope 3 calculation, we mainly use two categories according to the GHG Protocol: indirect emissions from the processing of products sold (Category 10) and indirect emissions from the use of products sold (Category 11), which are the most relevant in our value chain.

In the period from 2015 to 2021, our Scope 1 emissions (direct operational emissions) and Scope 2 (indirect emissions from the acquisition of electrical and/or thermal energy produced by third parties) amounted to approximately 12% of the total emissions reported for the value supply chain (Scopes 1, 2 and 3). From 2022, our Scope 1 and 2 emissions accounted for less than 10% of the total emissions of the value chain: 9.8% in 2022 and 9.5% in 2023.

Value Chain Emissions



** Scope 3, category 11 emissions for the year 2022 were adjusted to align with internally used conversion factors.*
***These values refer to the main emissions of Petrobras' value chain without considering the use of carbon credits to offset GHG emissions from Petrobras Podium Carbon Neutral Gasoline calculated through LCA, which represent 96.1 thousand tCO_2e.*

Value Chain GHG Emissions Intensity

Since 2019 (2018 fiscal year), we have evaluated the greenhouse gas emissions intensity of the value chain as an element of analysis of our carbon risks and opportunities, aiming at monitoring our operations and business. Throughout 2023, the metric identity was revised to consider, in addition to the total emissions of operated assets, the energy and Scope 3 emissions from category 11 related to our energy products sold, including sales of companies in which we have a stake (considering the volume corresponding to our stake in the company).

Monitoring portfolio emissions intensity adds robustness to our analyses, allowing us to assess the impact of the decarbonization of our assets in operation, the intensity of our mix of liquid fuels and gas and the effects of the insertion of renewable energies or the removal of CO_2. In 2023, according to the metric used, the intensity of our value chain was 76.95 gCO_2e/MJ.

Calculation of portfolio emissions intensity

For the calculation of portfolio emissions intensity, we relate generated emissions (in gCO_2e) to the energy generated by our energy products (in MJ).

$$\text{Portfolio emission intensity (IP)} = \frac{\text{Emissions } (gCO_2e)}{\text{Energy (MJ)}}$$

In the "emissions" component, 100% of the Scope 1 and Scope 2 emissions of operated assets are considered, as well as the emissions from the final use (Scope 3, category 11) related to the combustion of energy products sold (including our stakes) calculated on the Petrobras equity basis, using, whenever possible, the average emission factors indicated in the technical note "CDP Technical Note: Guidance methodology for estimation of Scope 3 category 11 emissions for oil and gas companies" (CPD, 2022). Indirect emissions from product processing (Scope 3, category 10) are no longer considered in the calculation, for the purpose of simplifying the indicator calculation and enabling a more direct comparison of our results with similar indicators reported by other companies in the sector.

In the "energy" component, the energy of energy products sold (including our stakes) calculated on the Petrobras equity basis is considered. The energy of fuel products is calculated, whenever possible, based on the lower heating value of each product, also from the aforementioned CDP technical note. The electric power sold is transformed into equivalent fossil energy to account for conversion losses during the generation process, using a factor of 0.45, which represents the average efficiency in fossil source electricity generation expected for 2050 (ENERGY INSTITUTE, 2023).

Metrics

In the table, we present our metrics used in the assessment of carbon risks and opportunities.

INDICATOR	UNIT	SCOPE	DESCRIPTION	USE OF THE METRIC
Absolute Operational Greenhouse Gas Emissions	Tons of CO_2e	100% of activities with operational control	Total GHG emissions, including Scope 1 and Scope 2, in terms of CO_2 equivalent (CO_2e) from our operations and those of our Equity Holdings in which we have operational control.	Commitment: 30% reduction by 2030 (reference year 2015)
Operational Emissions from Oil and Gas Activities	Tons of CO_2e	Exploration and Production of Oil and Gas, Gas Processing and Treatment and Oil Refining activities with operational control	Total GHG emissions, including Scope 1 and Scope 2, in terms of CO_2 equivalent (CO_2e), excluding GHG emissions from the operations of Thermal Power Plants.	Internal Monitoring
E&P Greenhouse Gas Emissions Intensity	$kgCO_2e$/boe	Exploration and Production activities for oil and gas under operational control	GHG emissions, in terms of CO_2e, from E&P activities in relation to the total oil and gas operated production (wellhead) registered in the same period. Scope 1 and 2 emissions are considered. This indicator represents the rate of greenhouse gas emissions per barrel of oil equivalent produced and is used to analyze the carbon performance of the assets in our current and future portfolio.	Commitment: 15 $kgCO_2e$/boe by 2025, maintained until 2030.
Upstream Methane Emissions Intensity (IOGP)	tCH_4/thousand t hydrocarbons	Oil and gas exploration and production activities and gas processing and treatment activities with operational control	The indicator uses the IOGP metric that represents the ratio between methane emissions and the total operated production of hydrocarbons.	Commitment: 0.25 tCH_4/thousand t hydrocarbons by 2025 and 0.20 tCH_4/thousand t hydrocarbons by 2030
Upstream Methane Emissions Intensity (OGCI)	%	Oil and gas production and gas processing and treatment activities with operational control	The indicator uses the OGCI metric that represents the ratio between the volume of methane emission and the volume of gas delivered to the market.	Internal Monitoring
Associated Gas Utilization Index	%	Oil and gas exploration and production activities and gas processing and treatment activities with operational control	The indicator represents the percentage of associated gas volume used relative to the total associated gas volume produced.	Internal Monitoring

Intensity of Greenhouse Gas Emissions in Maritime Transport per ton transported x mile	gCO_2e/(ton x mile)	Maritime Transport Activities of ships chartered in the Time Charter Party (TCP) mode	Ratio between the total mass of CO_2e emitted on ships and the product of cargo actually transported on ships by the distance sailed in nautical miles (tons x miles).	Internal Monitoring
Intensity of Greenhouse Gas Emissions in Maritime Transport per cargo capacity x mile	gCO_2e/(DWT x mile)	Maritime Transport Activities of ships chartered in the Time Charter Party (TCP) mode	Ratio between the total mass of CO_2e emitted on ships and the product of ship capacity (DWT) by the distance sailed in nautical miles.	Internal Monitoring
Greenhouse Gas Emissions Goal Achievement Index for E&P Logistics	-	Maritime support operations for cargo transportation, air transportation operations for personnel and small cargoes and land transportation operations for cargo	Relative quantity of greenhouse gas emissions from E&P Logistics, considering the weighting by volume of maritime (75%), air (20%) and land (5%) operations.	Internal Monitoring
Greenhouse Gas Emissions Intensity of Cargo Maritime Transport Operation vessels in E&P Logistics	gCO_2e/(ton x mile)	Operations of support vessels that transport cargo (Platform Supply Vessel - PSV) to Maritime Units	Ratio between the total mass of CO_2e emitted by support vessels transporting cargo and the product of cargo moved per nautical mile sailed.	Used for the composition of the Greenhouse Gas Emissions Goal Achievement Index for E&P Logistics.
Greenhouse Gas Emissions Intensity of Air Transport Operations in E&P Logistics	gCO_2e/(passenger flown x hours flown)	Air transport operations of persons and small cargoes to Maritime Units	Ratio between the total mass of CO_2e emitted and the product of the quantity of passengers transported by hours flown.	Used for the composition of the Greenhouse Gas Emissions Goal Achievement Index for E&P Logistics.
Greenhouse Gas Emissions Intensity of Land Transport Operations in E&P Logistics	gCO_2e/ton of cargo	Land transportation operations of cargo in E&P Logistics	Ratio between the total mass of CO_2e emitted and the cargo transported by land mode.	Used for the composition of the Greenhouse Gas Emissions Goal Achievement Index for E&P Logistics.
RefiningGreenhouse Gas Emissions Intensity	$kgCO_2e$/CWT	Refining activities with operational control	GHG emissions, in terms of CO_2e, from Refining activities in relation to the activity unit called CWT (Complexity Weighted Tone). The CWT represents a measure of activity, considering both the effect of processed cargo and the complexity of each refinery, allowing for the comparison of GHG emission potential between refineries with different profiles and sizes. This indicator forms the analysis of the carbon performance of assets in our current and future portfolio.	Commitment: 36 $kgCO_2e$/CWT by 2025 and 30 $kgCO_2e$/CWT by 2030.
Energy Intensity Index	-	Refining activities with operational control	It considers the relationship between the total primary energy consumption of a refinery and standard energy consumption taking into account the volume of processed load, the quality of the load, the complexity and severity of the process units.	Commitment: 89 by 2030

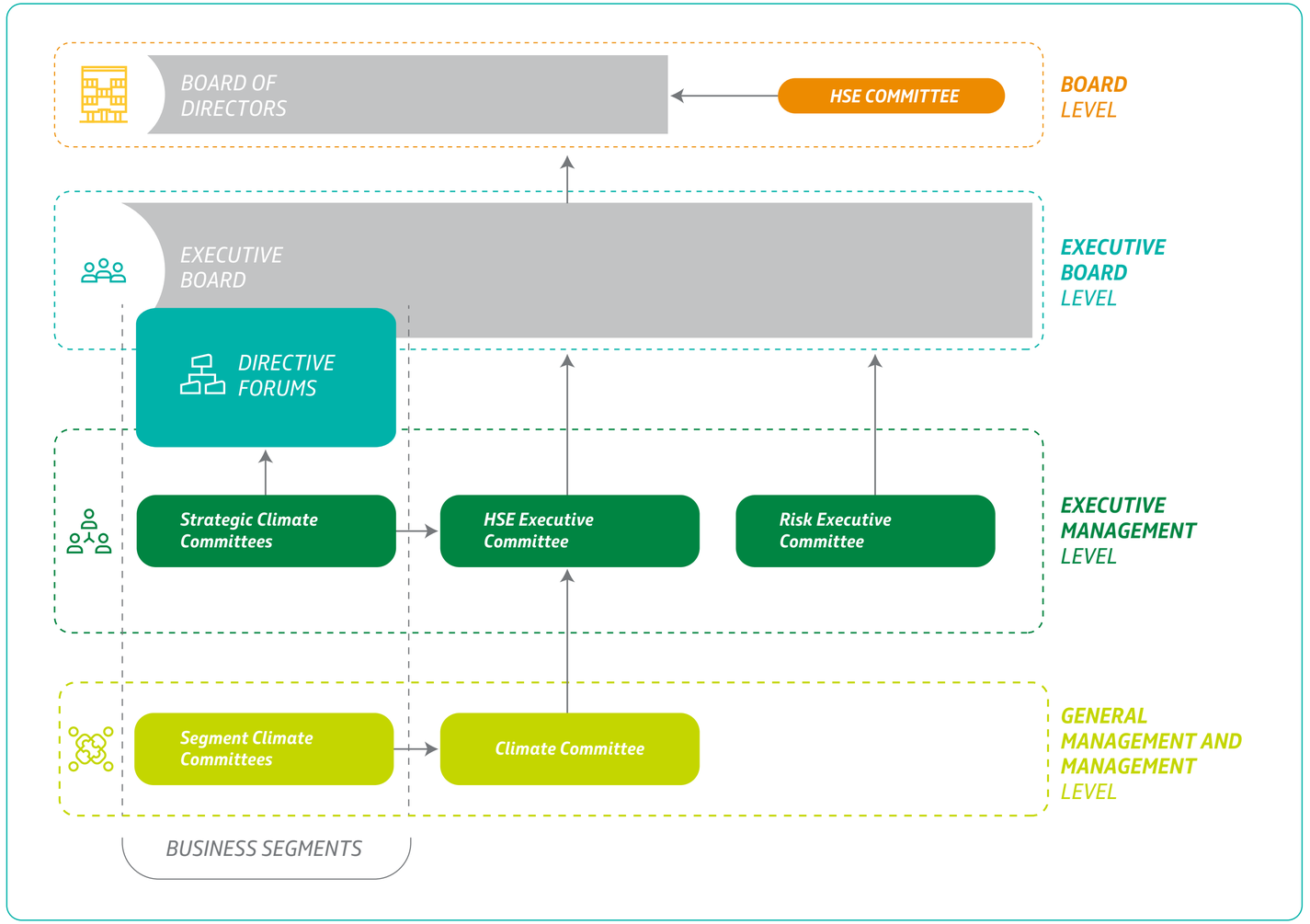
Greenhouse Gas Emissions Intensity in Thermal Power Plants	tCO_2e/MWh	Commercial generation activity of thermoelectric energy with operational control	GHG emissions, in terms of CO_2e, from the processes of Thermal Power Plants in relation to the electricity generated. Scope 1 and 2 GHG emissions are considered. This indicator forms the analysis of the carbon performance of assets in our current and future portfolio.	Internal Monitoring
Thermal Power Plant Greenhouse Gas Emission Goal Achievement Index	%	Activity for commercial generation of thermoelectric energy with operational control	Performance in terms of GHG emissions from the Thermoelectric Hub, relative to its reference performance, as previously determined according to the project conditions and operational situations of service to the electrical system and steam export, related to energy efficiency performed and reference of the TPPs. The total relative performance of the hub is calculated as the weighted average by the energy generated by each TPP in the period.	Internal Monitoring
Portfolio emission intensity (IP)	gCO_2e/MJ	Operational emissions: 100% of activities with operational control Products: energy products sold on a Petrobras equity basis	Sum of emissions from operated assets (100% of Scope 1 and 2 emissions) and final use emissions (Scope 3, category 11) related to the combustion of energy products sold on a Petrobras equity basis divided by the sum of the energy of energy products sold on a Petrobras equity basis. This metric represents an analysis related to the amount of GHG emissions associated with each energy unit sold to our consumers.	Internal Monitoring
Evolution of biofuels production capacity	-	Activities for biofuels production on a Petrobras equity basis	Biofuels production capacity on a Petrobras equity basis relative to biofuels production capacity in the year 2022.	Internal Monitoring
Percentage capacity of renewable electricity generation	%	Activities for electricity generation on a Petrobras equity basis	Installed capacity of renewable electricity generation (on a Petrobras equity basis) relative to installed capacity of renewable electricity generation and in thermal power plants (on a Petrobras equity basis).	Internal Monitoring
Break-even carbon price	USD	Projects under assessment	The indicator represents the value of a carbon tax that would bring the NPV of the project under analysis to zero by an internal simplified methodology.	Internal Monitoring
NPV carbon price sensitivity	% or currency unit	Projects under assessment	The indicator represents the impact on the NPV of the project under analysis derived from possible carbon pricing, using a simplified internal methodology.	Internal Monitoring
Portfolio NPV Loss	%	Company Portfolio	The indicator represents the impact on the NPV of the Company Portfolio when compared to international scenarios indicated in this Supplement, due to the effect of oil and carbon price assumptions in the evaluated periods.	Internal Monitoring

5 - GOVERNANCE AND INCENTIVES

Governance of Climate Change-related Risks and Opportunities

Our governance for the topic of climate change and energy transition is structured so that these issues are addressed at all levels of the company. We have the active supervision of the Board of Directors' Health, Safety and Environment Committee (HSE), with executive committees advising the Executive Board and committees at the tactical level in all segments. Integration of the theme across the various levels is carried out by the Climate Change and Decarbonization Executive Management, dedicated to the theme of emissions, climate and energy performance and linked to Energy Transition and Sustainability Executive Office (DTEN).

DTEN was created in 2023, being responsible for governing processes and projects related to energy transition and sustainability in the company.



Board of Directors (BoD): responsible for the overall guidance of the company's business, approval of the Strategic Plan and global company policies, including those related to environment and social responsibility; as well as monitoring goals, results and higher severity business risks, including socio-environmental ones.

HSE Committee: made up of appointed directors and external members, it is responsible for advising the Board of Directors in establishing policies and guidelines related to the strategic management of Health, Safety and Environment (HSE), climate change, transition to a low-carbon economy and social responsibility. The committee also monitors relevant sustainability indicators and topics, as well as the management and mitigation of the main risks related to the topic.

Executive Board: comprised of the CEO and executive officers, it is responsible for managing the company's business, in accordance with the mission, goals, strategies and guidelines established by the Board of Directors.

The Energy Transition and Sustainability Executive Officer is responsible for the administration and supervision of sustainability-related matters, including climate and the transition to a low-carbon economy. The advisory committees of the Executive Board are made up of executive managers from the corporate and operational areas who report directly to the members of the Executive Board:

HSE Executive Committee: meets monthly and is responsible for analyzing and issuing recommendations to the Board on HSE-related topics, such as: strategies, policies, guidelines and their implementation and developments; goals and investment plans for strategy development; performance monitoring and recommendation of improvement actions to Petrobras System units; audit recommendations; proposals for improvement projects and actions and demands from the HSE Committee of the BoD.

Executive Risk Committee: monitors risk treatment actions, analyzing and issuing recommendations on risk management policies and processes, as well as mitigation actions for the main risks, monitoring metrics and risk exposure limits, referring relevant issues to the senior management.

Within the business segments[1], governance permeates various levels for discussion and resolution of matters specific to the segments:

Directive forums: composed of the officer of the respective business segment and its executive managers, with participation of a representative from the Climate Change and Decarbonization Executive Management.

Strategic committees: composed of the executive managers of each business segment, with participation of a representative from the Climate Change and Decarbonization Executive Management.

Climate commissions of the segments: bring together general managers or managers just below the executive managers of the business segments.

Climate Commission: brings together representatives from all areas for joint resolutions under the coordination of the Climate Change and Decarbonization Executive Management.

1 Exploration & Production Office; Industrial Processes Office (including refineries); Energy Transition Office (including power generation); and Logistics, Commercialization and Marketing Office.

Goals for Variable Compensation of Employees and Senior Management

The top metrics translate and quantify the attributes of our vision and more explicitly guide the company's key objectives to ensure that activities are aligned with the main commitments established in the Strategic Plan (SP).

Of the 4 top metrics established in the SP 2024-28+, three are linked to the variable compensation of all employees, two environmental and one financial.

- **Compliance with greenhouse gas targets index (IAGEE), which represents the consolidation of compliance with greenhouse gas intensity targets for E&P and Refining;**

- **Indicator of Environmental Commitment, which considers the volume of oil and derivatives spilled;**

- **Delta Value, which measures Petrobras' economic-financial performance based on the value generated by its activities, considering short and long-term aspects.**

The variable compensation of each employee and executive is calculated based on individual goals and the percentage of achievement of these top three metrics. In addition to the IAGEE, executives related to the E&P and Refining segments also have their compensation impacted by the results of emissions intensity of their respective segments (IGEE E&P 15.5 $kgCO_2e/boe$; IGEE Refining 36.9 $kgCO_2e/CWT$). Thus, in relation to the Variable Compensation programs in force in the 2023 fiscal year, the weight of the metrics related to emissions represented between 15% and 35% of the variable compensation value, with decreasing values among members of the Executive Board (DE) to non-managerial employees.

Decarbonization Incentive in Investment Projects

Financial Requirements

The decision-making related to investment projects is based on a process of successive evaluations by review groups, conducted by company experts external to the projects, with recommendations that support the resolutions of the competent bodies, according to the Table of Competence Limit. At the end of each phase, there are gates where minimum information determined by the Corporate Investment Project System is presented, aiming to ensure adequate maturity and compliance with mandatory requirements throughout the project's evolution.

Since 2021, mandatory sensitivities related to Scopes 1, 2 and 3 emissions have been carried out in the economic-financial analysis of investment projects in the Negotiation scenario.

As of October 2023, during the phasegate process of all E&P projects, these began to incorporate the internal carbon price into their economic calculation in the three corporate scenarios. According to the established governance, only economically attractive projects in all scenarios are sanctioned.

The adoption of the internal carbon price aims to accelerate the implementation of greenhouse gas mitigation opportunities to achieve our carbon commitments.

Technical Requirements

Performance requirements

In alignment with existing emissions reduction commitments, new projects must have efficiency and emission intensity within the limits established for the segment/type of project, as mandatory requirements for phase- gate.

In addition to the established performance requirements, investment projects must evaluate technologies and solutions that promote GHG reduction. Opportunities are evaluated at each planning phase, quantifying the impacts in financial and carbon terms.

Technological requirements

Minimum low-carbon technology groups have been defined, which must be incorporated into the development of new projects, considering their proven economic viability and environmental benefits. Additional technologies have also been mapped that must be technically and economically evaluated for implementation, according to the specificities of each project.

Management of Socio-environmental Risks and Climate in Projects

In addition to the legal obligations of the environmental licensing process, we have defined an internal system for assessing socio-environmental and climate risks, in addition to other aspects, during the phase-gate of the investment projects. The system requires the presentation of project information compatible with each development phase, which must be included in the package of decision supporting documents, including the Technical and Economic Feasibility Study Report (EVTE) of the phase. Among the documents that make up the EVTE Report of investment projects are the Social Responsibility, Health, Safety and Environment (HSE) Report and Climate Report.

The Social Responsibility report presents the characterization of the social context and the matrix of identified social risks. The HSE Report presents the description of compliance with applicable HSE requirements, including, among other information, assessments on socioeconomic aspects, ensuring HSE management during the investment project lifecycle. The Climate Report presents the diagnosis of compliance with applicable requirements and the alignment of the project with the Company's strategies and goals, both for decarbonization of activities and portfolio.

During the phase-gate process, other studies and documents may be mandatory, depending on the investment amount, such as opinions from experts and reviewers external to the project, with an assessment of the project's adherence to our sustainability commitments and legislation, including compliance with Social Responsibility, HSE and Climate requirements, as well as indication to decision-makers of project opportunities and risks. The analysis of Social Responsibility, HSE and Climate of investment projects result in the preparation of recommendations that may include the review of emergency response plans, monitoring of occurrences and community complaints, disclosure actions of projects and operational activities and the inclusion or modification of Social Responsibility, HSE, or Climate clauses in service contracts.

We have systems for the development of investment, divestment, acquisition and decommissioning projects, as well as policies, guidelines and social responsibility, HSE and Climate standards that establish the guidelines,

processes and activities to plan and execute offshore and onshore asset decommissioning. Compliance with the decommissioning obligation involves different activities carried out in accordance with the decommissioning plan approved by regulatory bodies and in accordance with applicable legal requirements. In compliance with ANP Resolution 817/2020, we now include a chapter in the Facility Decommissioning Programs with information on the social responsibility and sustainability system.

The main social risks identified in the E&P segment project review groups are damage to fishing and tourism in the event of a major accident, circulation restrictions due to the movement of vessels and the risk of human rights violations in the supply chain.

In the case of the project review groups in the downstream segment, the social risks that stood out were the exaggerated expectation of generating labor, inconvenience to communities and the risk of human rights violations in the supply chain.

The establishment of context is the initial stage that subsidizes the entire risk management process, both in E&P and downstream. This stage is carried out through socioeconomic diagnosis, which consists of a translation of the reality experienced by a population in a given geographic area and which is a relevant input for the execution of Local Social Responsibility and Community Relationship Plans, demonstrating the company's commitment to responsible, ethical and fair action. By integrating social responsibility management with the treatment and monitoring of social risks and impacts, favoring transparent relationships with local communities and the engagement of internal stakeholders, Petrobras not only ensures the viability of its business but also actively contributes to sustainable local development.

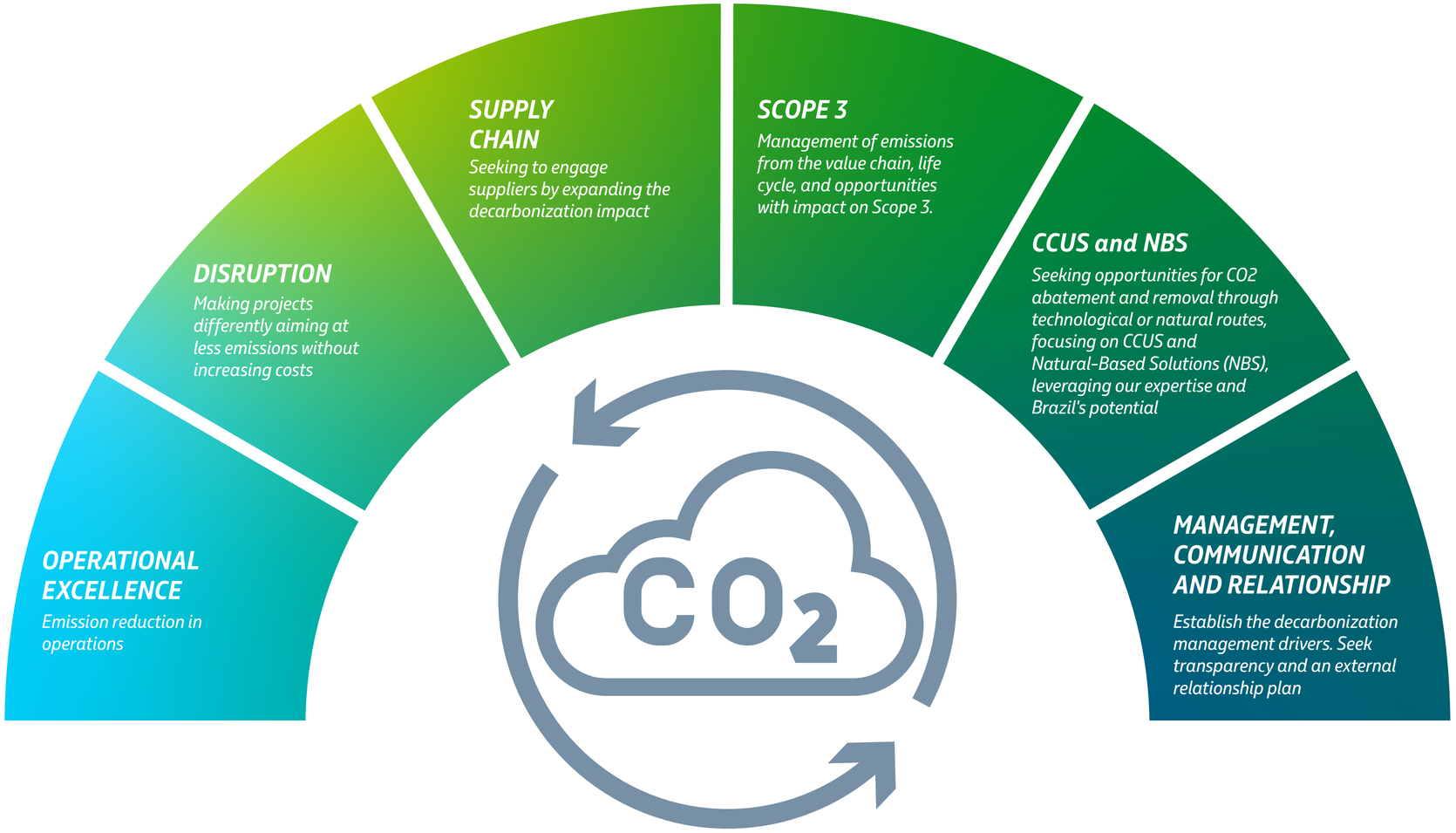
In both E&P and downstream projects, the risk of resurgence of Covid-19 was identified and addressed. All social risks are recorded and addressed by the actions of the local Social Responsibility Plans.

6 - CARBON NEUTRAL PROGRAM AND DECARBONIZATION INITIATIVES

Carbon Neutral Program; Leveraging Solutions for the Net Zero Trajectory

The challenge of achieving operational emission neutrality involves the need to technically and financially enable the technologies that will support this commitment. To overcome this challenge, the Carbon Neutral Program was structured for the purpose of strengthening our current position in low carbon, as well as accelerating and reducing the costs of decarbonization solutions, bringing greater competitiveness to the Company. The Program is the cross-cutting instrument that seeks an integrated corporate vision of all our initiatives, developed by different business areas.

This program has the following lines of action:



Decarbonization initiatives prioritized through the marginal abatement cost curve (MACC)

Bearing in mind our six commitments related to the carbon theme and the ambition to neutralize emissions, we systematically map opportunities for mitigating greenhouse gases through the Carbon Neutral Program. Since 2021, we have organized the set of opportunities to mitigate operational GHG emissions in all segments in which we operate, using the methodology of the Marginal Abatement Cost Curve (MACC).

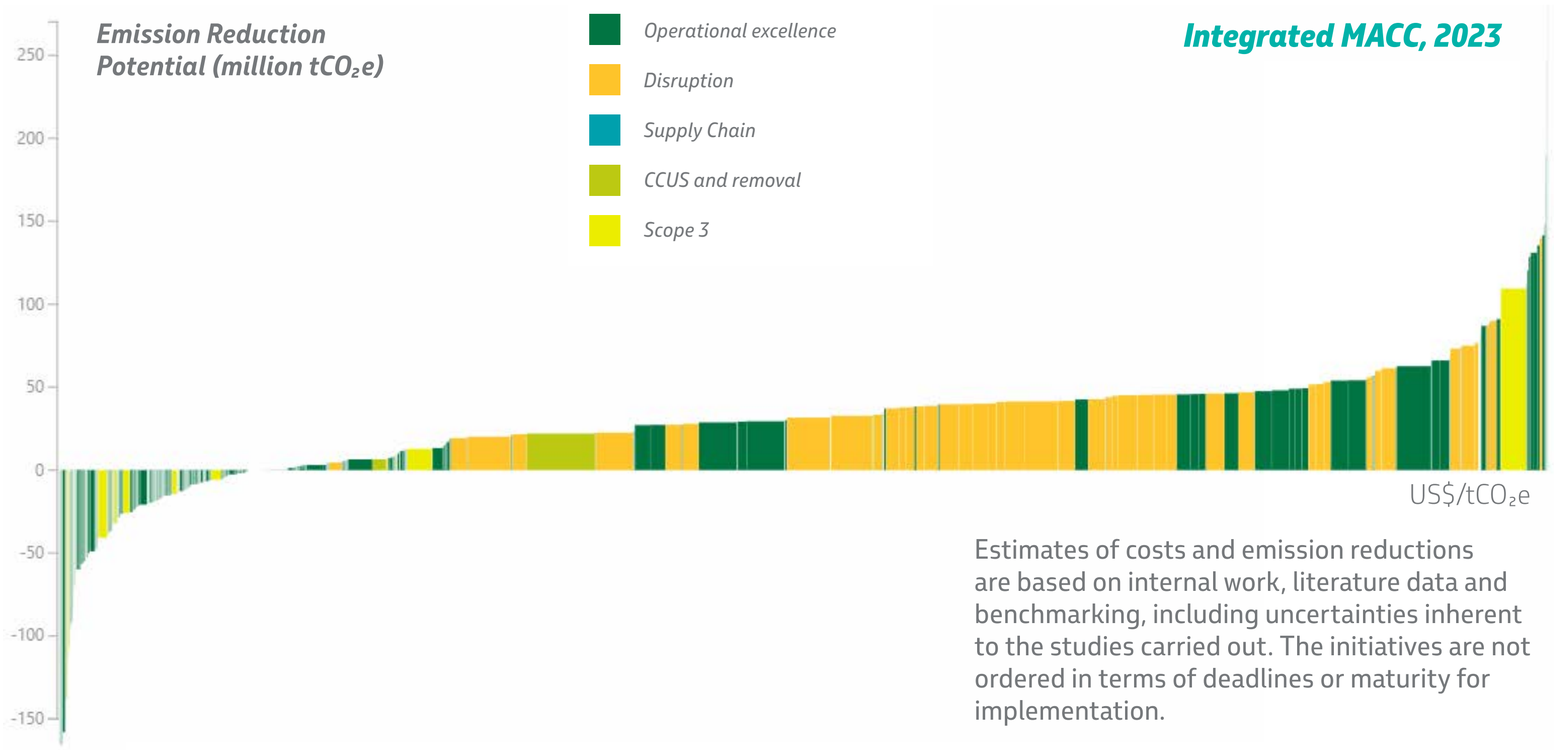
The MACC methodology allows for evaluating and comparing different emission mitigation opportunities through their Marginal Abatement Costs (MAC). The MAC is represented by the ratio between the financial cost (referring to the implementation of the opportunity) and its GHG abatement potential, in the unit of US$/tCO₂:

$$\text{MAC (US\$/tCO}_2\text{e)} = \frac{\text{- Net present value of the project (USD)}}{\text{Total de GEE abated through the project (tCO}_2\text{e)}}$$

From this ratio, it is possible to rank the opportunities, facilitating the identification of solutions with higher cost-effectiveness. Our Integrated MACC has more than 600 mitigation opportunities with different technological maturities.

In the integrated MACC, the MAC estimate of each opportunity can be viewed, as well as its potential for abatement of operational emissions in case of implementation.

The results of the analyses of the opportunities of the integrated MACC support our decision to aim for neutrality in the long term. The Integrated MACC subsidizes the development of decarbonization opportunity portfolios that can access the Decarbonization Fund.



Integrated MACC, 2023

Estimates of costs and emission reductions are based on internal work, literature data and benchmarking, including uncertainties inherent to the studies carried out. The initiatives are not ordered in terms of deadlines or maturity for implementation.

Decarbonization Fund

The Carbon Neutral Program has a Decarbonization Fund aimed at accelerating the decarbonization of operations (Scopes 1 and 2), for the purpose of meeting climate commitments and net zero ambition. The fund has a specific budget, currently USD 1.0 billion for the five-year period (2024-28). The governance for access to the fund involves analyses to identify and prioritize decarbonization alternatives, using criteria such as MAC, total GHG abated, technological maturity, project phase (window of opportunity), among others. We also considered the evaluation of the Net Present Value of the alternatives considering the internal price of carbon and submission of the selected projects in specific governance.

In the first quarter of 2024, the portfolio of approved projects for fund use includes 30 decarbonization opportunities, with a committed value of around USD 400 million, with a potential for mitigation of 1.4 million tCO_2e/year when implemented. Examples of projects include installation of a variable speed drive in a compressor, combined cycle and optical gas imaging (OGI) cameras in an E&P production unit and large-scale electrification and installation of equipment to reduce the intensity of GHG emissions by up to 10% and reduce operating costs in a refinery.

Decarbonization Initiatives

Our decarbonization initiatives are at different levels of technological maturity. In 2023, we employed USD 0.6 million in activities of our Decarbonization Fund. In addition, we disbursed approximately USD 483.3 million on decarbonization initiatives for operations, biorefining and low-carbon RD&I, including amounts classified as CAPEX and OPEX.

	Achieved (USD MM)
Decarbonization of operations	418,7
Biorefining	7,4
Low-carbon RD&I	57,2
Decarbonization Fund	0,6

Operational Excellence

Initiatives seeking operational excellence involve assets in operation and new projects for reducing greenhouse gas emissions. We continuously improve and update the energy performance requirements to be applied in the development of investment projects in the Conceptual and Basic Project phases.

Reduction of losses to the atmosphere (flaring, venting and fugitive emissions)

Efforts to reduce losses and subsequent methane emissions are concentrated on three main lines of action: flaring reduction, fugitive emission reduction and venting reduction

Reduction of flaring.

Actions on assets in operation:

- **Monitoring of gas passage in valves;**
- **Control system and power management optimization;**
- **Optimization of system starts and stops;**
- **Equipment reliability optimization.**

Additional actions for new projects:

- **Flare Gas Recovery Unit (FGRU) capacity increase;**
- **Incorporation of the concept of zero routine flaring ;**
- **Gas recovery during natural gas CO_2 removal unit start-up by membranes;**
- **Gas recovery in amine unit expansion vessel;**
- **Pressurized compressor shutdown.**

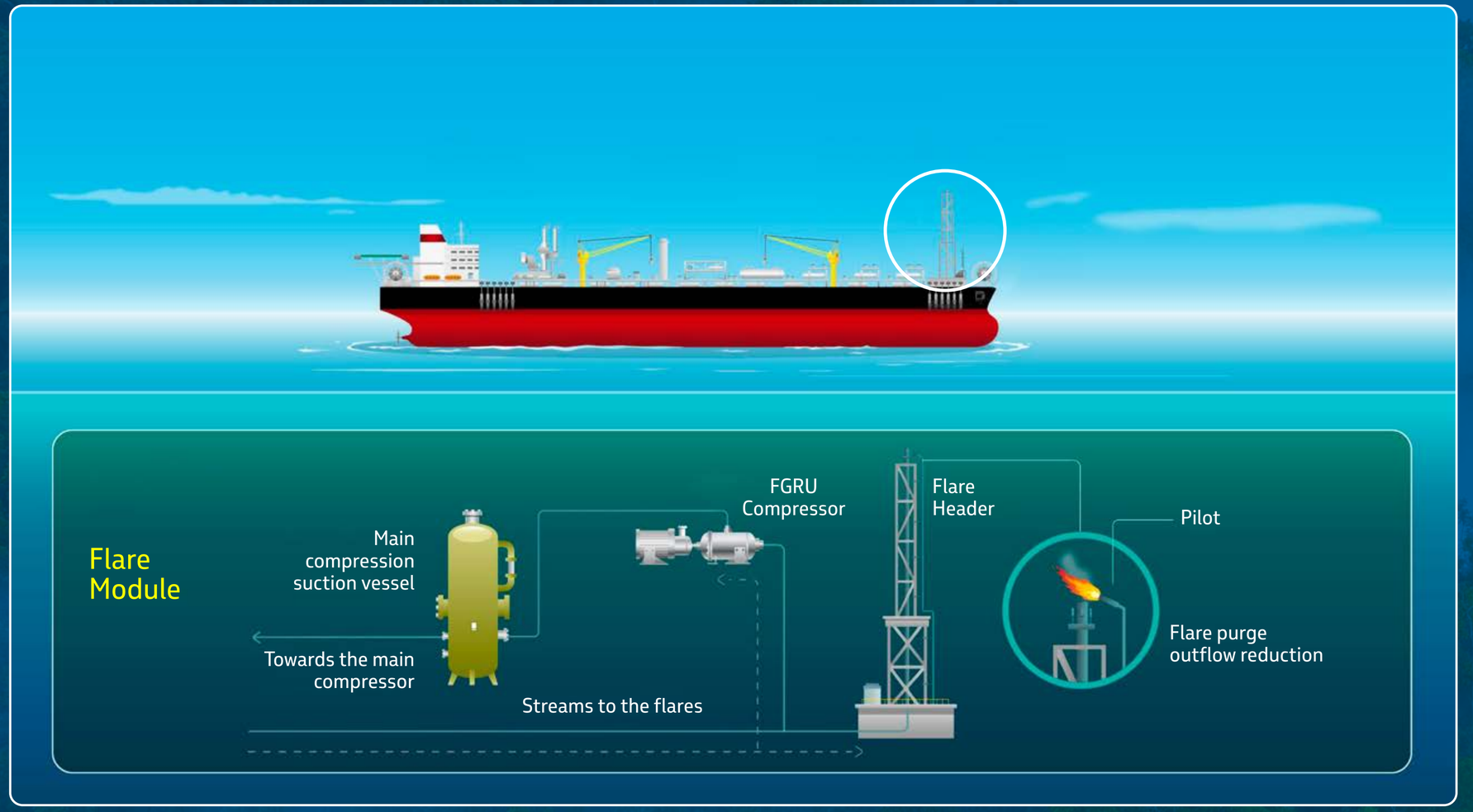
Flaring Reduction at UN-AM

Our Amazon Production Business Unit (UN-AM) reduced flaring by 32% in 2023. The work, started in 2016, ensured a 75% reduction when analyzed over the entire historical period. Actions were implemented to adjust and maintain the internals of the pressure control valves, identify and maintain PSVs and leaking valves and adjust purge gas orifices.

For routine flaring (not associated with operational events), actions involving valves passages, including pressure safety valves, brought highest gains to the results obtained. For the overall result, operational discipline to keep flaring within established alert limits was the highlight.

GAS RECOVERY USING FLARE GAS RECOVERY UNIT (FGRU)

The Flare Gas Recovery Unit (FGRU) has the capacity to prevent flaring of gases from the processing plant under normal conditions. The adoption of this system in new projects and operationalization in units already in production is in line with our goal of achieving zero routine flaring by 2030.



Fugitive Emissions Reduction

Actions on assets in operation:

- **Optimization of control and counting of process components;**
- **Monitoring of fugitive emissions with infrared cameras (Optical Gas Imaging).**

Additional actions for new projects:

- **Valves with fugitive emission requirements.**

Use of Drones for emissions monitoring

In November 2023, in collaboration with partner TotalEnergies, a greenhouse gas emission monitoring campaign was conducted using a sensor capable of detecting methane and carbon dioxide attached to a drone (AUSEA) at P-70, an FPSO dedicated to the production of the shared Atapu field located in the Santos Basin.

Testing of this emission monitoring technology was pioneering in our offshore assets and enables the quantification of emissions at the source level (L4), as well a potential emissions reconciliation at the site level (L5).

Venting Reduction

Actions on assets in operation:

- **Process optimization for greater stabilization of produced and stored oil.**

Additional actions for new projects:.

- **Gas recovery from the triethylene glycol regeneration system;**
- **Gas recovery from the closed drainage system;**
- **Compressor sealing with nitrogen.**

Gas Recovery from cargo tanks (HC Blanketing)

Gas recovery from cargo tanks uses fuel gas from the processing plant to cover the cargo tanks (hence the name HC blanketing), with connection and recovery back to the plant. This solution prevents emissions that occur at the vent post during the cargo tank loading phase, contributing to our methane emission intensity reduction goals.

Energy Efficiency in E&P

Fuel consumption for electricity generation generally amounts to the largest portion of GHG emissions from an E&P installation (between 70% and 90%). Therefore, the pursuit of energy efficiency plays a fundamental role in reducing GHG emissions.

In 2021, we structured the FPSO+ Program with the aim of building a vision of the future for FPSO-type platforms, in line with Petrobras' strategy. The Program aims to develop actions to reduce GHG emissions, reduce hours of exposure to risk in the implementation and operation phases, as well as to increase the added value of new FPSO projects. Regarding emission reduction, FPSO+ seeks to implement projects that increase the energy efficiency of the SPU (Stationary Production Unit), such as deepwater intake, centralized power generation (all-electric), utilization of exhaust gas energy with Combined Cycle, use of variable speed drives in compressors and injection pumps and energy reuse of discharged water through hydraulic turbines. Other important measures already adopted in our projects that reduce emissions from our operations include fuel gas treatment and reinjection of the CO_2 already separated (CCUS-EOR).

All-electric projects are those in which equipment is powered by electric motors, with energy generated in a centralized manner within the unit's generation system. By centralizing generation, it is possible to better utilize the generation system, using it more efficiently, resulting in reduced overall fuel gas consumption. All-electric projects also allow for the concentration of energy still contained in the exhaust gases from the generating turbines, making their reuse through a steam turbine more feasible, characterizing the combined cycle. This solution is being adopted in some projects and allows for a significant reduction in our GHG emissions.

Additionally, we mention the development of HISEP®, an acronym for High Pressure Separation, a technology developed and patented by us that allows for the separation and subsea reinjection of produced fluid with high CO_2 content. This process significantly reduces the volume of CO_2-rich gas sent to the surface processing plant, unclogging the gas plant and increasing oil production. For new projects, once qualified, HISEP® will enable new generations of FPSOs, where the gas processing plant can be smaller and simpler, reducing CAPEX, OPEX, construction times and emission intensity.
HISEP® will have its pilot installed in the Mero field with operation expected to begin in 2028. For this implementation phase of HISEP®, we signed a contract in January 2024 with FMC Technologies do Brasil, a subsidiary of TechnipFMC. This contract covers the design, construction and installation of the HISEP® pilot unit and its infrastructure, including interconnection with producing wells, injectors and the processing plant of the FPSO Marechal Duque de Caxias (Mero 3). Additionally, a testing program will be conducted for the purpose of achieving commercial and technological maturity.
In addition to HISEP®, other technologies are under development and make up our technological future vision. These technologies generally contribute to increased production efficiency and also to emission intensity reduction. Some examples include: subsea water injection with or without desulfation, solutions that enable production via long tie-backs, electrification and subsea power generation, autonomous subsea inspection systems, subsea separation and pumping systems and composite material pipelines.

We also seek energy efficiency in the fleet of vessels in the E&P portfolio with solutions aimed at reducing fuel consumption and increasing productivity in resource use, resulting in reduced emissions. Among

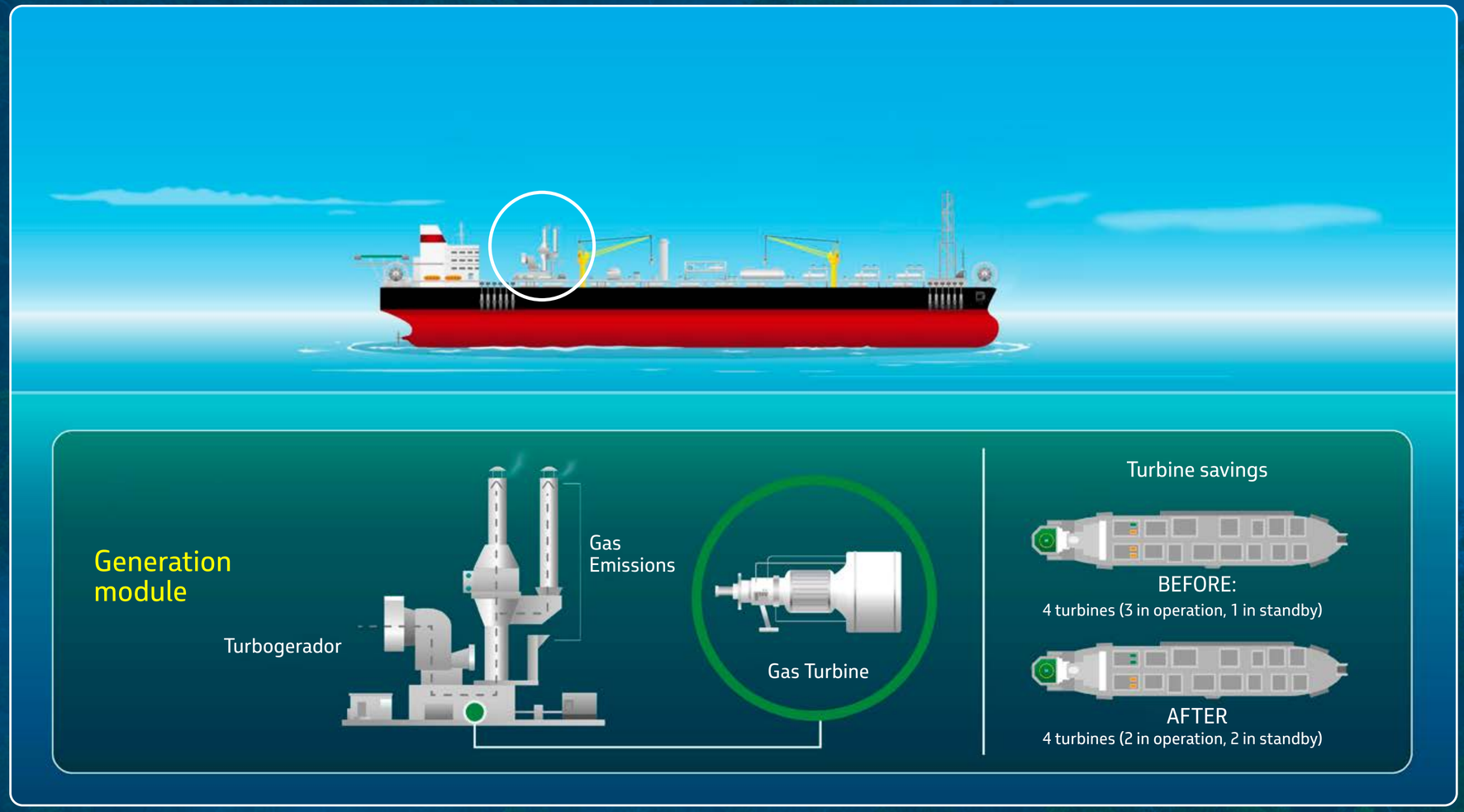
the actions, we note: hybridization of the offshore support vessel fleet, routing of platform supply vessels, intelligent logistics in stimulation vessel operations, diverless solutions application to reduce the number of vessels, platform supply vessel speed management, changes in contracting mode and contractual incentives for greater efficiency in diesel consumption.

Our actions aimed at reducing construction and intervention times and increasing well productivity are also relevant, with subsequent reduction of CO_2 emissions. Among the actions, we can highlight the adoption of new technologies, new project concepts, equipment development and electrification for greater well reliability.

In 2023, we received the OTC Distinguished Achievement Award Brazil, in recognition of the development of an unprecedented technological solution in the global offshore industry, dedicated to well construction and intervention. We used an unprecedented combination: BOP (BlowOut Preventer, safety equipment to control well pressure) anchoring technology with real–time riser (a column interconnecting the rig to the well) analysis, resulting in the major gain of using more modern dynamically positioned rigs instead of anchored rigs. The new method reduces the duration of interventions in shallow water wells by up to seven days and, on average, 10% of greenhouse gas emissions, with subsequent cost reduction. Additionally, it reduces the impact of anchoring a conventional drilling rig system on the seabed by 99%.

OPTIMIZATION OF TURBOGENERATOR OPERATION

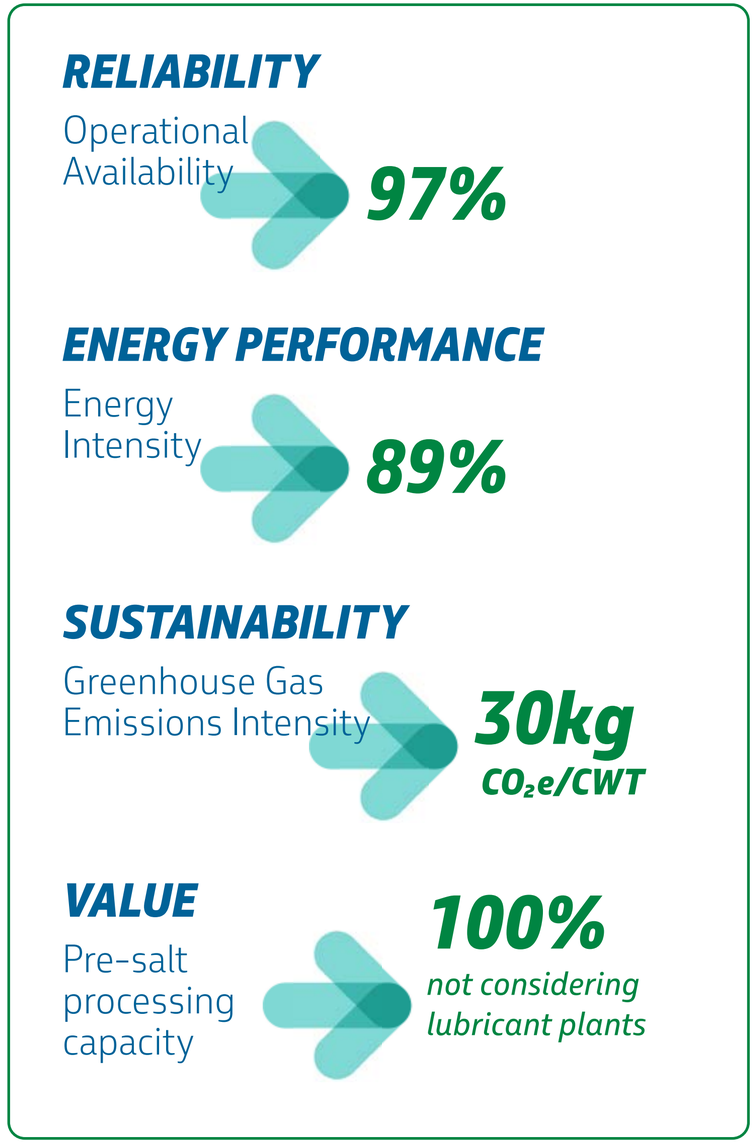
In recent years, the main initiative implemented in E&P related to energy efficiency was the optimization of turbogenerator operation, equipment responsible for electrical generation on offshore installations. The optimized operation aims to reduce the number of simultaneously operating pieces of equipment, increasing the load provided by each piece of equipment and allowing the turbogenerators to operate in a range of greater efficiency, resulting in reduced emissions.



RefTOP Program Phase 2

In May 2021, we launched the RefTOP Program, with the aim of being among the best oil refining companies in the world in operational and energy efficiency. In this context, various opportunities for reducing energy performance gaps were identified in the 5 refineries covered in the 1st phase of the Program: Replan, Revap, RPBC, Recap and Reduc. With the partial implementation of the identified opportunities, we achieved successive records of energy performance, notably in September 2023, with a monthly Energy Intensity Index (EII) result of 101. The accumulated value in 2023 reached 104, a important decrease compared to the 2020 result of 115.

In 2023, after reviewing the Refining portfolio strategy, the RefTOP Program was expanded, now covering our 10 refineries (Replan, Revap, RPBC, Recap, Reduc, Regap, Refap, Repar, Rnest and Lubnor). Thus, we began the new phase of the Program, RefTOP Phase 2, with new goals established for the 2030 horizon:



Since its launch, the RefTOP Program has promoted a detailed analysis of our Refining assets to identify opportunities for value generation in energy performance and sustainability dimensions. Energy performance analysis uses the methodology of the company HSB SOLOMON ASSOCIATES LLC. SOLOMON has been conducting refinery performance studies for many years, having developed its own evaluation system. This globally recognized experience in the Oil and Gas industry has allowed the company to accumulate unique expertise in identifying improvement opportunities and guiding effective actions to achieve them.

It is RefTOP's priority to increase the energy performance of refineries, through actions such as increasing the combustion efficiency of furnaces and boilers, reducing losses, recovering energy currents and optimizing the thermoelectric system. Thus, we achieve better utilization of inputs such as natural gas, electricity and steam in operations and consequently, reduce the intensity of greenhouse gas emissions from Refining.

We note some of the opportunities implemented under the program:

- Increased steam generation through energy integration in the Catalytic Cracking Unit of Refap;
- Installation of treatment for condensate recovery in the Hydrogen Generation Unit of Replan;
- Thermo-electric balance optimization at Repar by hibernating one boiler, enabling the operation of the remaining boilers with higher load and higher energy efficiency;
- Reducing steam and condensate losses in all refineries by increasing the availability of steam traps and fixing losses;
- Reducing systemic gas sending to flare systems, through increased compressor availability and identification and fixing of valve leaks;
- Cleaner energy mix, with reduced burning of fuel oil and LPG in refineries, prioritizing lower carbon-intensive energy sources (electricity and natural gas).

With a gain of USD 589 million between 2021 and 2023, the RefTOP Phase 2 Program will still be responsible for investments of USD 776 million in our refineries in the horizon of the 2024-28+ Strategic Plan. Considering the Program horizon, 2030, these investments will total USD 1.1 billion.

As examples of new projects to be implemented in the horizon of RefTOP Phase 2 Program, we note:

- Increased heat recovery from the Catalytic Cracking Unit at Recap;
- New thermal power plant at Reduc;
- Replacement of large machines (compressors and blowers) in the Catalytic Cracking Units of RPBC, Reduc and Repar with more efficient machines;
- Motorization of Blowers in the Catalytic Cracking Units of Refap and Replan;
- Increased condensate recovery at RPBC;
- Energy integration between Petroleum Distillation and Propylene Separation units at REVAP;
- Increased efficiency of heat exchanger networks in process units at Replan, Recap, RPBC, Regap, Rerpar and Refap

Reduction of emissions in natural gas processing

In 2023, in the area of natural gas processing, we continued a set of initiatives aimed at implementing projects to modernize and optimize the process installations of our assets in this segment. Through these initiatives, we seek greater value generation by increasing operational availability, reliability and energy efficiency, also leading to a reduction in greenhouse gas emissions.

As an example of the adopted improvements, we note the implementation of the initiative to recover gas from the MEG (monoethylene glycol) system, which was previously burned in flare, in 2023 at the Monteiro Lobato Gas Treatment Unit in Caraguatatuba-SP (UTGCA). With the change, this gas started to return to the process, allowing for its recovery into LPG, C5+, or sales gas. The reduction in emissions resulting from this use totals approximately 1.2 thousand tCO_2e annually.

Also in 2023, a maintenance program for rotating equipment valves and seals was carried out at the Cabiúnas Gas Treatment Unit in Macaé-RJ (UTGCAB), which, combined with increased reliability, resulted in a reduction in gas flaring. These actions, together with the fugitive emission reduction program initiated in the same year, are contributing to the mitigation of GHG emissions at the asset.

It should be further noted that between 2017 and 2023, there was a 78% reduction in the torch burning rate indicator in the Natural Gas Processing units linked to our Industrial Processes and Products Office, decreasing from levels of 0.72% to 0.16%. The indicator measures the percentage of gas burning relative to the total production of the units. When comparing 2023, the year with the best historical result of this indicator, with 2022, a 15% reduction in this rate is observed. It is estimated that the improvement over the period corresponds to 971 thousand tons of CO_2e were no longer emitted through flaring in these natural gas processing units, considering the rates from the first year of the period (2017) as a reference.

Reduction of emissions in electricity generation

In our thermal power plants, we seek greater value generation by increasing operational availability, reliability and energy efficiency, with decarbonization and reduced use of water resources.

As an example of these initiatives, we can mention the improvement project (upgrade) in the gas turbine of Block 1 of the Termorio Thermal Power Plant (RJ), completed in 2022, resulting a power increase of 27.5 MW and the possibility of extending maintenance intervals by up to 48,000 hours. Considering the final power achieved and the efficiency increase from this improvement, a reduction in GHG emissions of approximately 125.2 thousand tCO_2e at the Termorio Thermal Power Plant is estimated from 2024 to 2040, based on the assumptions of the 2024-28+ Strategic Plan. With the implementation of additional efficiency improvements in Blocks 2 and 3 of the Termorio Thermal Power Plant planned for 2026, considering the final power to be achieved and the resulting efficiency increase, the estimated additional reduction in GHG emissions will be in the order of 164.7 thousand tCO_2e by 2040, observing the same assumptions of the 2024-28+ Strategic Plan.
It is worth noting that other projects are under study to increase the operational efficiency of our thermal power plants, such as the modification of burners, updating control systems and improvements in combustion processes. For the latter, combustion improvements may include changes to the air filtration system and the combustion chamber cooling system, as well as changes to the automatic adjustment systems for burning parameters.

Utilization of Biomethane

One of the alternatives considered to achieve the decarbonization goals of our operations is the replacement of part of the fossil natural gas consumed in refineries and thermal power plants with biomethane. Biomethane can reduce emissions by up to 95% compared to fossil natural gas and Brazil has a great potential for production from landfills and agribusiness. Considering these advantages, we are working to make the use of biomethane feasible, making it competitive against other decarbonization alternatives.

Downstream Logistics

We will invest approximately USD 1.2 billion in our downstream logistics from 2024 to 2028, for the purpose of strengthen the integration of our production chain with efficiency, emission reduction and value generation.

Our projects in implementation seek to:

- **Maximize operational availability to monetize our reserves through optimized movement of oil and derivatives;**
- **Access strategic markets with infrastructure, either owned, contracted or in partnerships, according to the best arrangement for the business;**
- **Capture opportunities on the path of energy transition and sustainability of the segment.**

In the sea transport area, we monitor the greenhouse gas emissions of the contracted fleet and improve metrics to enhance the performance in terms of emission intensity both in long-haul and cabotage operations, in accordance with the directions of the Marine Environment Protection Committee (MEPC) of the International Maritime Organization (IMO). In 2023, we began monitoring our GHG Emissions Intensity in Maritime Transport per ton transported x mile and our GHG Emission Intensity in Maritime Transport per cargo capacity x mile.

Additionally, we note other important initiatives under development focused on reducing operational emissions:

- **Actions to optimize fuel consumption and subsequent increase energy efficiency on ships. Examples include:**
  - vessel consumption and speed control,
  - actions to reduce hull incrustation,
  - installation of hydrodynamic appendices,
  - optimization of ship trim by numerical simulation software (trim is difference between the drafts aft and forward of the vessel and its optimization can reduce resistance to vessel advancement, resulting in lower fuel consumption).

- **Contracting of Eco Type ships, which feature the latest technologies in energy efficiency and less fuel consumption;**

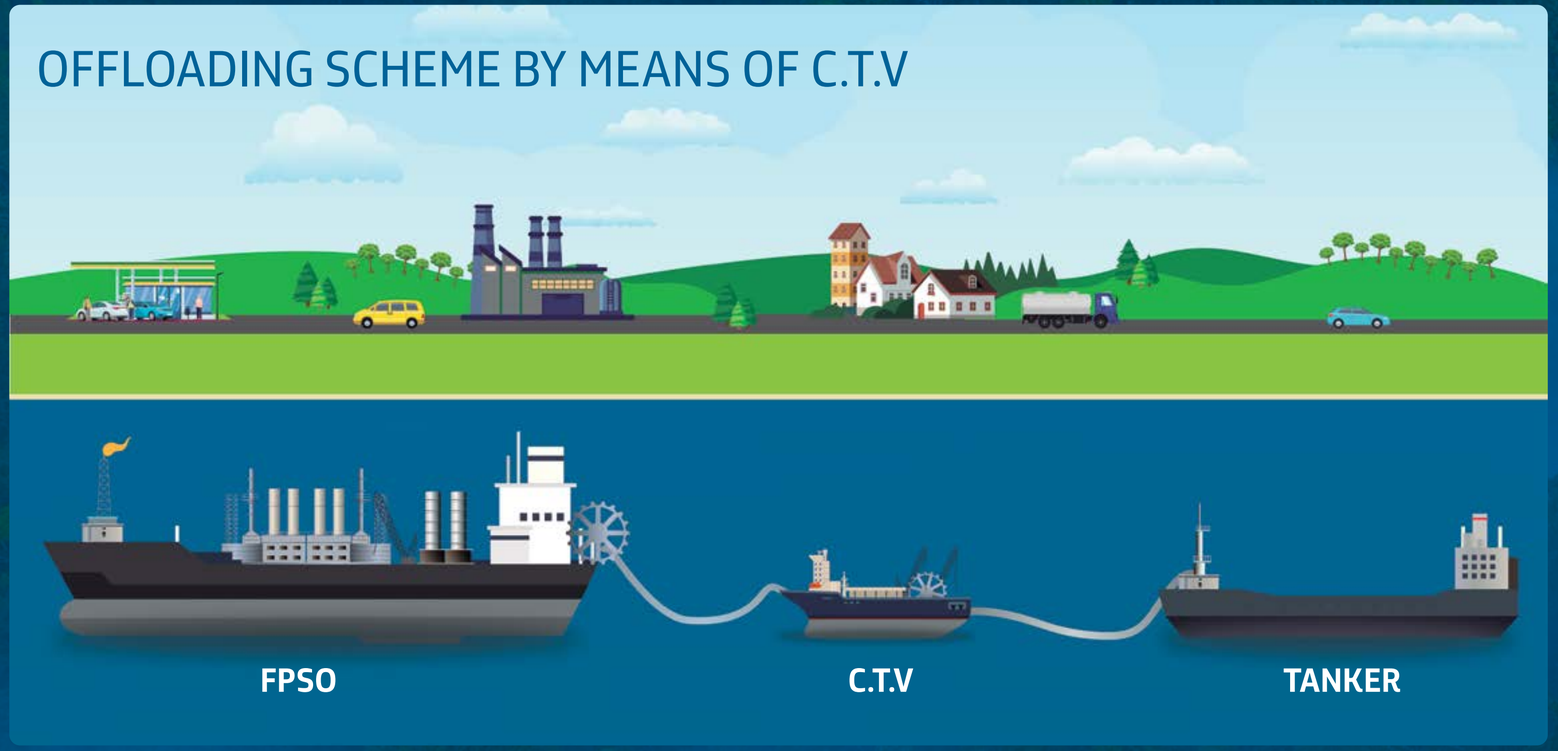
- **Actions for operational improvement and energy efficiency in pumping systems in terminals aimed at reducing electricity consumption.**

WE ARE QUALIFYING THE OPERATION OF CARGO TRANSFER VESSEL (CTV) FOR OIL OFFLOADING OPERATIONS.

Oil transfer operations from Floating Production Storage and Offloading units (FPSO) in Brazil are carried out by dedicated tankers equipped with dynamic positioning systems (DPST - Dynamic Positioning Shuttle Tanker). The ship's bow loading system connects to the FPSO's discharge hose and its dynamic positioning system is used to maintain the ship's position relative to the FPSO during the operation. After loading, the DPST-type ship needs to sail to a port to transfer the cargo to a conventional tanker. In Brazil, offloading operations are conducted in areas with strong and changing sea conditions. Dynamic positioning is required to ensure the safety of operations.

CTV is a new offloading technology undergoing qualification. This technology allows for direct transfer from the FPSO to a tanker with no need for transshipment at terminals but ensures the same safety rigor required for DPST dynamic positioning ships in offloading. Reducing trips to ports for transshipment reduces CO_2 emissions and fuel costs.

We have been studying this technological solution since 2016, which has gone through various stages to increase its maturity, such as numerical simulations, real-time simulations and field tests. In late 2023, we contracted the Sealoader 2 ship to continue the rigorous testing for technology validation.



Logistics Support Activities for Exploration and Production

The performance of our logistics support segment for exploration and production activities, which includes offshore support vessel operations, offshore air transportation, port operations, road transportation and warehousing is internally monitored by emission intensity indicators (i) per ton of cargo transported, in the case of Platform Supply Vessel (PSV); (ii) per passenger transported, in the case of helicopter transportation serving our offshore activities; and (iii) per ton of cargo transported in the land transport mode.

We have identified a number of opportunities to reduce emissions and use the MACC methodology (Marginal Abatement Cost Curve) to prioritize the most cost-effective carbon actions. In this regard, actions to improve logistics and operational performance have also begun to have a carbon efficiency bias, gaining visibility, scale and implementation prioritization. Among them, we can mention:

- **We signed the first hybrid offshore support vessel contract (Mr. Chafic). The vessel features battery bank technology that is going to result in reduced greenhouse gas emissions and diesel fuel savings;**

- **We contracted 4 Oil Recovery vessels, using higher-quality anti-fouling paint on hulls. This measure, besides preventing Sun Coral spread, increases navigation efficiency, allowing for emission reduction.**

- **In Land transportation, there have been included new technical specifications to electrify the utility and light vehicles fleet.**

Disruption

New concepts and technologies are necessary to ensure the path towards emission neutrality at affordable costs. These technologies aim to reduce carbon emissions, increase energy efficiency and promote the transition to cleaner and more renewable energy sources.

For the implementation of disruptive technologies, it is important to integrate the areas of project development, R&D, operation and maintenance for technical and economic evaluation of solutions for the proposed challenges and for implementation in investment projects in the Conceptual and Basic Project, Construction and Assembly and/or unit start-up phases. The FPSO+ Program plays a relevant role in promoting this integration in partnership with the Carbon Neutral Program.

Among the concepts under evaluation and study, we highlight the capture of exhaust gases from energy generation turbines (PCCC - Post Combustion Carbon Capture), external energy importation, ultra-deep seawater capture and new concepts of oil, gas and water treatment equipment and systems.

Capture of exhaust gases from power generation turbines (PCCC - Post Combustion Carbon Capture):
One of the most promising disruptive technologies in this context is the recovery of CO_2 from combustion process exhaust, for usage or geological storage.

During the burning process of a certain fuel, gases containing carbon dioxide (CO_2), nitrogen oxides (NOx) and sulfur oxides (SOx), among others, are released. With the use of various filters, catalysts and absorption systems, it is possible to separate and capture CO_2, in a process called CCUS of exhaust gases (or PCCC - Post Combustion Carbon Capture), aiming at preventing this gas from being released into the atmosphere.

Currently, the most established technology uses chemical solvents based on amines to capture CO_2. However, this technology requires a lot of energy and compression to operate, which is quite challenging for the offshore environment in which we operate the SPUs. For the purpose of conducting more in-depth studies on the technical and economic feasibility of CCUS of exhaust gases technology in offshore environments, we signed a contract with the company Kanfa at the end of 2023. Based on these studies, we will be able to evaluate the application of CCUS of exhaust gases in our offshore projects, enabling an alternative with high potential for reducing the greenhouse gas intensity of our E&P operations.

Importation of energy from an external source (topside and subsea electrification)

The importation of external energy through the complete electrification of production systems is also an important disruptive technology. This concept aims to use energy from a source with a lower carbon footprint to power our operations, reducing GHG emissions. Three potential application alternatives are:

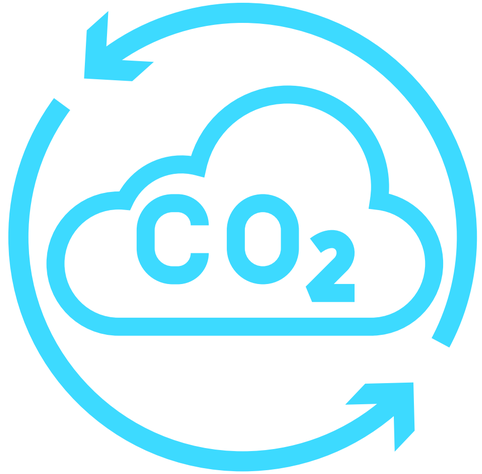
- Power from shore: harnesses the high share of renewable energy (>80%) in the National Integrated System, connecting it to the SPUs;
- Power Hub: use a platform for centralized energy generation, with greater efficiency and CO_2 capture, with geological storage in the reservoir itself or in an aquifer;
- Power from wind: association of the SPUs with offshore aerogenerators.

Each of these options has significant technological, engineering and economic challenges to be implemented, but a high potential for emission reduction and their developments are essential to achieve our emission neutrality ambitions. At the end of 2023, we entered into a contract with the company Wood Group USA, Inc., which provides for the development of the technical solution for topside electrification as one of its main deliverables.

Ultra-deep seawater capture

The capture of water at great depths consists of a technology that will use large-diameter flexible pipes to capture water hundreds of meters deep to be used in FPSO processes. Currently, the water used in the cooling process is captured at about 100 meters deep in the sea, with temperatures around 25°C, while capturing at greater depths allows for temperatures close to 8°C, providing greater efficiency for uses such as post-compression cooling and in separation stages, such as gas dehydration.

The technology is still in the study phase by our technical teams. Once it becomes possible to adopt it, ultra-deep capture will enable a significant reduction in the energy demand of production units, representing an excellent alternative focused on energy optimization and with a direct impact on FPSO designs, making them more efficient and lightweight and therefore less intensive in greenhouse gas emissions.



Supply Chain

We are intensifying collaboration to accelerate the maturity of our suppliers in engaging in decarbonization, focusing on knowledge sharing, encouraging the measurement and disclosure of emissions and assessing effective technologies for reducing operational emissions. We understand that the development of this maturity begins with the identification of GHG emissions and the establishment of clear purposes for their reduction. This process evolves with the implementation of initiatives and incentives that lead to efficient emission performance, aligning with Environmental, Social and Governance (ESG) requirements that can be incorporated into procurement processes.

Our 2024-28+ Strategic Plan, recognizing that current contracts occur in a more challenging context, establishes the following commitments, aligned with the ESG Strategy drivers ("Promoting the adoption of ESG practices among our stakeholders"):

- Evaluate, in 100% of contracts in strategic categories, the expansion of ESG requirements;
- Establish that 70% of relevant suppliers have their emission inventory (GHG) published.

The mapping of suppliers' engagement in decarbonization and climate change mitigation was carried out in 2023, for the second consecutive year, through the CDP Supply Chain. A significant sample of suppliers (approximately 500) was selected based on financial representativeness criteria and critical role in our operations. Among the results reported by CDP, it is worth noting that more than 50% of respondent suppliers have active decarbonization targets and the percentage of respondent suppliers publishing their Scope 1 emission inventories increased from 74% in 2022 to 79% in 2023.

We also implemented a voluntary ESG Questionnaire, for all suppliers in our database, focusing on mapping engagement in ESG practices. In 2023, approximately 400 suppliers participated in the survey.

As presented in our 2024-28+ Strategic Plan, the Carbon Neutral Program includes the Supply Chain front, which has initiatives supporting supplier engagement in decarbonization.

Thus, through this program, we will disseminate Petrobras' strategic plan guidelines to the supplier chain focusing on decarbonization of our operations, allowing for the expansion of initiatives in sustainable procurement aiming to increase the energy efficiency of our assets.

The Supply area works with the supplier chain to engage the market and provide contractual solutions enabling the development of new technologies aligned with our emission neutrality ambition. Internal processes for identifying opportunities and analyzing greenhouse gas emission performance related to our supplier chain are managed in partnership with our Climate Change, Supply and other operational areas. The governance supporting supplier chain sustainability management includes internal standards, supplier market relationship channels[1], capacity-building actions, technical and contractual requirements and a supplier performance evaluation system.

We have procedures for assessing and potentially including sustainability requirements in procurement processes, including market consultation to assess respective maturity levels. In 2023, we enhanced processes for incorporating sustainable procurement requirements, prioritizing those that provide dual resilience, both economic and environmental, especially related to emission reduction. We have developed the following procedures to support this governance:

- **Managing sustainability in Supply;**
- **Guidelines for implementing sustainability requirements in procurement of goods and services.**

Our decarbonization commitments and goals are shared through communication channels with our supplier chain. In 2023, we continued with the ESG Journey for suppliers (a distance education initiative on sustainability-related topics), notably the podcast on Climate Change.

Annually, the Petrobras Best Suppliers Award recognizes suppliers that stand out in their market niches for their high performance in the supply of goods and services to Petrobras, based on several criteria, including those related to ESG. In 2023, the award featured a special category dedicated to Decarbonization, addressing best practices in areas such as quantification, monitoring and reduction of GHG emissions; use of renewable energies; and development of technological and logistical solutions.

For the enhancement and sharing of knowledge related to decarbonization and sustainability of the supplier chain, we participate in working groups of two external reference organizations, through the participation of OGCI's Sustainable Procurement and the Incorporated Carbon Group, from IPIECA's Supply Chain front. The incentive to sustainability in the supplier chain also aligns with our understanding of business practices for a just transition, especially in the Collaboration and Engagement with stakeholders.

1 Several available channels, such as the Supplier Channel (https://canalfornecedor.petrobras.com.br/) and the direct channel for suppliers who wish to submit new ideas and technological solutions focused on decarbonization (cc- suprimentosesg@petrobras.com.br)

Scope 3

New Generation of Products with lower GHG emissions

In 2023, we launched new, more sustainable products, demonstrating our efforts to providing the market quality products aligned with the needs of the energy transition.

BioRefino Program

The BioRefino Program includes projects for the production of a new generation of more modern and sustainable fuels. As an example, one can mention the adaptation of refining units for the production of Diesel R, which is diesel oil with renewable content that is already available in the market. The construction of dedicated plants for the production of sustainable aviation kerosene and diesel oil from 100% renewable raw materials (projects 2028+) is also evaluated, according to economic attractiveness conditions.

The Presidente Getúlio Vargas Refinery (Repar) already performs the co-processing of refined soybean oil and diesel oil in an HDT (hydroprocessing) unit. A second HDT unit was adapted in 2023, being able to produce Diesel R, so the current capacity is 40,000 bpd. Diesel R is characterized by being drop-in, i.e., it is a product that can be used in systems designed for diesel oil with no need for any change in the engines and in the logistics infrastructure. Diesel R5 is already being marketed by the refinery, which has the capacity to offer a co-processed product with a renewable content concentration of up to 10%.

We carried out the Life Cycle Assessment of the product, which supported the process of international certification of the renewable content of Diesel R in one of the HDT units of Repar. This process was successfully concluded, resulting in ISCC Plus and ISCC EU RED certifications in February 2023 and recertifications in December 2023.

In 2023, we conducted industrial tests for vegetable oil co-processing in the hydroprocessing units of Presidente Bernardes Cubatão Refinery (RPBC), Duque de Caxias Refinery (Reduc) and Paulínia Refinery (Replan) and we are studying the implementation in other refineries depending on market conditions, especially regulatory advancements in recognizing the renewable portion of diesel R to meet biofuel mandates in the diesel cycle. With the successful industrial test, in March 2024, Presidente Bernardes Cubatão Refinery (RPBC) began selling Diesel R5, offering the product in São Paulo.

DIESEL R PRODUCED BY CO-PROCESSING

The co-processing of renewable raw materials in existing refineries is the fastest and most cost-efficient way to offer fuels with renewable content to the market, contributing to the journey of decarbonizing our products.

The renewable portion of Diesel R is chemically similar to mineral diesel oil (derived from petroleum). With the use of renewable raw materials, the reduction in GHG emissions associated with the renewable portion is at least 60% compared to mineral diesel and it can be higher depending on the raw material used.

In November 2023, we conducted the world's first test of processing 100% renewable load in a Fluid Catalytic Cracking (FCC) unit, generating a set of fuels and petrochemical inputs that are 100% renewable. The tests were conducted at Riograndense Oil Refinery (RPR) with technology developed by Petrobras. Technologies for the production of renewable diesel and sustainable aviation fuel (SAF) have also been evaluated and developed. Our 2024-28+ strategic plan provides for the construction of dedicated bio-refining plants for the production of sustainable aviation kerosene and renewable diesel at RPBC (SP), with an estimated capacity of 15,000 bpd and at Gaslub (RJ), with an estimated capacity of 19,000 bpd, both scheduled to start operations after 2028. The implementation of dedicated plants will allow us to contribute to the decarbonization of the road and air transport segments, while diversifying our portfolio with products with less carbon intensity.

Bunker with Renewable Content

In September 2022, we began tests for bunker fueling with renewable content for the maritime sector which are pioneering in the country. This work continued in 2023 and throughout the year, three field tests were conducted on coastal shipping routes in the Brazilian coast, using maritime fuel with lower carbon intensity. In the first, started at the end of 2022 and concluded in early 2023, a mixture of bunker fuel with 90% of mineral origin and 10% of biodiesel was used on a Transpetro vessel. In the two subsequent tests, conducted in the second half with ships from other companies, a mixture of mineral bunker fuel with 24% by volume of biodiesel derived from soybean oil and/or animal fat (tallow) was used. The results of the three tests were positive, with operational parameters, combustion quality and mixture stability indicating the technical feasibility of the product. Additionally, in the tests with 24% by volume of biodiesel, potential reductions in GHG emissions ranged between approximately 17%v and 20%v compared to 100% mineral bunker, depending on the origin of the biodiesel raw material.

New, more sustainable asphalts

In all sectors of the economy, we observe a growing demand for more sustainable products, reflecting an increasing concern for environmental preservation.

With this in mind, in 2023, we launched a portfolio of new asphalt products, the CAP Pro line, which brings a lower greenhouse gas emission and greater reuse of paving residues to the value chain, enabling more sustainable application.

We developed CAP Pro AP, high penetration asphalt with rejuvenating capacity, ideal for hot recycling services of damaged asphalt coatings. CAP Pro AP is more sustainable than traditional products as it allows greater use of recycled content (RAP – Reclaimed Asphalt Pavement) without the need for the use of rejuvenating agents. This product was tested on a highway with heavy traffic in the state of São Paulo, in a paving process that included recycling 20% of RAP, resulting in a performance similar to that of typical solutions with virgin materials. In addition to its use in recycling services, this new product brings advantages when used as an input in industrialization processes for the production of polymer-modified asphalts, emulsions and waterproofing agents. We also developed CAP Pro W 30/45, asphalt cement that can be milled and applied at temperatures up to

40°C lower than usual, generating energy savings, lower GHG and vapor emissions, resulting in gains for workers and the environment in the use of the product. The operational advantages associated with machining and application also benefit road users, due to the shorter road closure time during paving works and faster lane clearance. Tested on highways in partnerships with concessionaires, another benefit of CAP Pro W is to allow for greater use of reclaimed asphalt pavement (RAP) in asphalt concrete, a fact that makes it even more sustainable.

CAP Pro AP and CAP Pro W 30/45 are produced at Henrique Lage Refinery (REVAP) in the state of São Paulo.

Petrobras Podium Carbon Neutral Gasoline

In September 2023, we introduced to the market the new Petrobras Podium Carbon Neutral gasoline, the first in the Brazilian market to have its greenhouse gas (GHG) emissions fully offset. In this product, we offset the GHG emissions generated throughout the gasoline's lifecycle, from origin to use, through carbon credits generated by forest preservation actions in national biomes. The offsetting of emissions is carried out through the purchase and early retirement of carbon credits.

In addition to being the first fuel with emissions fully offset in the country, Petrobras Podium Gasoline has quality features, such as higher octane and lower sulfur content in the market. Petrobras Podium Gasoline was developed at our Research Center (Cenpes) 20 years ago and now has a history of pioneering and excellence, being currently produced at Presidente Bernardes Refinery (RPBC).

Transparency in Product GHG Emissions

Life Cycle Assessment

Life Cycle Assessment (LCA) is a technique that identifies and quantifies the resources used and emissions into air, land and water, enabling the assessment of the environmental impacts associated with a product throughout its production chain or useful life, i.e., throughout its entire life cycle and has its principles and calculation procedure described in ISO 14040 and ISO 14044. The life cycle of mineral fuels involves the stages of oil exploration and production, oil transportation, processing in refineries, distribution and product use.

With the aim of further assessing the carbon intensity of our products, we carry out preliminary Life Cycle Assessment studies of the produced oils and Refining products, focusing on the environmental impact of global warming. These assessments are used internally to improve our processes and to define our sustainability strategies and our product portfolio, as a way to contribute to the energy transition and a low-carbon economy.

So far, we have already carried out the Life Cycle Assessment of part of our oil production basins and our refineries. We continue to work on the evolution of our models with the goal of developing systems with greater agility and inventorying a greater number of oil production and refining units.

In 2023, we conducted the LCA of Podium Gasoline, which underwent a critical review process by the ACV Brasil consultancy. The critical review by an external expert is a recommendation of ISO 14040 and ISO 14044 standards. A document with the main assumptions and results is available on our website, transparently showing the LCA performed. *(https://www.petrobras.com.br/en/quem-somos/linha-podium)*

In 2024, we started a study to structure a Digital LCA pilot aimed at calculating the carbon intensity of produced oil and gas online. This work aims to meet customer demands, prepare us to meet regulatory requirements and provide information on the carbon intensity of oils for Digital Refining LCA.

NEUTRALIZING EMISSIONS AT ALL STAGES OF THE FUEL'S LIFE CYCLE.

We measure the GHG emissions throughout the product life cycle using the Life Cycle Assessment (LCA) methodology from "cradle to wheel." This includes emissions from sources directly controlled by the company as well as indirect emissions from the product chain and use.

The offsetting of GHG emissions occurs through the acquisition and retirement of carbon credits, which neutralize these emissions. This means that although the fuel is of mineral origin and therefore emits GHGs during its production and use, the emissions are offset before sale to the consumer. The end user already fuels his or her car with carbon-neutral gasoline.

In this way, we ensure emission offsetting throughout the entire production chain of oil, refining, distribution and consumption of the new Petrobras Podium Gasoline, including emissions from anhydrous ethanol and its production chain, since Petrobras Podium Carbon Neutral Gasoline arrives at the retail station with 25% by volume of anhydrous ethanol as required by law.

More information on the LCA performed and on GHG emission offsetting is available on the Podium line website at in *https://www.petrobras.com.br/en/quem-somos/linha-podium*

Sustainable Product Certification

The certification of sustainable products is a worldwide trend, in line with ESG practices. These practices ensure that a product follows international standards related to transparency, good management, quantification of carbon emissions in its life cycle and environmentally responsible production, with safe working conditions, compliance with human, labor and land rights, among others.

Certification is a process that involves a detailed analysis of the generation of a product and the tracking of information along the production chain, with the evaluation and validation by a third party of sustainability indicators proposed by a certification scheme. It is a rigorous process, with control and traceability requirements for many documents and internal records, which range from the purchase of raw materials to the receipt, storage, processing and sale of the sustainable product produced.

In February 2023, we voluntarily obtained ISCC Plus and ISCC EU RED certification for the renewable portion of Diesel R produced at the Presidente Getúlio Vargas Refinery (Repar), as a way of attesting that the renewable portion of this product follows strict environmental, social and governance practices in its

DIGITAL LCA OF REFINING

We are developing a digital model to carry out LCAs in our refineries, with agility and focus on calculating the carbon Intensity of products. The pilot implementation was carried out in 2023, with the system implementation at Henrique Lage Refinery (Revap) and Paulínia Refinery (Replan), which are now undergoing a process of validation and improvement.
The Digital LCA model uses real-time information from refinery management systems, such as the Digital Twin (digital twin of refinery processes used to optimize production) and the energy panel (energy performance data), as well as information from SIGEA® (Atmospheric Emissions Management System), from the product movement database and other complementary systems.

With this set of data, it is possible to calculate the Carbon Intensity of the refinery products with greater flexibility and traceability, contributing to the knowledge and management of emissions associated with production, meeting customer demands, developing products with less carbon intensity and certification.

Preliminary results are already being assessed, making it possible to improve the model under development. Our plan considers that, in two years, we will have implemented the system at the refineries and will be in the process of validating the results.

production. This product underwent recertification in December 2023. Repar can co-process diesel oil with vegetable oils in percentages from 5% to 10% (from Diesel R5 to Diesel R10). For the year 2024, ISCC certification of the renewable fraction of Diesel R for Presidente Bernardes Cubatão Refinery (RPBC) is expected. We are also evaluating the certification of other less carbon-intensive products, similarly to what was done for Diesel R, in line with our biorefining projects and commercial strategy and with the demands of the consumer market.

Corporate Venture Capital

An innovative initiative is being structured to accelerate our strategic positioning in businesses related to the energy transition through investments in the Corporate Venture Capital (CVC) mode.

The CVC model is an equity investment mode in small and medium-sized innovative companies (start-ups). This tool is widely used by Oil and Gas companies and large Brazilian companies. In the case of the CVC being structured, the focus is on businesses related to renewable and low-carbon energies and its main advantage is agility and access to expertise in new business models and disruptive technologies. For this initiative, we expect an amount of $100 million to be invested over the next 5 years.

CCUS and NBS

We seek opportunities for CO_2 abatement and removal through technological or natural routes, focusing on Carbon Capture, Utilization and Storage (CCUS) and Nature-Based Solutions (NBS), leveraging our expertise and Brazil's potential.

ISCC CERTIFICATION

ISCC - International Sustainability and Carbon Certification is an independent organization with global operations in certification systems that endorse the sustainability of raw materials and renewable products, through the evaluation of sustainability criteria throughout the production chain. The ISCC certification system is a multi-step process applied to all types of agricultural, forestry and fossil raw materials that contribute to the circular economy and bioeconomy. All over the world, various products such as food, feed, chemical compounds and fuels, as well as energy, can be certified by ISCC.

Carbon Capture, Utilization and Storage (CCUS)

We are internationally recognized for our experience in operating the CCUS project deployed in the pre-salt fields. In addition to being a pioneer in ultra-deep waters, it is also the largest CCUS program in the world in operation, considering the amount of CO_2 reinjected annually. According to the 2023 Global CCS Institute report, the storage capacity of all CCUS projects in operation worldwide is 49 million tCO_2 per annum. In 2023, we injected approximately 13 million tCO_2 into the pre-salt reservoirs, i.e., more than one fourth (27%) of the reported global capacity. Since the beginning of the project, which began as a pilot in the Tupi field in 2008, we have already reinjected 53.7 million tCO_2 in pre-salt reservoirs. Our goal is to expand the annual reinjection capacity and reach the mark of 80 million tCO_2 reinjected by 2025.

In addition to the pre-salt CCUS-EOR projects, we are studying the feasibility of developing CCUS hub projects in Brazil, aimed at providing services for the abatement of both our own emissions and those of third parties. In this new business model, CO_2 is captured at different locations and emission sources (refineries, cement industry, steel, aluminum, chemical industry, power plants, ethanol plants, among others) and transported through a connected, shared, and optimized transport network for subsequent storage in geological reservoirs that are suitable and safe.

Of all the opportunities evaluated, we can highlight the case of the hub in Rio de Janeiro, for which a memorandum of understanding was signed with the state government, aiming to conduct joint studies for the evaluation of its implementation. In line with this purpose, we are developing a pilot research and development project to validate and adapt technologies enabling the construction of Brazil's first commercial CCUS hub in the state of Rio de Janeiro. The pilot project is scheduled for implementation in 2027 and plans to capture, transport, and inject 100,000 tons of CO_2 per year over a period of 3 years into the São Tomé saline reservoir, located in the Campos Basin. The CO_2 that will be used in the pilot project comes from the Cabiúnas (UTGCAB) natural gas processing unit, which is one of the terminals that receives pre-salt gas. The project will assess injectivity, pressure management, logging and monitoring technologies for the movement and behavior of the CO_2 plume, as well as other aspects of storage safety.

In addition to the hub in the state of Rio de Janeiro, hubs in São Paulo, Espírito Santo and Bahia, among other opportunities, are being studied.

Through the OGCI (Oil and Gas Climate Initiative), of which we are members, we coordinated the development of a White Paper for the preparation of propositions and guidelines necessary for the implementation of a CCUS hub in Brazil, considering the local challenges for its deployment and the opportunities for the country.

Nature-Based Solutions and Carbon Credits

We believe that emission offsets through carbon credits can be used as a complementary tool in our decarbonization path. These credits can be nature-based, harnessing the potential of forests, soils, oceans and seaweed or obtained through technological solutions. While we expect to make use of offset, these initiatives should be thought of as additional contributions to intrinsic mitigation efforts and do not replace the need to supply less carbon-intensive energy to society.

Our operational assets are mostly installed in Brazil, and we are responsible for supplying a large part of the energy consumed in the country. We prioritize the acquisition of nature-based credits, which include afforestation credits (ARR) and emission reduction credits from deforestation and forest degradation (REDD+) as a contribution to national GHG emission mitigation efforts, 38% of which stem from the

change of use of land and forests (MCTI, 2023). Thus, we include offsets in our strategy to achieve even more ambitious results than those possible through intrinsic decarbonization of our operations, while also contributing to the preservation of Brazilian ecosystems.

We seek high-quality credits to ensure that they are actually bringing climate, socioeconomic and environmental benefits, taking advantage of the Brazilian potential in generating highly competitive nature-based credits. We are committed to disclosing the origin and use of our carbon credits in a transparent and traceable way. We believe in carbon markets as an important instrument in fighting

CO_2 REMOVAL: DIFFERENCES BETWEEN CCUS AND BECCS

Carbon dioxide (CO_2) removal refers to technologies, practices and approaches that remove and durably store CO_2 from the atmosphere. Atmosphere here refers to the free atmosphere where carbon dioxide has already been uniformly mixed with the air.

In turn, CCUS consists of a process in which a relatively pure stream of CO_2 is obtained from its separation (capture) from other chemical compounds present in the gases emitted by an emitting source (burn of fuels or industrial processes). This CO_2 stream is then conditioned, compressed, and transported to a geological storage location or earmarked for use. Capturing CO_2 at the emission source itself, or near it, counts as emission abatement (or avoided emissions), not as removal. Thus, CCUS does not fall under CO_2 removal but as emission abatement.

However, the process known as "Bioenergy with carbon capture and storage" (BECCS) is different. Unlike CCUS, BECCS is considered a removal method, since the biogenic carbon (such as that from bioethanol) injected for storage in the geological reservoir was, for some period, removed from the free atmosphere by biological sinks (such as the photosynthesis of the sugarcane plant).

climate change and we are engaged in discussions regarding the implementation of a regulated carbon market in Brazil.

Our actions in the carbon market provide for:

- Acquiring carbon credits to offset our operational emissions up to the limit of 20%;
- Investing in carbon credit generation projects;
- Considering the use of carbon credits in our commercial strategy, offering carbon-neutral fuels, whose emissions are offset, meeting the growing demand of the market and customers;
- Assessing the viability of generating carbon credits through the optimization of transport infrastructure as a decarbonization driver in public-private partnerships;
- Supporting structuring initiatives that enable the development of voluntary and regulated carbon markets in Brazil.

As a complementary activity and with the purpose of increasing our investments in a more diversified portfolio of projects involving natural-based solutions and taking the path of high-quality carbon credits, we have consolidated our partnership with the Brazilian Economic and Social Development Bank (BNDES) through the Living Forest match funding initiative, managed by the Brazilian Biodiversity Fund (FUNBIO). Under the Living Forest initiative, in 2023, we announced the results of the first call for proposals, "Brazilian Mangroves," selecting eight projects in the total amount of BRL 47.3 million for the next 4 years, to be carried out in mangrove and restinga (sandbank) areas in the North, Northeast, Southeast and South of Brazil, expecting to restore 1,757 hectares.

At COP28, we launched the second call for proposals of the initiative, "Biodiversity Corridors," which will allocate BRL 42 million to up to 9 projects, each with at least 200 hectares, focusing on corridors in Cerrado (scrub land) and Pantanal (marshland) areas. Considering the high biodiversity and relevance of both biomes for maintaining ecosystem services and the subsistence of human populations inside and outside their borders, the call aims to support ecological restoration actions and strengthen the restoration supply chain in the region.

Another BRL 50 million will be invested in special projects aimed at enabling civil society organizations and developing a value chain in restoration and conservation, generating socio-environmental reference results allied with the development of actions that contribute to the evolution of carbon projects.

In addition to our involvement in carbon markets, we have been supporting the preservation and restoration of Brazilian biomes for over 20 years through our portfolio of projects under the Petrobras Socio-environmental Program, with planned investments of BRL 345.74 million in the 2024-28+ Strategic Plan for activities in Forests and Oceans, which promote education and income generation while ensuring ecosystem recovery.

VOLUNTARY CARBON CREDIT MARKET

In 2023, we made our entry into the voluntary carbon credit market, acquiring 175 thousand credits from the Envira Amazon REDD+ project - developed in the city of Feijó, in Acre. Located in the Arc of Deforestation region, Feijó is the 24th Brazilian city with the highest deforestation rate between 2019 and 2022, with a 40% growth in the period, according to the Annual Deforestation Report in Brazil, prepared by MapBiomas.

The credits are from the 2019, 2020 and 2021 harvests and certified according to the VCS (Verified Carbon Standard) by Verra, the largest certifier in the voluntary carbon market worldwide and have gold-level certification for Adaptation to Climate Change, Biodiversity and Community according to the Climate, Community & Biodiversity (CCB) standard.

The credits acquired in this initiative were used to offset the emissions from the new Petrobras Podium Carbon Neutral Gasoline.

7 - RISKS AND OPPORTUNITIES

Risk Management Process

We have a history of analyzing and managing risks related to climate change. Our risk management process is integrated, which allows for the standardization of analysis and effective corporate management of all identified risks.

Risks (threats and opportunities) are identified by each organizational unit, considering the specificities of its processes, operations and objectives. Risks are classified into three groups according to their possible origin:

- Operational Risk: Includes risks arising from our core activities, in addition to risks arising from failures, deficiencies or inadequacies in internal processes, provision of goods and services, systems, as well as natural disasters and/or actions by third parties.
- Financial Risk: Includes risks arising from market fluctuations, counterparty defaults and mismatches between assets and liabilities.
- Compliance Risk: Includes risks arising from laws and regulations applicable to our business, as well as our Code of Ethical Conduct and other internal rules and procedures.

Risks are assessed considering the probability of occurrence and impacts on the financial, image and reputation, legal and compliance, environmental and life dimensions.

Identified risks must have one or more associated actions that correspond to the risk response. Actions can be of the following types: avoid, reduce, transfer, accept or exploit (as applicable to opportunities). Risks with a very high, high or medium degree of severity with a high impact should not be accepted. Response plans with deadlines and responsible persons are established for these risks.

Annually, the Executive Risk Committee (CE-Riscos) and the Executive Board define the strategic risks, according to their importance for the implementation of the company's Strategic Plan, their scope, degree of severity and resources required for their treatment. These risks must be monitored quarterly by the Executive Board and presented to the advisory committees related to the topic of corporate risk management: Audit Committee and the CE-Riscos, being subsequently presented to the Board of Directors.

In addition to strategic risks, other relevant risks, such as those of very high and high severity, are also monitored by senior management.

The set of risks related to climate change and energy transition has been evaluated with a very high degree of severity and is currently considered a strategic risk, being monitored according to the described governance.

Risks Related to Climate Change and Energy Transition

RISK CATEGORY	RISK FACTOR	DESCRIPTION AND IMPACT	TIME HORIZON[1]	ACTIONS
Transition Risks	Market	>Global: increased demand for energy and products with less carbon intensity, leading to a reduction in the demand for oil and a consequent drop in the prices of fossil products. Preference for fossil products with Lower Greenhouse Gas (GHG) intensity in production processes. >In Brazil: the demand for our products may be affected especially by an increase in the demand for alternative fuels, also encouraged by Public Policies such as the RENOVABIO program.	Medium to Long term	>Consider the possibility of restricting the sale of fossil products and/or encouraging the sale of renewable alternatives in at least one of the corporate planning scenarios >Analyze the portfolio value and resilience compared to accelerated transition scenarios >Assess the exposure of the E&P portfolio to the demand of the scenarios aligned to Paris >Undertake commitments related to carbon with a short and medium-term vision and neutrality ambition for 2050 and maintenance of emissions' level in the five-year period >Expand the range of products with lower emission in the life cycle under the BioRefino Program >Develop new low-carbon businesses such as wind, solar an hydrogen

[1] *Time horizon criteria adopted: short term (1 year), medium term (between 1 and 5 years) and long term (longer than 5 years)*

RISK CATEGORY	RISK FACTOR	DESCRIPTION AND IMPACT	TIME HORIZON[1]	ACTIONS
Transition Risks	Technological	>Loss of competitiveness due to non-implementation or implementation of ineffective or non-cost-effective technologies to reduce emissions from our operations and products	Medium to Long term	>Provide for relevant investment participation in low carbon in the total RD&I portfolio >Monitor technological advancements in external forums >Provide budge for Decarbonization Fund to accelerate the inclusion of technological options for emission mitigation >Provide for performance and technological requirements for Investment Projects >Advances of the Carbon Neutral Program, especially the Disruption front
Transition Risks	Regulatory	>Increased requirements for controlling GHG emissions in licensing processes, which may cause operational restrictions and financial penalties for our activities >Complementation of regulation for the adoption of a carbon pricing instrument in Brazil, considering its various aspects and possible formats	Medium to Long term	>Monitoring of regulatory risk with assessment of potential impacts and opportunities >Participate in technical and strategic discussions related to potential regulations and demands from outside bodies >Undertake commitments related to carbon with a short and medium-term vision and neutrality ambition for 2050 and maintenance of the emissions' level in the five-year period

RISK CATEGORY	RISK FACTOR	DESCRIPTION AND IMPACT	TIME HORIZON[1]	ACTIONS
Transition Risks	Legal and reputation	>Litigation and/or loss of reputation for non-compliance with climate commitments	Medium term	>Periodic monitoring and evaluation of results at the different levels of the company's governance, including Senior Management >Focus on transparency: adoption of the TCFD recommendations as a reference in the disclosure of information related to the topic; Monitoring of our results in the various external evaluation rates, such as the CDP and DJSI, performing gap analysis for improvements; a direct dialogue with investors and society about our strategies and positioning on climate change and energy transition, through the Climate Supplement, Sustainability Report, website, bilateral events and others Promotion of social and environmental responsibility associated with the business, generating a positive impact on society and the environment, strengthening our reputation. >Disclose potential impacts of energy transition in financial statements >Implement actions provided in the OGMP 2.0 implementation plan focused on transparency in methane emission quantification and management
Physical hazards	Water scarcity	>Reduction of water availability affecting onshore facilities	Medium to Long term	>Assess water availability (current and future) and alternative supply sources in priority facilities >Sustainability commitment to reduce our freshwater intake by 40% by 2030, monitored by the Company's governance, including Senior Management.
Physical hazards	Meteoceano-graphic change	>Changes in wind patterns, ocean waves and currents can alter the operating conditions of our assets	Long term	>Study improvements in the predictability of physical climate change >Update standards and technical specifications for meteoceanography incorporating future climate projections >Adapt existing facilities and incorporate climate variability in new development projects

EVALUATION OF POTENTIAL REGULATORY RISK IMPACTS:

Specifically regarding carbon pricing, we quantified the risk based on portfolio value simulations, assessing the impact of costs resulting from a possible national cap and trade system as a tool to contain operational emissions. In this study, we consider the gradual implementation of the instrument and ranges of values that vary over time from USD 0/t CO_2 to USD 135/t CO_2 depending on the scenario.

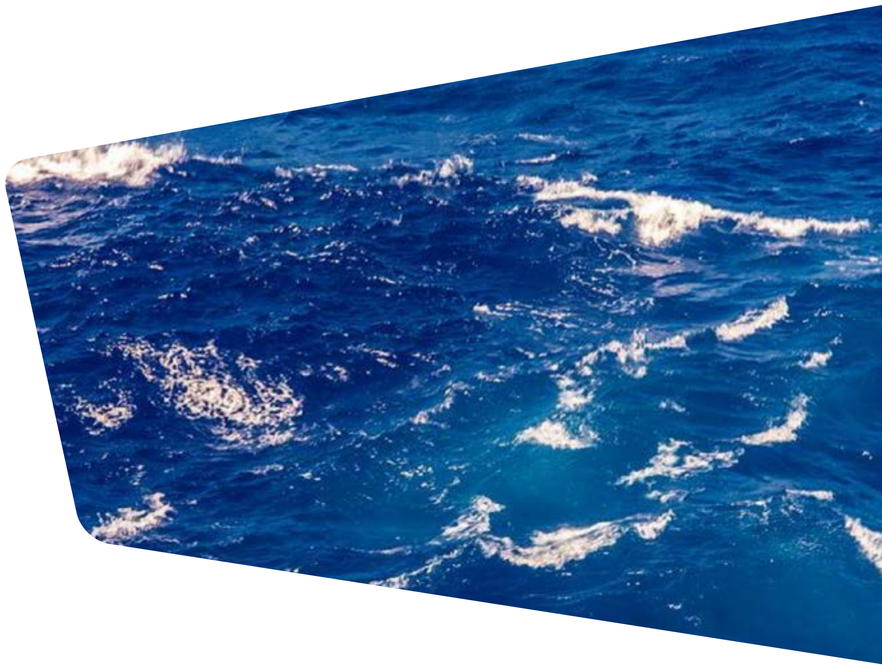
Physical Impacts of Climate Change

The operational and project conditions of our installations are subject to physical risks associated with climate change. Physical risks result from changes in climate that can be event-driven (acute physical risk) or long-term changes in climate patterns (chronic physical risk). The variables considered most susceptible to these changes include wind patterns, ocean waves and currents in areas where the company operates offshore, as well as the availability of freshwater for our onshore operations.

For environmental variables in the oceanic region, we assess the physical risk associated with climate change in our operations through research and development of climate regionalization, with renowned institutions in Brazil and abroad, generating qualified information for the adaptation process of our operations. Studies to simulate atmospheric conditions and future waves were developed in technological partnership with IAG/USP (Institute of Astronomy, Geophysics and Atmospheric Sciences of the University of São Paulo), evaluating the effects of climate projections RCP4.5 and RCP8.5 from global climate models MPI and HadGEM2-ES of CMIP5 and high-resolution models (HighResMIP) HadGEM3-GC31-HM, MRI-AGCM3-2-S, MPI-ESM1.2-XR and ECMWF-IFS-HR of CMIP6, with a time horizon of up to 2060. The dynamic downscaling technique was applied for adequate representation of the physical phenomena of interest in the Santos, Campos and Espírito Santo Basins. Based on these analyses, we estimate that the offshore structures in the Southeast basins, which total the highest percentage of our production (96%), are adequately sized for the expected changes in wind, wave and ocean current patterns in the region.

Additionally, for offshore installations, a system of climate physical risk indicators is being developed for the purpose of obtaining an integrated assessment of climate effects through reliability indicators of design parameters and definition of operational indicators, such as improving the risk estimation of offloading operation interruptions.

Regarding the availability of freshwater for our installations' operations, risks related to the topic are monitored, managed and mitigated by the company. Such risks can arise from various factors that, together,



impact water availability, such as: population growth, intensification of consumption patterns, inadequate infrastructure, pollution, resource misallocation and climate change. Therefore, water risk management in the company covers both climate and non-climate risks. Based on our assessment, the potential impacts arising from climate change on the availability of freshwater for our installations are not significant in the set of risks involved.

Our monitoring is carried out holistically and through multiple tools, such as:

- The WRI Aqueduct Water Risk Atlas, one of the world's main public tools for mapping water risks;
- The Water Scarcity Risk Index, a customized tool developed with the Federal University of Rio de Janeiro (UFRJ), aimed at selecting our installations that are priorities for the development of complementary studies;
- Detailed studies of current and future water availability and alternative sources;
- The Decision Support System, developed with the University of São Paulo (USP), which allows for the creation of scenarios of water availability, using projected climate data from CMIP5 models (HadGEM2-ES, BESM, MIROC5 and CanERM2) and soil cover data, for the analysis of risk and vulnerability in meeting water demands at our units.

Climate Change Opportunities

The interest in low-carbon products and services brings new opportunities to the business, which can lead to revenue diversification and reduced carbon exposure. In this regard, we were already working on further studies in offshore wind, hydrogen and carbon capture and storage (CCUS), in addition to our involvement in the bio-refining segment. With the disclosure of the 2024-28+ Strategic Plan, the expansion of such movement became evident, with the inclusion of onshore solar and wind generation areas as potential low-carbon businesses. The main value drivers for these opportunities are:

- Technological and project management capacity as distinguished features to exploit Brazil's regional competitive advantages;
- Investments in partnerships for risk reduction and knowledge sharing;
- Potential synergies with our expertise, such as E&P knowledge for offshore wind, Refining for biorefining and Gas for hydrogen.

Thus, the main activities we are developing to expand our involvement in low-carbon businesses are:

- Solar and onshore wind: partnerships, acquisitions and investments in project development in Brazil;
- Offshore Wind: studies in Brazil aiming for participation in area auctions and environmental licensing in Brazil;
- CCUS: pilot project in Rio de Janeiro, along with studies for CCUS projects;
- Hydrogen: studies for projects in Brazil;
- Biorefining: expansion of biorefining projects, focusing on BioQAV and Renewable Diesel.

8 - ENGAGEMENT

Collaboration with the Industry and other stakeholders

We value transparency in our work with our stakeholders, guided by our Code of Ethical Conduct, our social responsibility and HSE policies and our Supplier Code of Conduct. We systematically monitor and adhere to world-class climate reporting codes such as sustainability reporting guidelines of the Global Reporting Initiative (GRI Standards), the DJSI (Dow Jones Sustainability Index) requirements, CDP and TCFD (Task Force on Climate-related Financial Disclosures), as well as guidance from our industry, such as the IPIECA supplemental reporting methodology (Oil and Gas Industry Voluntary Reporting Guide). Additionally, we contribute to and adhere to reporting and transparency parameters agreed upon in the OGCI (Oil and Gas Climate Initiative).

We declare support for the TCFD, an initiative of the FSB (Financial Stability Board), requested by the G20 and announced in 2015, with the mission to develop recommendations for disclosure of financial risks related to climate change for use by companies in providing information to investors. This Climate Supplement follows the recommendations of the TCFD, covering the four thematic areas of the initiative: (i) Governance; (ii) Strategy; (iii) Risk Management; (iv) Metrics and Targets (Map for TCFD requirements attached). Since 2018, we have used the TCFD as a benchmark for our carbon management process and are continually moving towards incorporating its guidelines deeply into our decision-making processes.

For the seventh consecutive year, we were part of the B3 Carbon Efficient Index (ICO_2 B3). This indicator assesses companies' commitment to transparency of their emissions and to a low-carbon economy. Also, to be part of the ICO_2 B3 assessment, the company must be a part of the IBrx 100 (comprised of the 100 Brazilian companies that have the most traded shares on the stock exchange) and report the annual inventory of greenhouse gas emissions.

In 2023, we were rated as A- in the CDP for the second consecutive year. We once again joined the list of global companies that excel in managing climate change, achieving Leadership rating. Under supply engagement rating (CDP Supplier Engagement Rating), we also obtained an A-

this year. CDP is a global reference for investors in providing quality information on risks and opportunities associated with climate change, water security and forest management. CDP assessment of these topics is conducted annually through questionnaires sent to companies listed on the world's major stock exchanges. We have been responding to the questionnaire since 2004. Currently, CDP is used by over 680 investors, whose assets total over USD 130 trillion.

Cooperation and Dissemination of Knowledge and Best Practices:

Our strategic approach to addressing climate change involves a comprehensive assessment of the external landscape, aiming to integrate the perspectives of our stakeholders into crucial decision-making processes for climate change mitigation.

This includes gap analysis, identification of synergies in positions and incorporation of new insights into our communication strategy, both internally and externally. We firmly believe in the importance of collaboration in the transition to a low-carbon economy and as part of this commitment, we have established partnerships with other companies and the science, technology, and innovation community.

In 2023, we actively participated in forums and initiatives related to climate change, covering the oil and gas sectors at international and national levels, as well as other industrial and business segments. During these events, we shared our perspective on energy transition and sustainability, publicizing the key initiatives under way. Throughout the year, we emphasized and strengthened our position by highlighting significant opportunities aligned with our objectives:

At CERAWeek in Houston, United States, under the theme "Navigating a Turbulent World: Energy, Climate and Security," we addressed challenges facing the energy industry in Latin America on the panel "Latin American Upstream: Competitiveness in global markets," such as increasing competitiveness and the growing need for carbon reduction by energy companies in the global market, among other topics. In the presence of leaders from the world's largest energy companies, we promoted the importance of synergistic and joint industry actions in both renewable energy projects and initiatives for better utilization of oil and gas reserves, with emphasis on expanding cooperation in offshore wind energy projects on the Brazilian coast, the participation of other major oil companies in

carbon capture initiatives in the Amazon and mangrove regions and investments in solar energy.
At the Offshore Technology Conference (OTC) also in Houston, United States, we participated in the panel "Brazilian Energy Outlook: Strengthening the Offshore Activities," indicating that efficient projects with intensive use of technology in the oil and gas segment are the fastest way to create low-carbon energy ecosystems and to ensure energy transition. We also stressed that Petrobras and Brazil have the essential means to become leaders in low-emission and high-profit oil and gas production, creating the necessary path for a fair, inclusive, and secure energy transition meeting society's aspirations. The country's favorable conditions for the development of offshore wind power were also pointed out.

We participated in the Amazon Dialogues, an event that is part of the Amazon Summit and was held in Belém (PA), aimed at fostering cooperation among Amazonian countries and other partners for sustainable development, deforestation reduction and other agendas related to the region. Our participation took place in plenary sessions and parallel meetings with representatives from governments, international institutions, social movements, and leaders operating in the Brazilian Amazon and other Amazonian countries, reinforcing the importance of participating in the environmental agenda discussion, crucial for the company and for the country on the path to leadership in energy transition through dialogue focused on energy transition and sustainable development. The Summit also contributed to the agenda of discussions taken to the United Nations Climate Change Conference (COP28).

During the Gastech edition in Singapore, considered the world's largest gathering for the gas, LNG, low-carbon solutions, and climate technology industries, we were part of the panel "Gas market growth in Brazil: innovation and international partnerships" to discuss the prospect of how international partnerships and innovation can impact the challenges faced in energy transition.

We attended the World Petroleum Congress in Calgary, Canada, whose main agenda was global energy transition, representing an important bridge between the traditional energy sector and a more carbon-neutral industry over the next 25 years through realistic and viable pathways to a net-zero future. We participated in the plenary session "Energy Security, Reliability and Chain Resilience during the Energy Transition," emphasizing the importance of a just

energy transition, associating economic prosperity with energy security and that the change in energy matrices should reduce economic inequalities and social issues, with the oil and gas industry being crucial in this process. We reinforced that, in addition to seeking new sources of clean energy, we focus on reducing emissions in oil production and consumption and invest in sustainable technologies to make our operations more efficient. Simultaneously, we regularly measure winds on our platforms, contributing to the development of wind energy projects. Our CO_2 capture and storage project were also highlighted, emphasizing the importance of Carbon Capture, Utilization and Storage (CCUS) in transitioning to lower-emission oil production.

At the U.S.–Brazil Clean Energy Industry Dialogue (CEID) held in Washington D.C, USA, we participated in the launch of the Carbon and Methane Management Action Committee with the aim of promoting together with the Ministry of Mines and Energy the advancement of the United States and Brazilian governments toward the common goal of developing carbon capture and storage (CCUS) activities, especially supporting initiatives to decarbonize the energy matrices of both countries.

Participation in Associations

Brazilian Institute of Oil and Gas (IBP)

In Brazil, the Brazilian Institute of Oil and Gas (IBP), the industry's institutional representative, develops, together with its associates and specialists, policies, and lines of action for all segments and demands of the oil, gas and biofuels industry.

Since 2021, IBP has reinforced its commitment to the industry's decarbonization trajectory by 2050, aligned with Brazil's commitment in the Paris Agreement to emission neutrality by 2050. As an associated company, we endorse this commitment, seeking wealth generation from our oil and gas reserves while supporting the decarbonization of the national economy.

In 2023, IBP promoted the first edition of the ESG Forum, bringing together the sector for discussions on energy transition to a future with fewer emissions, policies and advances of projects such as offshore wind, Carbon Capture, Storage and Utilization technology, carbon market, hydrogen and other actions for the development of the social and diversity agenda and inclusion as an engine of innovation for society.

Oil and Gas Climate Initiative (OGCI)

Since 2018, we have integrated the Oil and Gas Climate Initiative (OGCI), which brings together twelve of the largest oil and gas companies in the world, responsible for more than 30% of the world's O&G production. We participate in OGCI through our involvement in the Executive Committee (ExCom) and Climate Investments (CI). We also contribute technically by participating in different working groups, such as Carbon Capture, Utilization and Storage (CCUS); Low-emission opportunities; Role of natural gas; Energy efficiency; Natural climate solutions; and Transportation.

OGCI supports the goals of the Paris Agreement and initiatives such as the Methane Guiding Principles, the Global Methane Alliance, and the Zero Routine Flaring by 2030 initiative of the World Bank. In the latter, we are signatories to the commitment to eliminate routine flaring in operating fields by 2030.

OGCI member companies increased low-carbon investments in 2022 to $24.3 billion - an almost 70% increase from the previous year, totaling $65 billion since 2017. Collectively, we have reduced absolute methane emissions in the upstream sector by half and reduced carbon intensity by over 21% compared to 2017. OGCI's Scope 1 greenhouse gas emissions were 22% lower than in 2017.

IPIECA

IPIECA is the global oil and gas association that seeks to promote environmental and social performance during the energy transition. The institution has been operating for 50 years in promoting and exchanging good practices in sustainability, contributing to the preparation and dissemination of guidelines for the O&G industry. IPIECA has 36 companies and 16 associations that form a network representing over 400 oil and gas companies.

Since July 1, 2022, one of the conditions for joining (or maintaining membership) in IPIECA is to support the "IPIECA Principles." By establishing sustainability expectations for its members, the IPIECA Principles reinforce the institution's role in inspiring action and leading the global oil, gas, and alternative energy industry through a sustainable energy transition. The 8 principles are grouped under the four pillars of the 2021-2024 IPIECA strategy, providing a shared ambition for members in support of their vision, namely: Climate,

Nature, People and Sustainability. Regarding the Climate pillar, we endorse its two Principles: (i) Supporting the Paris Agreement and its goals and (ii) promoting emission reduction and innovation and enabling the adoption of low-carbon products and solutions in oil, gas and/or alternative energy.

IOGP

The International Association of Oil and Gas Producers (IOGP) has been operating for 45 years in the representation of the upstream of the O&G industry, promoting the sharing of knowledge and practices related to safety, health, environment, and climate. Its members are responsible for supplying more than 40% of the world's demand for oil and gas.

Within IOGP, in addition to various other groups with environmental and operational safety and health themes, we participate in the Low Carbon Operational Efficiency (LCOE) Committee and its respective subcommittees on Flaring & Venting and Methane Management, Energy Efficiency, Electrification, Transition Energy Metrics and the Carbon Capture and Storage (CCS) Committee.

ARPEL

The Regional Association of Oil, Gas and Biofuels Companies in Latin America and the Caribbean (ARPEL), founded in 1965, aims to promote cooperation and mutual assistance among sector companies in the region, actively contributing to industrial integration, competitive growth, and sustainable energy development in the region.

Its members represent a high percentage of upstream, midstream, and downstream activities in Latin America and the Caribbean, including national and international operational companies, technology suppliers, goods and services providers for the value chain, as well as national and international sectoral organizations.

ARPEL's declared mission is to promote integration, growth, operational excellence, and the effective socio-environmental performance of the sector in the region, facilitating dialogue, cooperation, the development of synergies among actors and the shared creation of value among associates through the exchange and expansion of knowledge.

In 2023, ARPEL's public stance on just energy transitions in Latin America and the Caribbean stands out, with a premise on the region's specificities. In this regard, recognizing the urgency of measures for climate change mitigation, the organization notes that energy transition trajectories should consider the social and economic impacts on communities in developing countries with high unemployment, inequality, and energy poverty rates.

Endorsement of the OGDC International Pact (Oil & Gas Decarbonization Charter)

The OGDC was an initiative led by the COP28 Energy Transition team for the purpose of gathering the global oil and gas industry around ambitions that lead the sector to carbon emission neutrality by or before 2050 and the elimination of routine flaring methane emissions by 2030, primarily.

Therefore, it is a joint effort to be adopted by the oil and gas sector. At COP28, it was announced that 50 oil and gas companies had joined the OGDC, amounting to more than 40% of global oil production. It is worth noting our presence among the National Oil Companies (NOC), representing about 60% of the companies that joined the OGDC.

Petrobras Connections for Innovation

One of the engagement methods we use is our open innovation program, Petrobras Connections for Innovation.

Through this program, we connect with different actors in the innovation ecosystem (universities, science and technology institutes, startups, and large companies) to form partnerships aimed at developing new technologies. This includes technologies focused on emission reduction and renewable energies, contributing to meeting our decarbonization commitments with operational efficiency gains. The program has seven modules for disseminating opportunities, representing the different associative models we offer, depending on the type of partner.

Cooperation in other sectors

We seek to extend our collaboration beyond the industry, committing ourselves to dialogue and the search for solutions. We work in partnership with prominent institutions promoting sustainable development, such as the Organization for Economic Cooperation and Development (OECD); World Economic Forum (WEF); Brazilian Business Council for Sustainable Development (CEBDS); National Confederation of Industry (CNI); Industry Federations of Brazilian states; Brazilian Climate Change Forum.

In October 2023, we participated in the 11th edition of the International Congress for Sustainable Development, promoted by CEBDS, focusing on promoting discussion around the contribution of business leaders to opportunities for Brazil in the Sustainability agenda. Topics such as reindustrialization, green hydrogen, sustainable taxonomy, and bioeconomy were on the event's agenda.

We cooperate with automotive manufacturers' associations and other value chain actors in some OGCI groups, such as the Transport Working Group. We also interact with the Brazilian Association of Automotive Engineering, an entity that promotes the development of automotive engineering and public policies in the sector, with sustained action on pillars such as scientific knowledge, technology, competitiveness, quality, autonomy, and sustainability.

Engagement in public policies

The Brazilian government is strongly involved in defining climate and development policies that support the country's transition to a low-carbon economy in a sustainable and inclusive manner. In this context, we have played an important role in supporting and implementing public policies related to energy transition in Brazil, adjusting our strategies and investments to the challenges of energy transition and climate change, seeking to promote cleaner and more renewable energy sources.

In this regard, we seek to contribute to technical discussions aimed at strengthening the premises and definitions of the legal and regulatory framework regarding instruments and mechanisms to enable technologies and businesses that contribute to the mitigation and adaptation of climate change. Through direct representatives or technical representatives of the associations to which we are linked, we participate in events such as public hearings promoted in the National Congress and meetings with representatives of the executive branch to discuss the regulation of activities and businesses, such as the carbon market, carbon capture and storage, hydrogen production, and offshore wind energy generation.

To ensure best practices in coordinating engagement actions related to climate change and energy transition, including engagement with public authorities, we have in our governance forums for discussion and deliberation that permeate the various levels of decision-making.

Carbon Market Regulation in Brazil

We support the regulation of the carbon market in Brazil as we understand it to be a fundamental instrument for promoting energy transition and enabling the goals established in the Brazilian NDC (Nationally Determined Contribution). We are contributing technically to the development of the legal framework, directly or through associations, particularly the IBP (Brazilian Institute of Oil and Gas), CEBDS (Brazilian representative of the World Business Council for Sustainable Development) and CNI (National Confederation of Industry).

With our engagement actions, we seek to align Brazilian regulation with international best practices, allowing for the connection of the national market with international initiatives. We support (i) clear rules for the transaction of emission allowances between regulated entities and a national registration system that organizes all these transactions; (ii) the possibility of using offsets (carbon credits from the voluntary market), albeit in a limited manner, and that these credits undergo certification and verification standards guaranteeing their quality and integrity and be duly registered to avoid double counting; (iii) clear rules allowing for predictability and legal certainty; and (iv) environmental and social safeguards for local communities.

CCUS (Carbon Capture, Utilization, and Storage) and Permanent CO_2 Storage

Bill 1425/2022 is being processed, to regulate the exploration of permanent CO_2 storage activities of public interest, in geological or temporary reservoirs, and its subsequent reuse. For ensuring the technical feasibility of CCUS value chain projects, their operations, and subsequent deactivations, we act directly, as well as through associations, with the government.

Our contributions sought references to experiences from other countries in the economic regulation of CCUS, considering Brazilian specificities and the vertical work of actors in the various links of the chain, i.e., movement, capture and storage, a fundamental aspect for the industry's development in the country.

Regulation on granting authorizations for the use of offshore energy potential in Brazil.

We contributed technically to the discussions around Bill 576/2021, which provides for the use of Government assets for offshore energy generation. We understand that the criteria for granting areas for the implementation of offshore wind farms should consider local specificities and the need to ensure investment attractiveness. In this regard, we seek to contribute, based on technical subsidies, to the simplification and objectivity of the criteria adopted in the Bill.

ROADMAP TO TCFD REQUIREMENTS

TCFD RECOMMENDATION	PUBLICITY	LOCATION
Governance: Disclose the organization's governance around climate-related risks and opportunities.		
a) Describe the board's oversight of climate-related risks and opportunities.	**Governance of Climate Change-related Risks and Opportunities** **Process for Risk Management and Opportunities**	Pg. 59-60 Pg. 96
b) Describe management's role in assessing and managing climate-related risks and opportunities.	**Governance of climate change-related risks and opportunities** **Process for Risk Management and Opportunities**	Pg. 59-60 Pg. 96
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.		
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	**Risks Related to Climate Change and Energy Transition** **Climate Change Opportunities**	Pg. 96-101 Pg. 101
b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	**Positioning, Strategies and Commitments** **Risks Related to Climate Change and Energy Transition** **Portfolio Financial Resilience Analysis** **Explanatory Note number 5 (Climate Change) of Financial Statements 2023**	Pg. 25-31 Pg. 96-101 Pg. 40-42 Pg. 43
c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	**Portfolio Financial Resilience Analysis** **Explanatory Note number 5 (Climate Change) of Financial Statements 2023**	Pg. 40-42 Pg 43

TCFD RECOMMENDATION	PUBLICITY	LOCATION
Risk Management: Disclose how the organization identifies, assesses, and manages climate-related risks.		
a) Describe the organization's processes for identifying and assessing climate-related risks.	**Risk Management Process**	Pg. 96
b) Describe the organization's processes for managing climate-related risks.	**Risk Management Process**	Pg. 96
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	**Risk Management Process**	Pg. 96
Goals and Metrics: Disclose the metrics and goals used to assess and manage risks and opportunities related to climate change whenever that information is relevant Metrics and Targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.		
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	**Metrics**	Pg. 56 - 58
b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	**Emissions Performance**	Pg. 46 - 54
c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	**Ambitions and Commitments to reduce carbon footprint** **Emissions Performance**	Pg. 36 Pg.46 - 49 e 51-54

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DISCLAIMER

This document may contain forecasts about future events, which reflect only the expectations of the Company's management regarding future conditions of the economy, in addition to the industry in which it operates, the performance and financial results of the Company, among others. The terms “anticipates”, “believes”, “expects”, “forecasts”, “intends”, “plans”, “projects”, “aims at”, “should”, as well as other similar terms, are intended to identify those predictions, which, evidently, involve risks and uncertainties foreseen or not by the Company (such as risks related to changes in general economic and commercial conditions, prices of crude oil and other commodities, refining margins and current exchange rates, uncertainties inherent to estimates of our oil and gas resources and reserves, risks related to our Strategic Plan and our ability to implement it, events in the Brazilian and international political, economic, legal and social scenarios, obtaining government approvals and licenses and our ability to obtain financing) and, consequently, are not guarantees of the Company's future results. Therefore, the results may differ from current expectations, and the reader should not rely exclusively on the information herein.

The Company to update presentations and forecasts in light of new information or future developments. The values reported for 2024 onwards are estimates.
The goals, commitments, ambitions, and perspectives presented throughout this Climate Change Supplement may be affected by external and/or internal factors. The commitments presented herein 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 predict. Among the factors that could cause future results to differ materially from our expectations, we refer to the factors described in the “Risk Factors” section on Form 20-F and on the Petrobras Reference Form referring to base date December 31, 2023.
Additionally, this document contains some financial indicators that are not recognized by BR GAAP or IFRS. These indicators do not have standardized meanings and may not be comparable to similarly described indicators used by other companies. We provide these indicators because we use them as measures of the company's performance and, therefore, they should not be considered in isolation or as a substitute for other financial metrics that have been disclosed in accordance with BR GAAP or IFRS.
The performance results in emissions in 2023 presented in this Climate Change Supplement will still be verified by a third party, therefore, variations may occur, and no significant changes are expected.
This Climate Change Supplement follows the recommendations of the Task Force on Climate Related Financial Disclosures (TCFD), being structured according to the four thematic areas of the initiative: Governance; Strategy; Risk Management; Metrics and Targets.