

# **DEEP DIVE** **PETROBRAS 2024**

January 31

**BR** PETROBRAS



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**PETROBRAS** 2024

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*Energy Transition*

*Mauricio Tolmasquim*



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*Energy Transition*

*Decarbonization*  
*Gas & Power*  
*Renewables*







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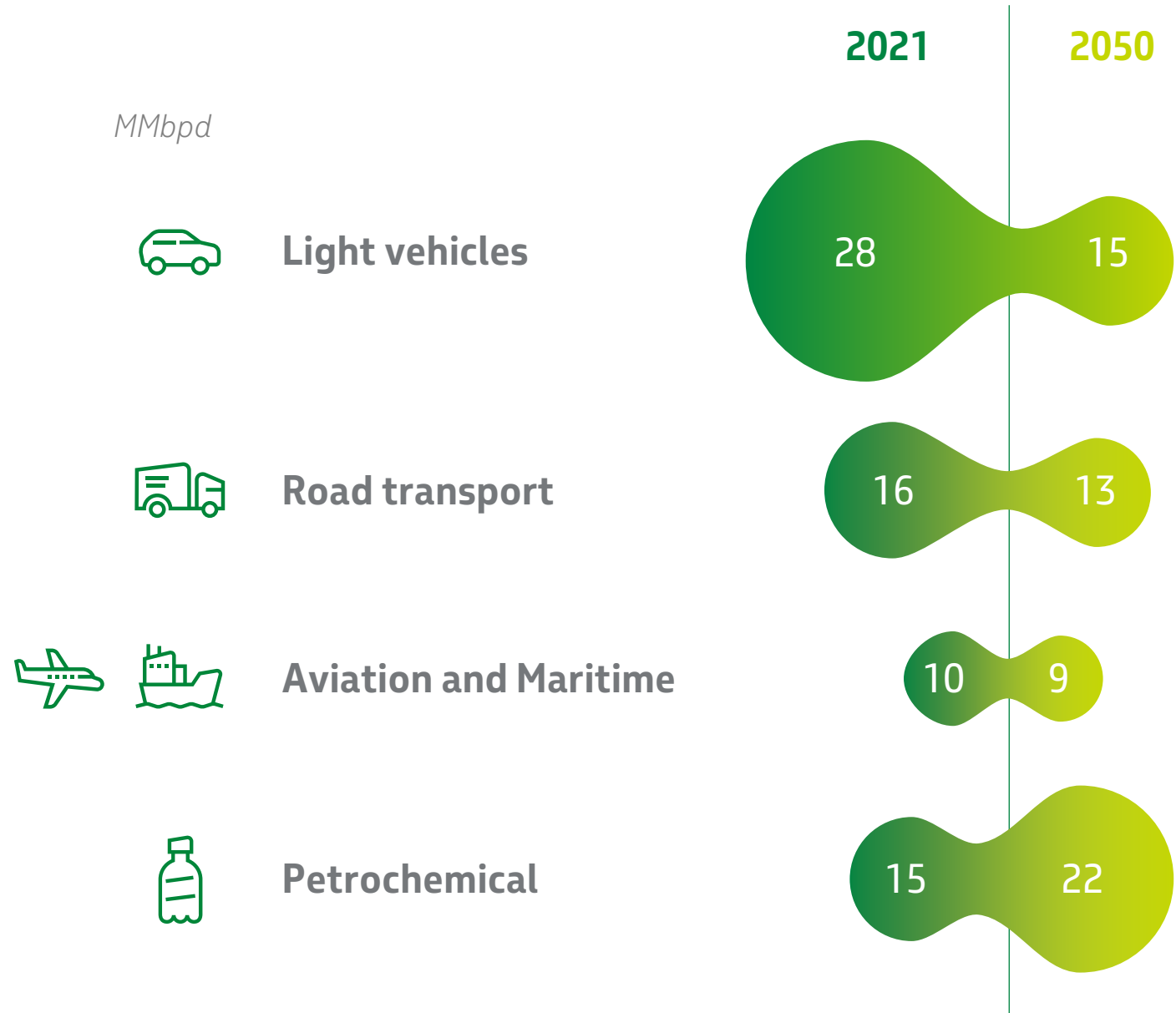
*Energy Transition*

**Decarbonization**

*Gas & Power*  
*Renewables*

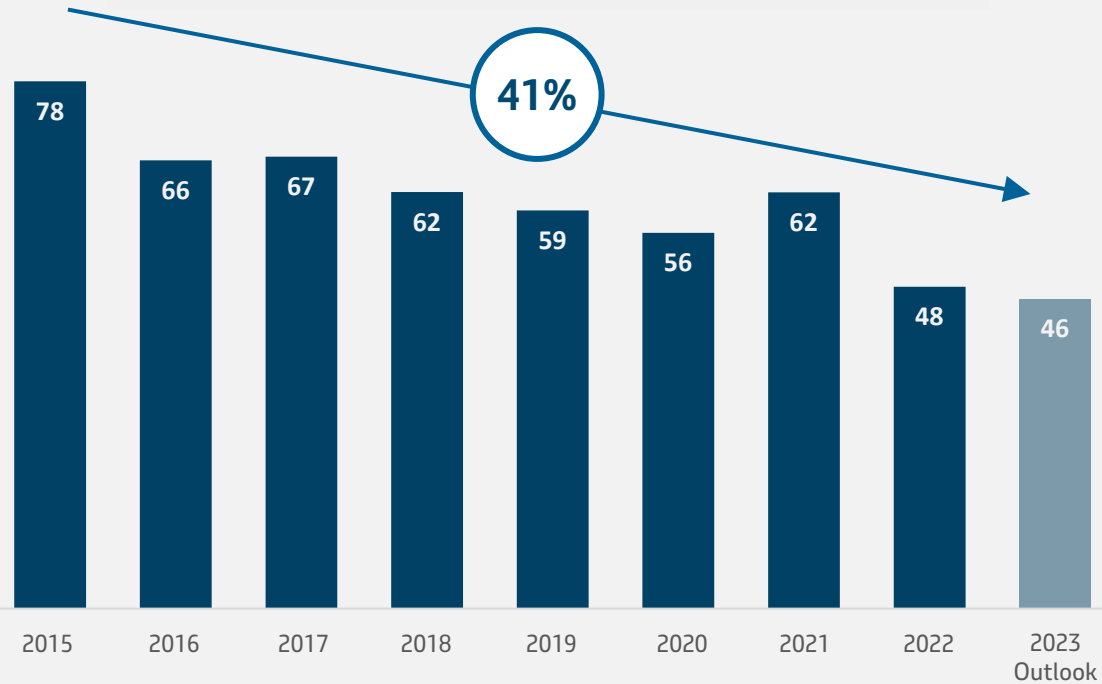
**We expect lower world demand in the transportation segment and an increase in petrochemical demand**

*Note: Petrobras' models, using Wood Mackenzie, IHS and IEA data as a reference.  
Reference scenario projection used to elaborate the Plan. Petrobras also considers alternative scenarios, with different energy transition paces*

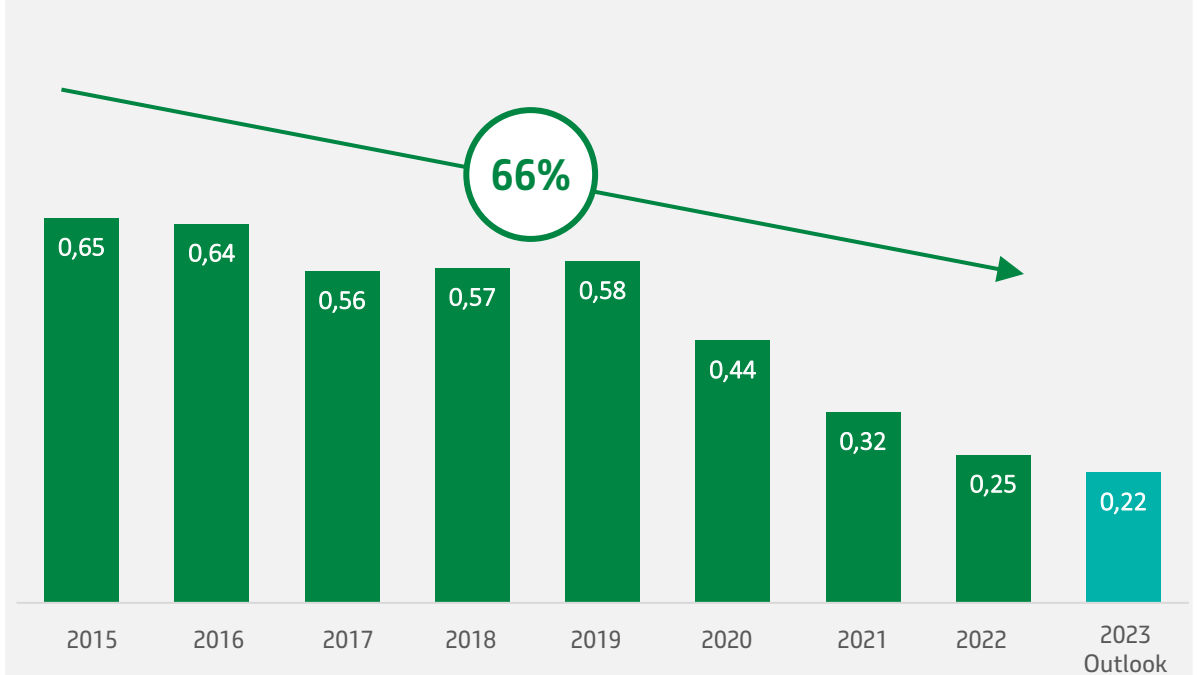


# SCOPES 1 AND 2 – PETROBRAS OPERATIONAL EMISSIONS TRAJECTORY

## GHG ABSOLUTE EMISSIONS (MILLIONS TCO<sub>2</sub>)



## METHANE INTENSITY EMISSIONS (TCH<sub>4</sub>/THOUSAND THC)



# LOW CARBON CAPEX 2024-2028 - PROMOTING DECARBONIZATION ACROSS THE VALUE CHAIN

## SCOPES 1 AND 2 Operational Emissions



- Net Zero by 2050
- 2022 level not to be exceeded in the five-year period
- Near Zero Methane 2030

### US\$ 3.9 billion DECARBONIZATION OF OPERATIONS

Investments in emissions mitigation (scopes 1 and 2) - E&P, RTM and G&P

**US\$ 2.9 billion**  
Decarbonization Fund  
**US\$ 1.0 billion**

## PORTFOLIO - SCOPE 3 Providing better products



Potential of 50% of total electricity generation capacity through renewable sources by 2030

### US\$ 5.5 billion LOW CARBON ENERGIES

Wind and Solar Photovoltaic Energies  
**US\$ 5.2 billion**  
Hydrogen, CCUS and CVC  
**US\$ 0.3 billion**



Potential to expand biofuel production capacity (by volume) by up to 4x between 2022 and 2030

### US\$ 1.5 billion BIOREFINING

Renewable diesel  
Bio Jet Fuel

## R&D in low-carbon



Expand share of non-energy products which are transition-resilient

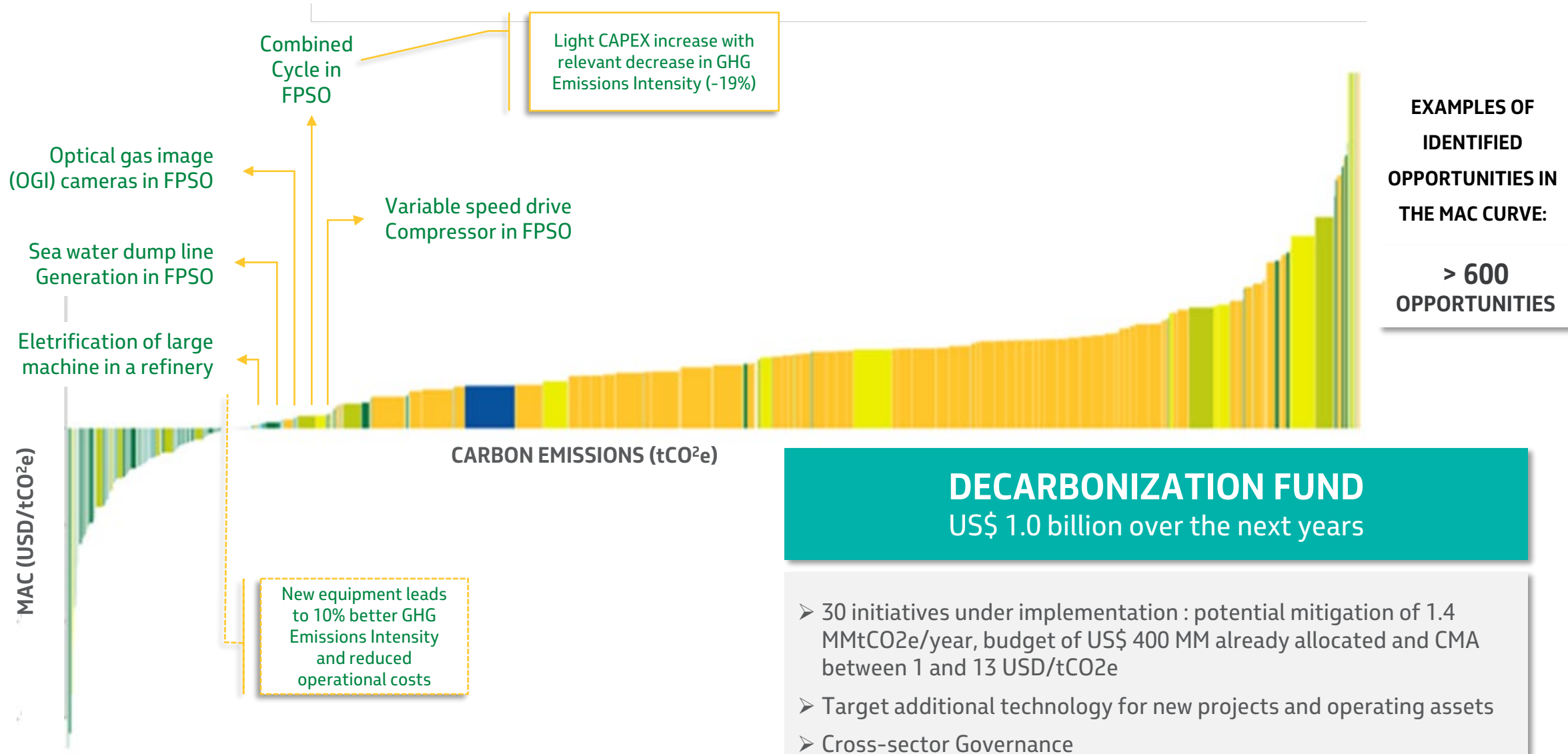
### US\$ 0.7 billion INCREASING OVER THE FIVE-YEAR PERIOD

15% of the total R&D budget in 2024, reaching 30% by the end of the period

**US\$ 11.5 billion (11% of total CAPEX)**



# CARBON NEUTRAL PROGRAM AND DEDICATED BUDGET LEVERAGING SOLUTIONS FOR THE NET ZERO TRAJECTORY



## CARBON CREDIT AS A COMPLEMENTARY TOOL

### EXPANDING THE CONTRIBUTION TO THE MAINTENANCE OF STANDING FORESTS AND THE RESTORATION OF ECOSYSTEMS



- Strict criteria for credit selection: only credits of high quality and integrity
- Priority for credits generated in Brazilian biomes, with socioeconomic co-benefits
- Compensation aligned with international best practices
- Transparency and traceability

### COMPLEMENTARY STRATEGY TO INTRINSIC DECARBONISATION

#### IN ADDITION:

Voluntary social responsibility portfolio: contribution to 106 conservation units and 20 indigenous lands and quilombola territories

Investments in protected areas by licensing (SNUC\*): ~R\$ 3 billion committed

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*Energy Transition*

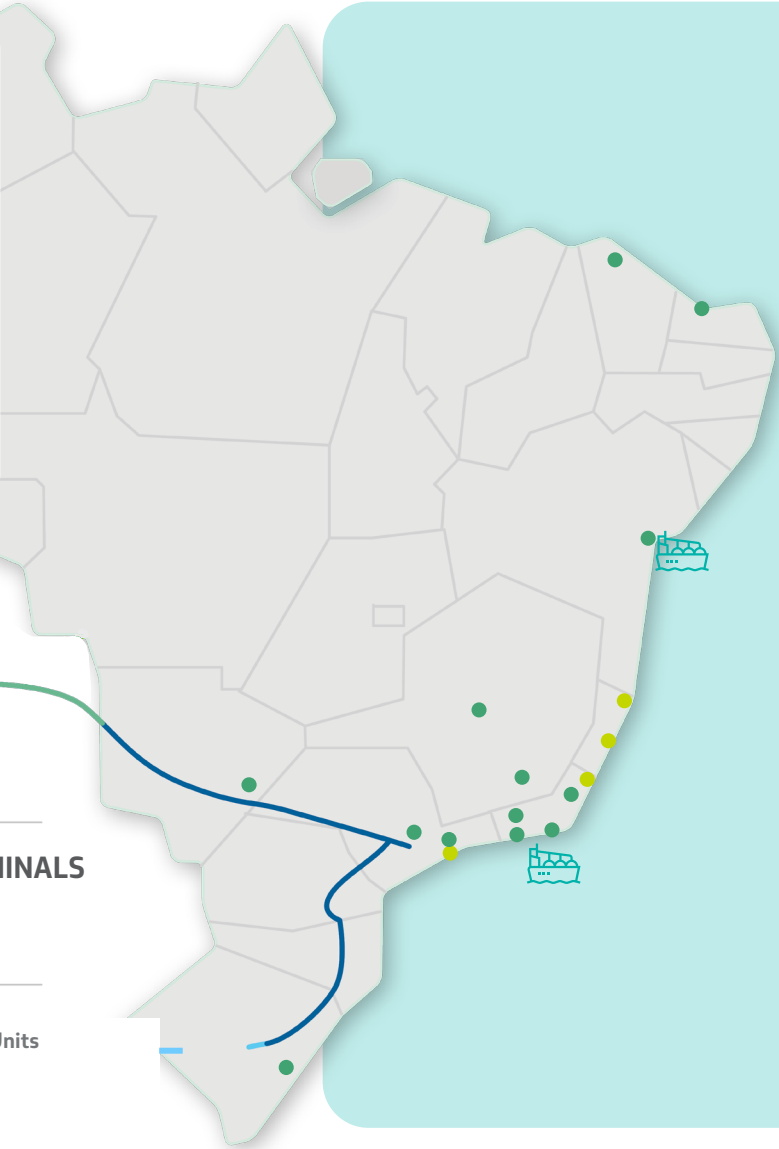
*Decarbonization*  
*Gas & Power*  
*Renewables*



# Portfolio ensures reliability and safety in the insertion of renewable sources



**POWER PLANTS**  
**13 units**  
 Capacity  
 5.3 GW



**NATURAL GAS TRANSPORTATION PIPELINE**

- TSB
- TBG
- GTB

**LNG REGASIFICATION TERMINALS**

- LNG Bahia
- LNG Baía de Guanabara

- G&P Segment NG Processing Units
- Thermolectric plants

**IMPORT AND REGASIFICATION**  
 2 Regasification Terminals  
 Capacity  
 50 million m<sup>3</sup>/day



**NATURAL GAS PROCESSING UNITS**  
 4 NG Treatment Units  
 Capacity  
 66 million m<sup>3</sup>/day



**BOLIVIA IMPORTS**  
 Bolivia – Brasil Gas Pipeline



# Commercial performance ensures results predictability and reduces exposure to volatile LNG spot prices



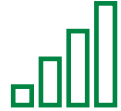
## 2023 new NG Contracts:

- + US\$ 33 Bi
- + 70 bcm
- 11 yrs contracts
- Local Distribution & free consumers markets



## Supply Portfolio Optimization

- + 3 bcm Petrobras E&P - Methane flexibility for Route 1 NG (2020-23)
- > Petrobras E&P Manati Gas
- YPFB Contractual amendment
- New 10 yrs contract of efficient Floating Storage Regasification Unit



## New Power Plants Sales Spot Price LNG indexed Power Sales Prices



## Diversified Sales Conditions:

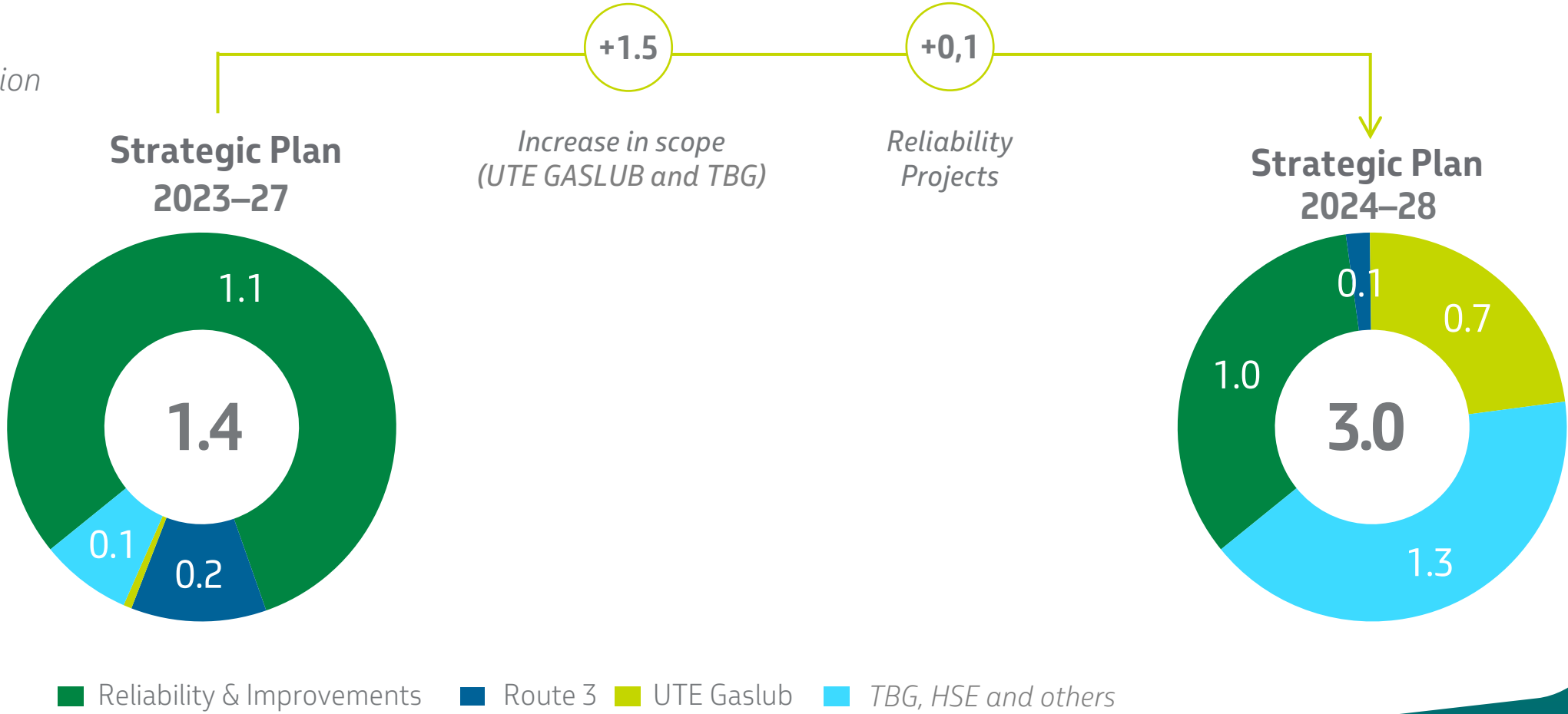
- New indexes (Henry-hub)
- Supply Period: 4, 5, 9, 11 yrs
- Initial Supply: 2024 & 2026



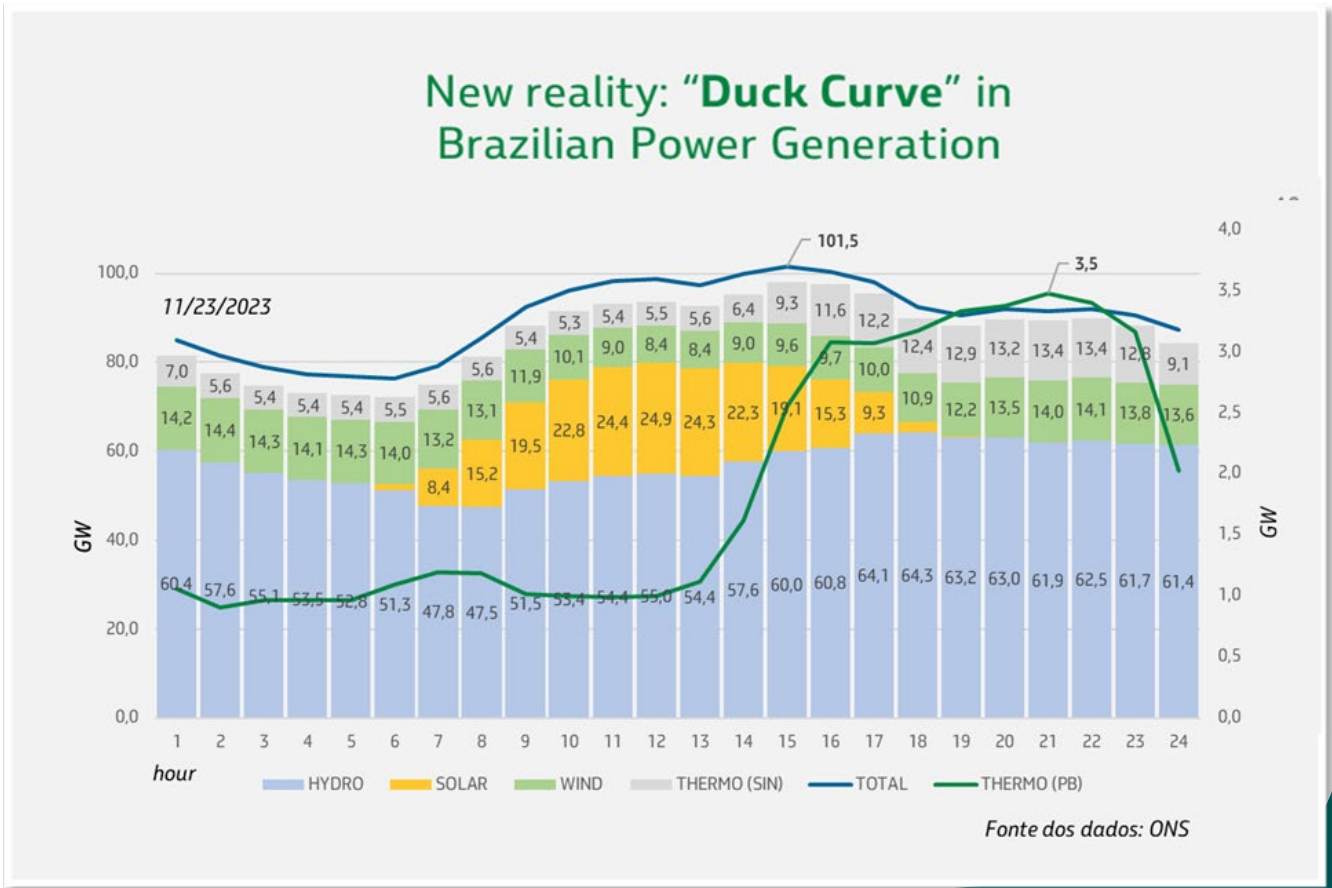
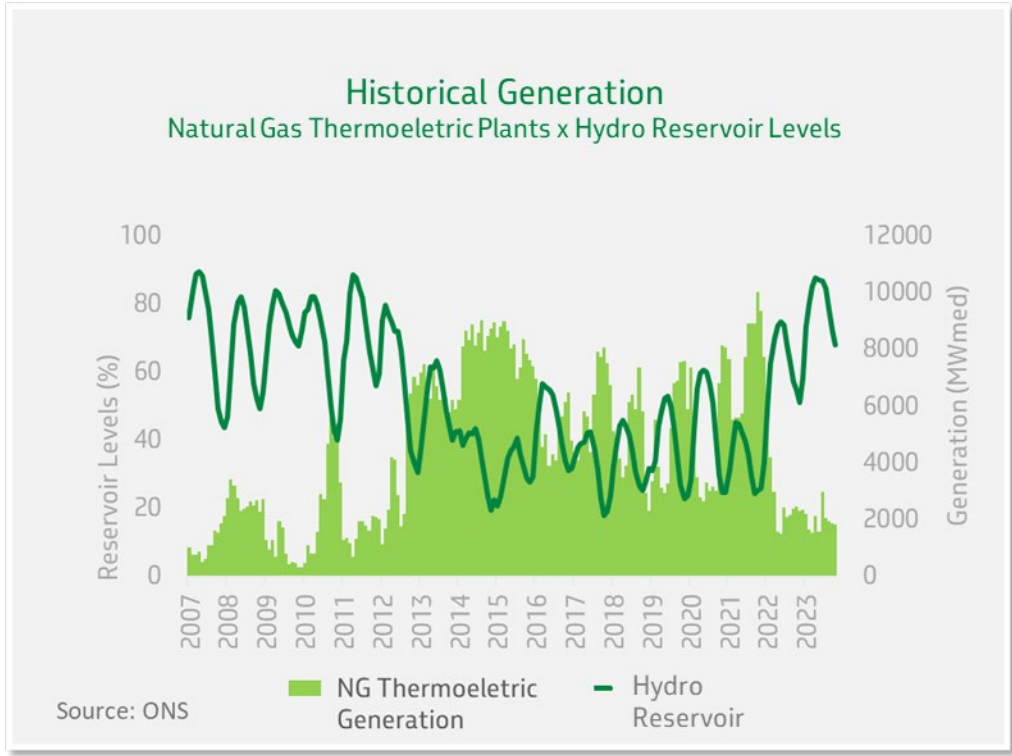
## 2021 Litigations Solved 1/3 new long term contracts

# Investments to ensure operational reliability and competitiveness in new auctions

US\$ billion



# Natural gas efficient power plants support more renewables in the mix



## Petrobras Power Plants Performance

- 1º quartile Solomon in cost and availability
- 98,2% reliability
- 100% availability - End of 2023

# Infrastructure and Petrobras E&P natural gas portfolio expansion

## Competitiveness and resilience

*Main projects and planned dates*

2024

### Route 3 Project

Gas Pipeline  
Capacity:  
18 million m<sup>3</sup>/d

Natural Gas  
Processing Unit  
Capacity  
21 million m<sup>3</sup>/d

2028

### BMC-33 Project\*

Gas Pipeline  
Capacity:  
16 million m<sup>3</sup>/d

2028+

### SEAP\*

Gas Pipeline  
Capacity:  
18 million m<sup>3</sup>/d



*E&P Exploration of New Frontiers*

- *Southeastern Basins*
- *Equatorial Margin*
- *Other countries*

*Southern Countries opportunities*

*LNG*

*Biomethane*

*\* Offshore Gas Processing Unit*





## SHORT-TERM

## MID-TERM

## LONG-TERM



Gas processing with excellency

- Digital Twin
- Flaring minimization
- Availability

Digital optimizing of gas transport, allocation and commercialization

Power Plant reliability enhancement and operational efficiency

Decarbonization of gas operations

Power Plant with flexible operation

Monetization of gas to chemicals and petrochemicals

Energy generation from renewables

Gas treating plant with net zero Emissions

Biomethane as feedstock for low carbon chemicals

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*Energy Transition*

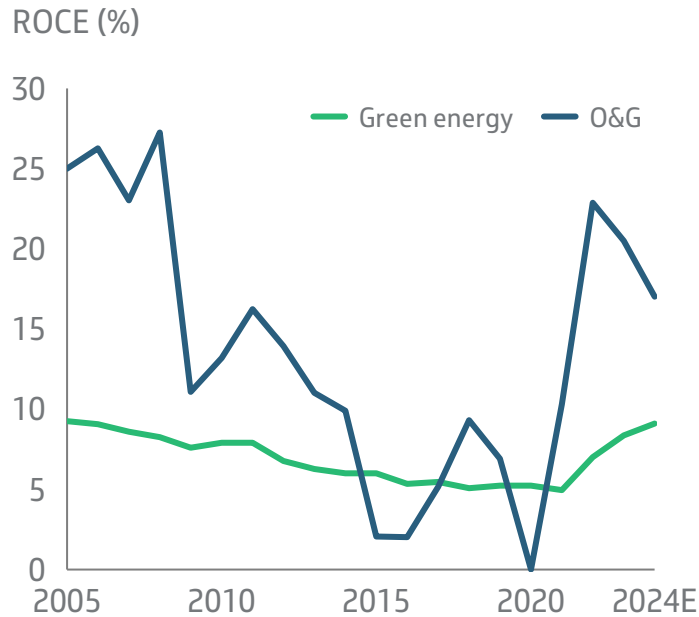
*Decarbonization*  
*Gas & Power*  
*Renewables*



# Long term, low-carbon investment creates value and should be a focus area for O&G companies



Despite lower returns in Green vs O&G ...

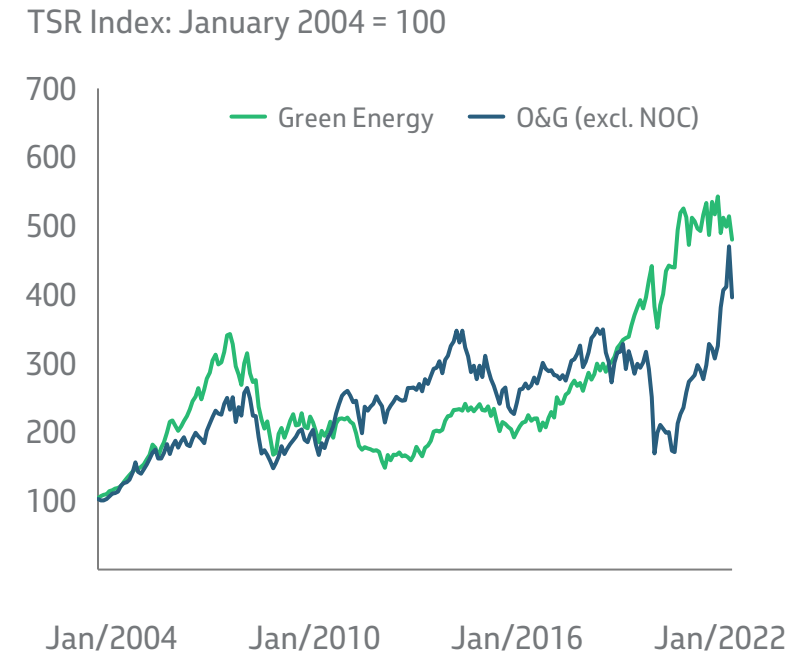


... green investment can mitigate risks & create growth...

- Participate in **emerging, growing profit pools**
- Gain and protect market share** as customers prioritize sustainability
- Large and **increasing cash expenses of CO<sub>2</sub>**
- Avoid risk of **resource scarcity** (e.g., materials, CO<sub>2</sub> offsets)
- Experience **less volatility in markets**

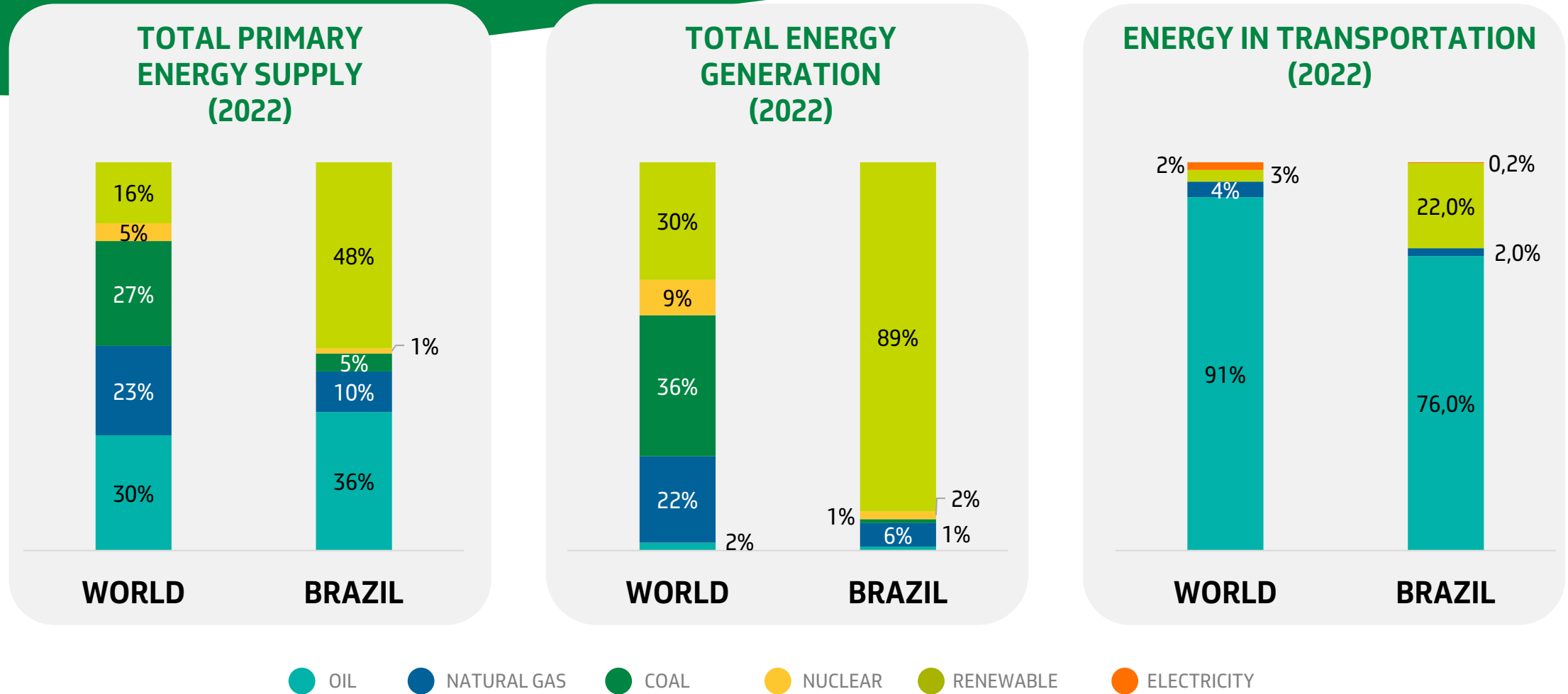


... which have played out over the long-term



Source: S&P Capital IQ, BCG ValueScience® Center

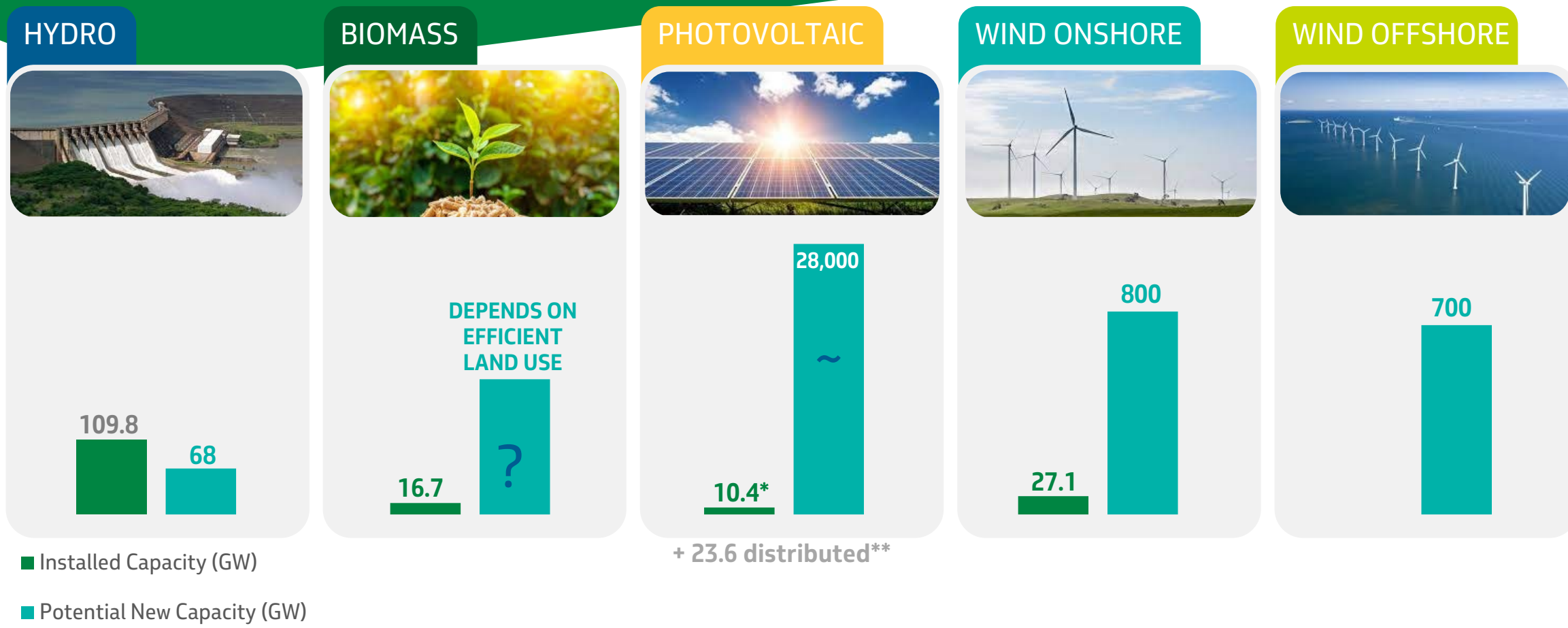
# Brazil in a favorable position to face the Energy Transition...



In the first three quarters of 2023, Brazil generated 91% of its electricity from hydro, solar, wind and nuclear sources (Source: ONS)



# ... And also in a competitive position for future investments

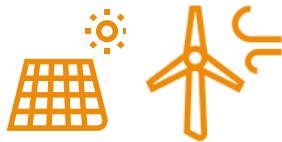


Source: EPE, ANEEL - \*Centralized generation data - SCE (Superintendencia of Concessions, Permissions and Authorizations for Electric Energy Services) - reference date: 09/10/2023  
 \*\* DISTRIBUTED ENERGY INFORMATION - ABSOLAR AND SOLAR PORTAL

# Multicriteria Process Guided Petrobras' Proposals Into Low Carbon Businesses

*Focus on Brazil.*

*Regulatory maturity, future market scale projections, competitive advantages, integration with our current assets and technological readiness were taken into account.*

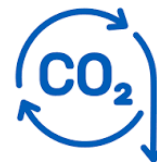


## ONSHORE

*M&A for existing projects in Brazil, influencing management but without control for operating/development assets*

## WIND OFFSHORE

*R&D, studies and data acquisition for projects linked to the Brazilian offshore wind potential*

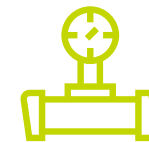


## CCUS

*Greenfield projects, leveraging our technical capabilities and connecting in the main Brazilian industrial hubs projects*

## HYDROGEN

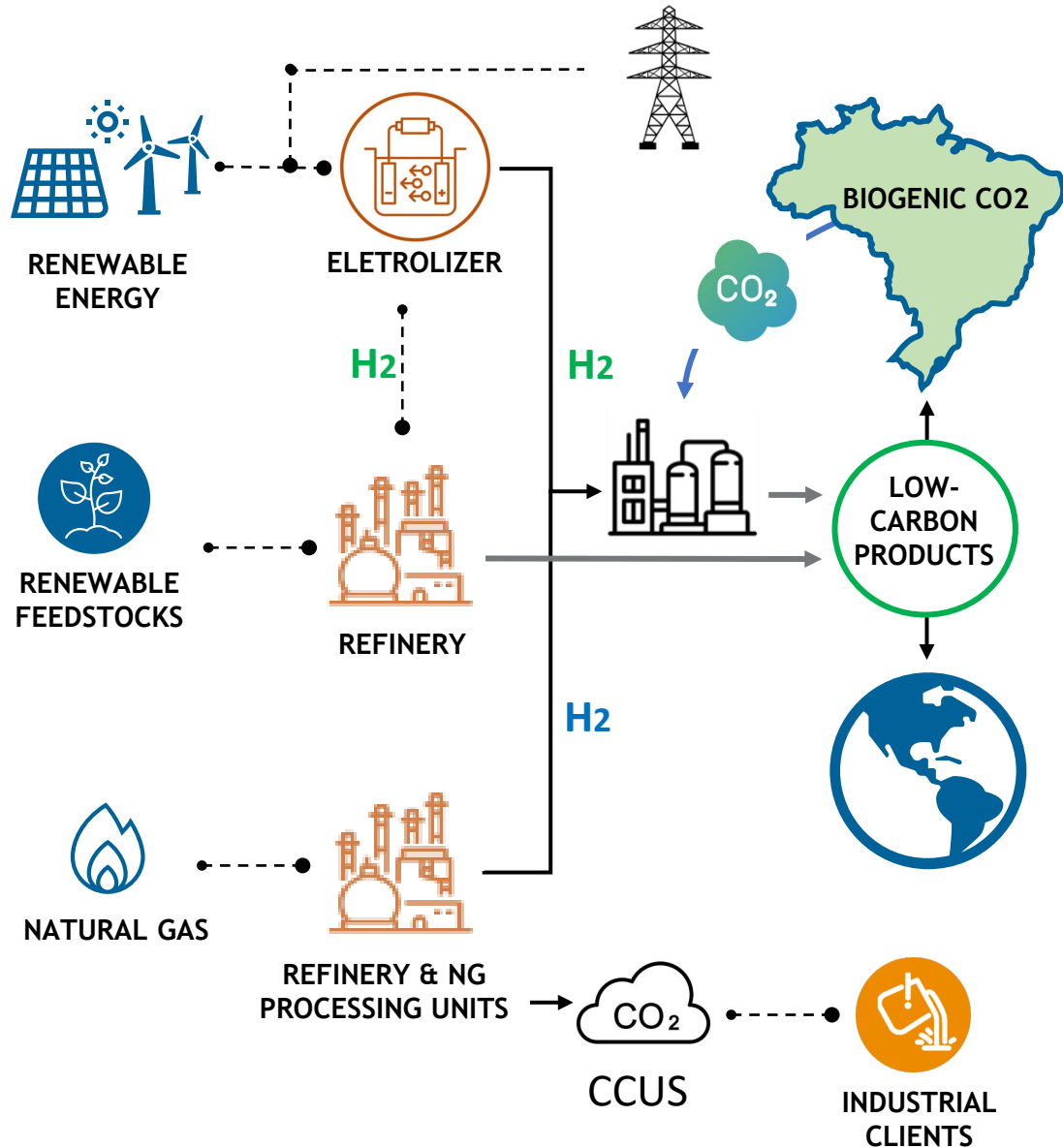
*R&D, studies for leveraging Brazilian competitiveness. Strategic partnerships focused on the product market (PTX, green ammonia).*



## BIOREFINING

*Replacing crude oil with biofeeds to produce lower-emission transportation fuels  
Greenfield in projects linked to existing refining  
Focus on expansion of biorefining projects*

# Leveraging and integrating Petrobras' capabilities and assets with the competitiveness of Brazil in renewable energy, biofuels, hydrogen and CCUS



## BRAZILIAN INTRINSIC ADVANTAGES

Competitive conditions in renewable energy  
Broad capacity of renewable feedstocks and biogenic CO<sub>2</sub>

## PETROBRAS TECHNICAL & FINANCIAL CAPABILITIES

Financial capacity to build world-scale projects  
Engineering talent to build mega projects  
Unparalleled experience in all aspects of Brazilian regulations

## CONSOLIDATED ASSETS BASE

Largest Brazilian producer and user of Hydrogen  
Opportunities for existing assets to produce low-carbon hydrogen  
Logistics access to fuels market

## MARKETS & COMERCIAL PORTFOLIO

Strong position in local and export markets  
Existing commercial portfolio in Brazil and abroad

## RESEARCH & DEVELOPMENT

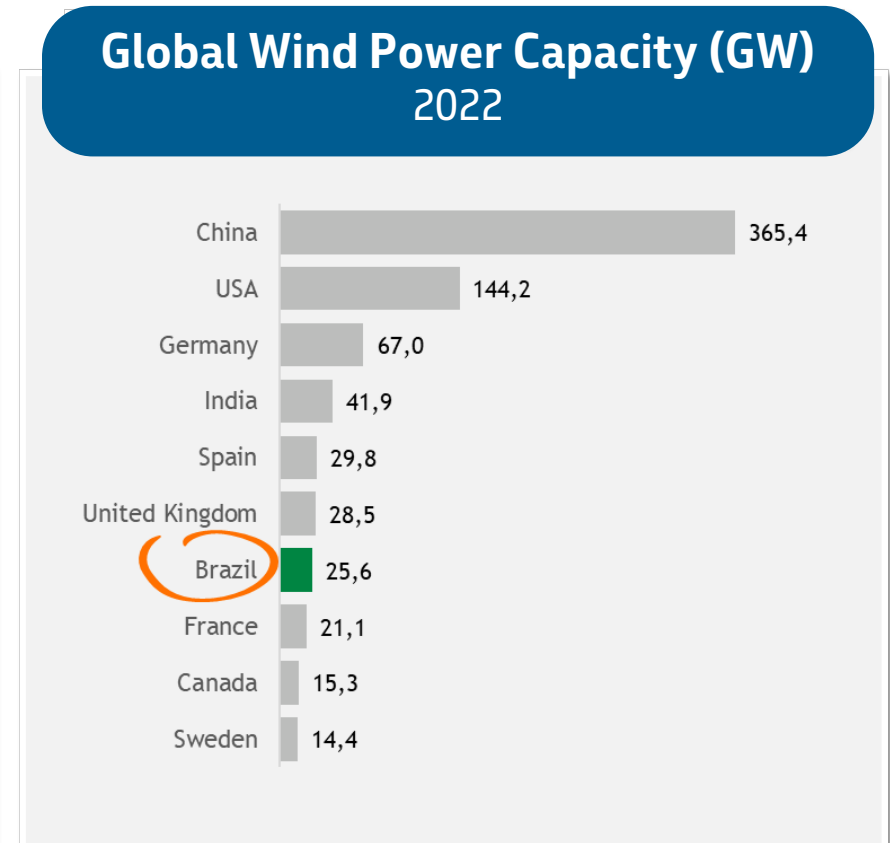
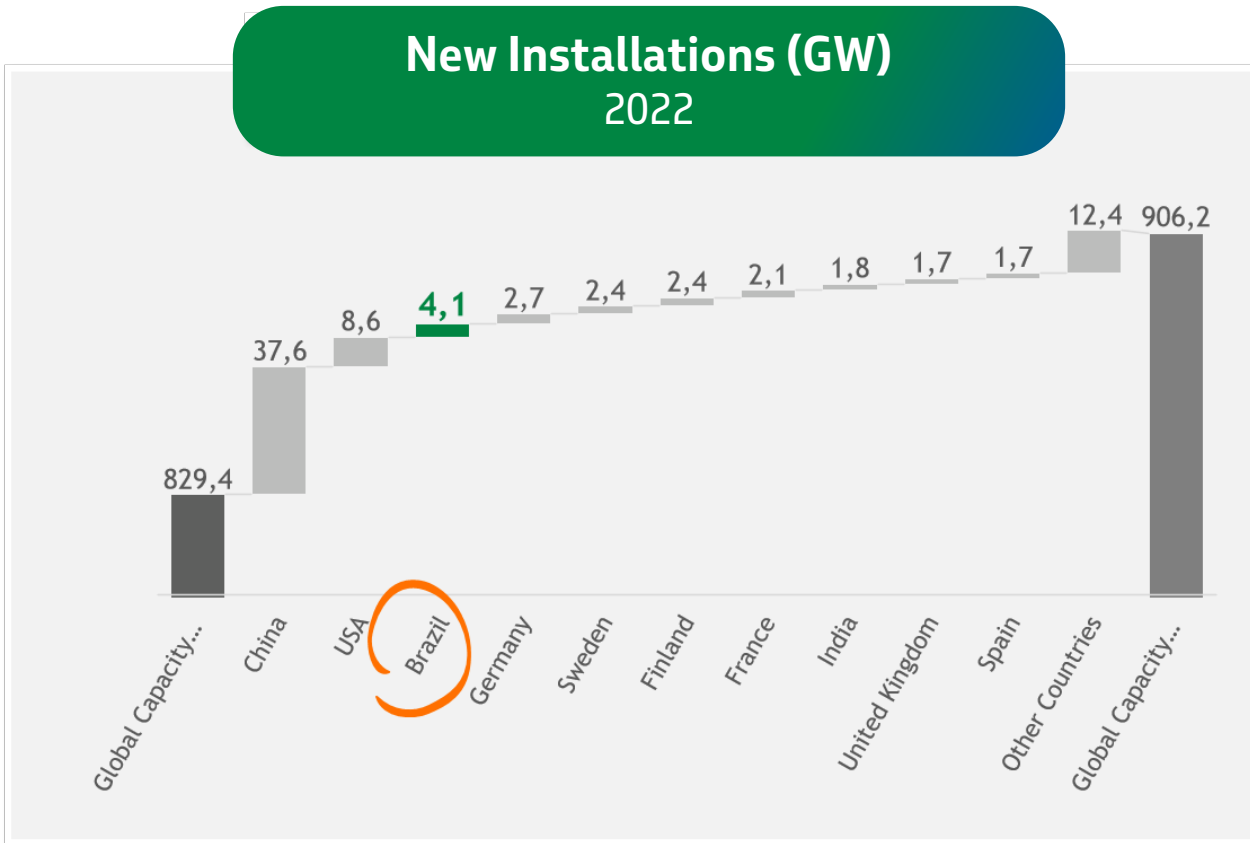
Largest R&D Center in LATAM  
Programs focused on renewables and low-carbon products  
Collaboration with academia and industry

***PHOTOVOLTAIC  
AND WIND  
ONSHORE***

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# Onshore installed capacity has grown significantly and Brazil has been growing in the Global Ranking...



Fonte: GWEC - Global Wind Report 2023

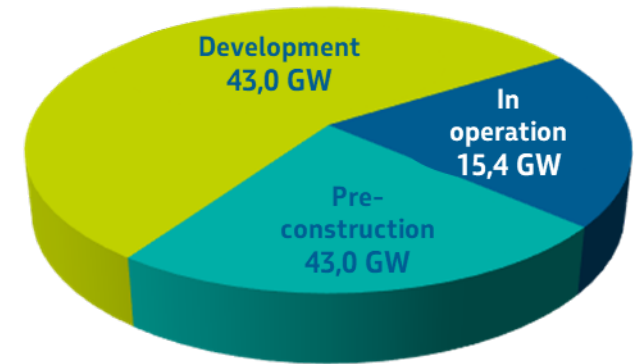
# Project Supply Signals Availability of Renewable Energy Assets for M&A

Good timing to access opportunities in the renewable energy market

- Large number of projects with grants and regulatory benefits
- Companies with good projects need resources
- Integration with future hydrogen projects

## CURRENT OPPORTUNITIES FOR M&A IN BRAZIL

**76.3 GW**



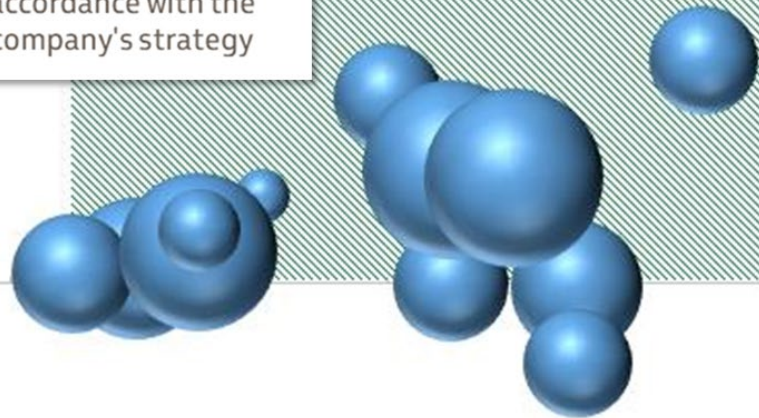
Petrobras aims to balance its thermal and renewable generation capacity by the end of the 2024-2028 period, reaching ~10% of Brazil's photovoltaic and wind energy capacity in operation or under construction by 2028 (~5GW)



# Well-defined Governance system and criteria for establishing Partnerships

The evaluation aims to approve and classify opportunities to allow prioritization in accordance with the company's strategy

## TECHNICAL EXPERTISE



INVESTMENT CAPACITY

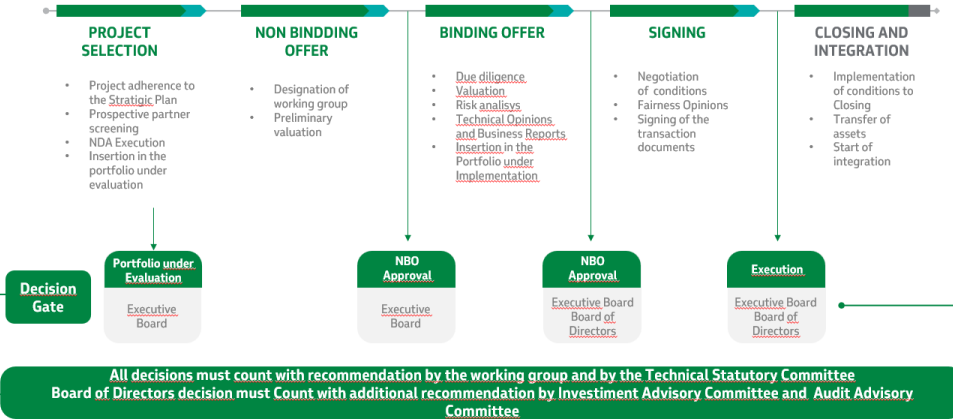
## RATING

CCC B- B+ BB BBB- BBB+ A AA- AA+

## AQUISITIONS

Project governance composed of validation and approval stages

### ACQUISITIONS

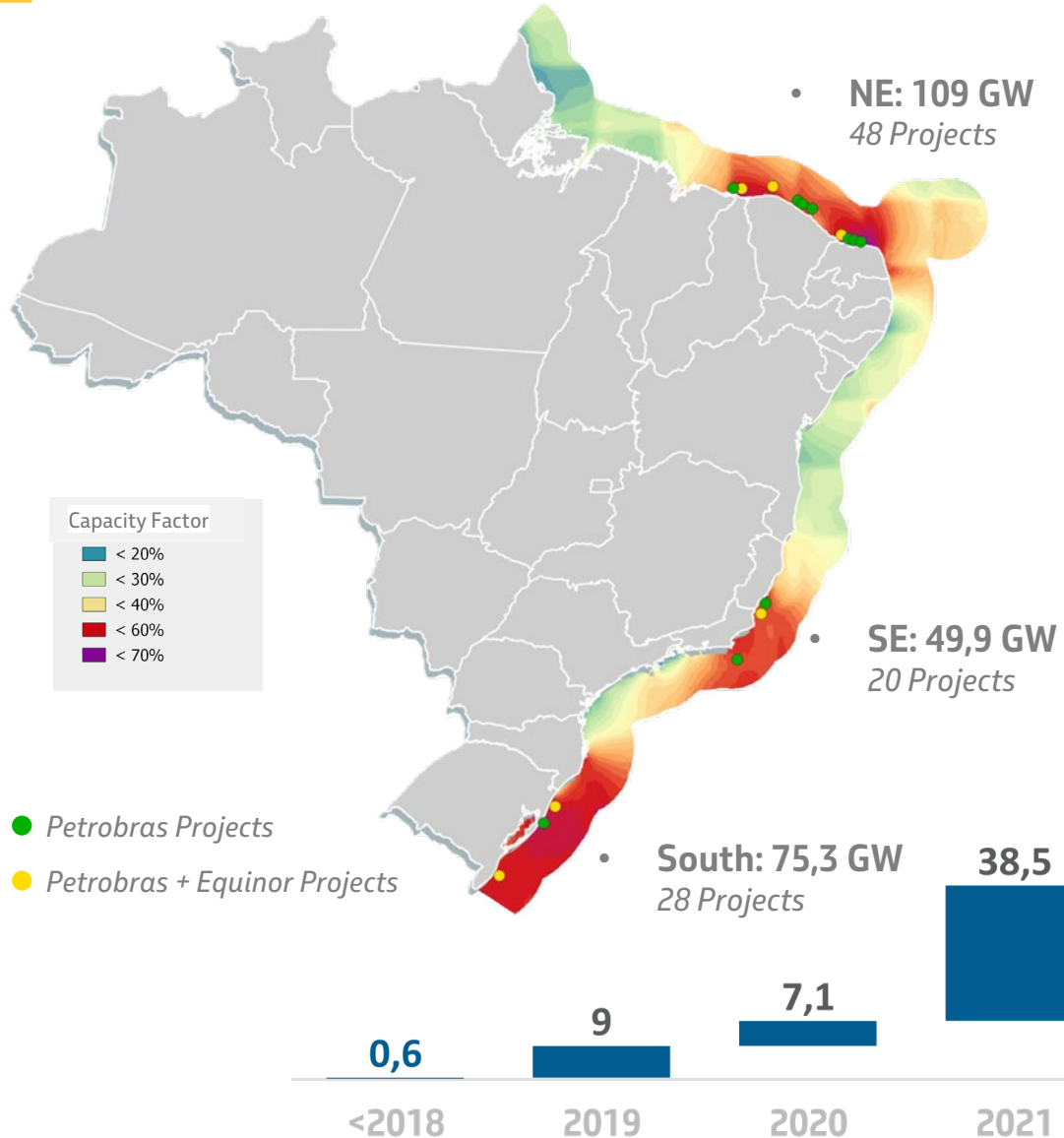


# ***OFFSHORE WIND***

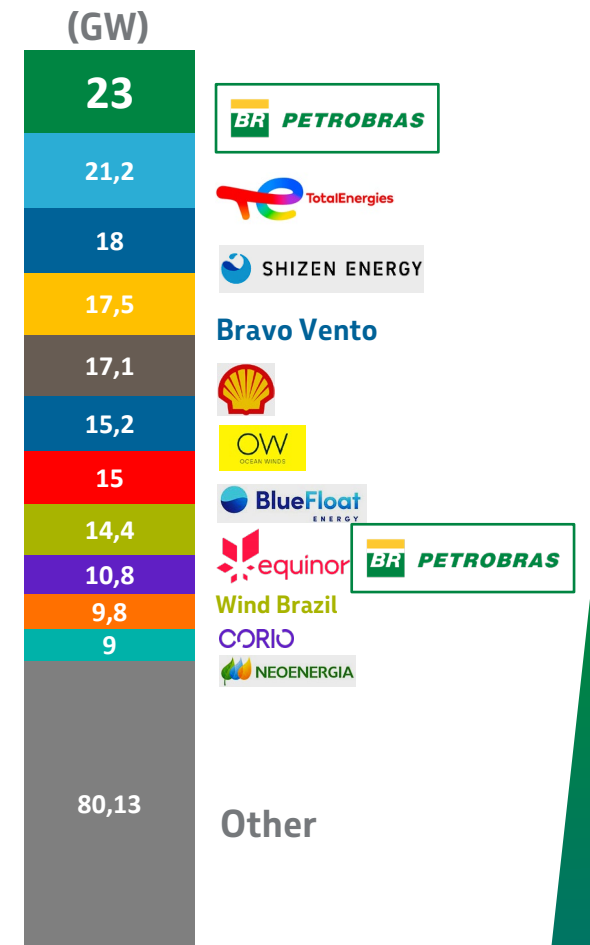
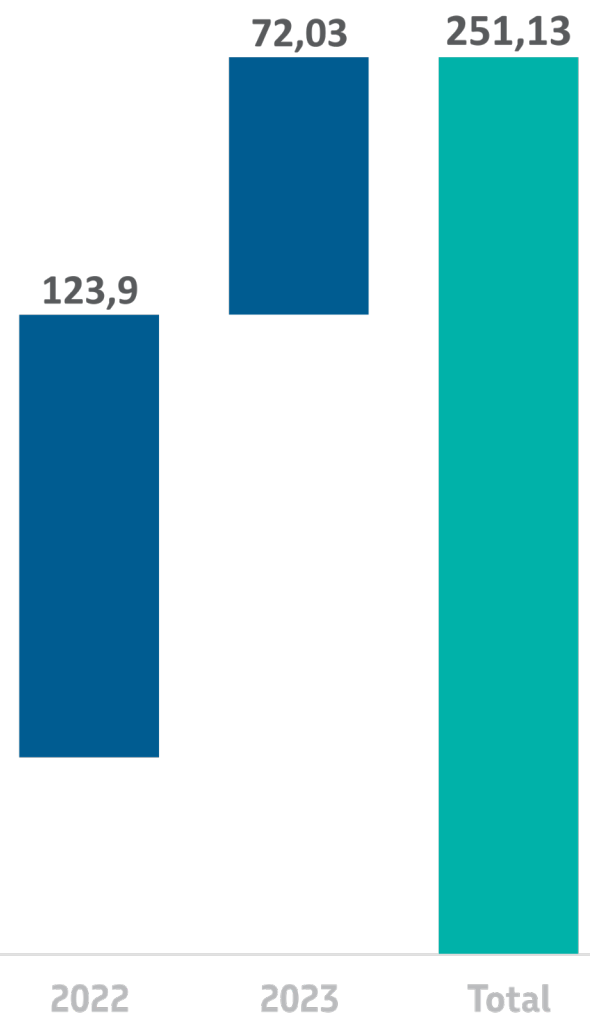
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# Brazil's Potential for Offshore Wind Generation



Potential up to 50 m	700 GW	6 million BPD
Petrobras	30 GW	250 thousand BPD



Source: Requests to IBAMA to start the environmental process (2024)\*

\*Requests to IBAMA does not guarantee any right on the offshore areas



# OFFSHORE WIND: Projects under study




**10 PETROBRAS PROJECTS**  
 = **23 GW**


**7 PROJECTS IN PARTNERSHIP**  
 +  = **14.5 GW**

## GOOD CONDITIONS FOR COMPETITIVE PROJECTS:

- Distance from shore: 12 a 40km
- Water Depth: 10 a 55m.
- Medium Wind Speed at NE: 9.05 m/s
- Medium Wind Speed at SE: 8.9 m/s
- Medium Wind Speed at South: 9.5 m/s

\* Medium Wind Speed @150m – Global Wind Atlas

# Wind and Solar Energy RD&I Roadmap

**16** Wind and Solar Generation



Wind	Current projects
Wind + Solar	Future goals

*Hydrogen*

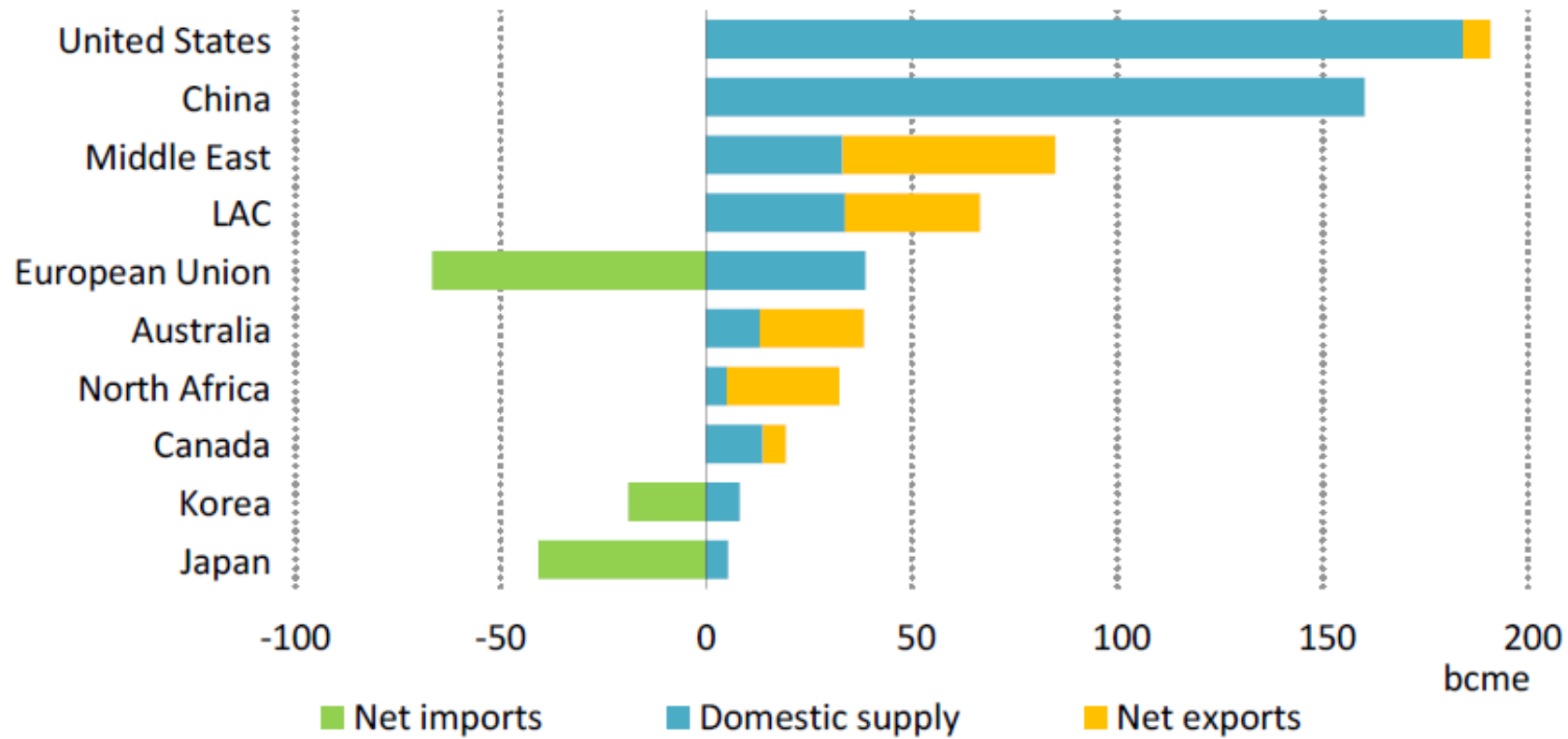
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# Brazil could play an important role in the global supply of H<sub>2</sub>

Clean hydrogen demand and production in the APS scenario, 2050



IEA. CC BY 4.0.

Source: IEA, 2023

Notes: bcme = billion cubic metres of natural gas equivalent

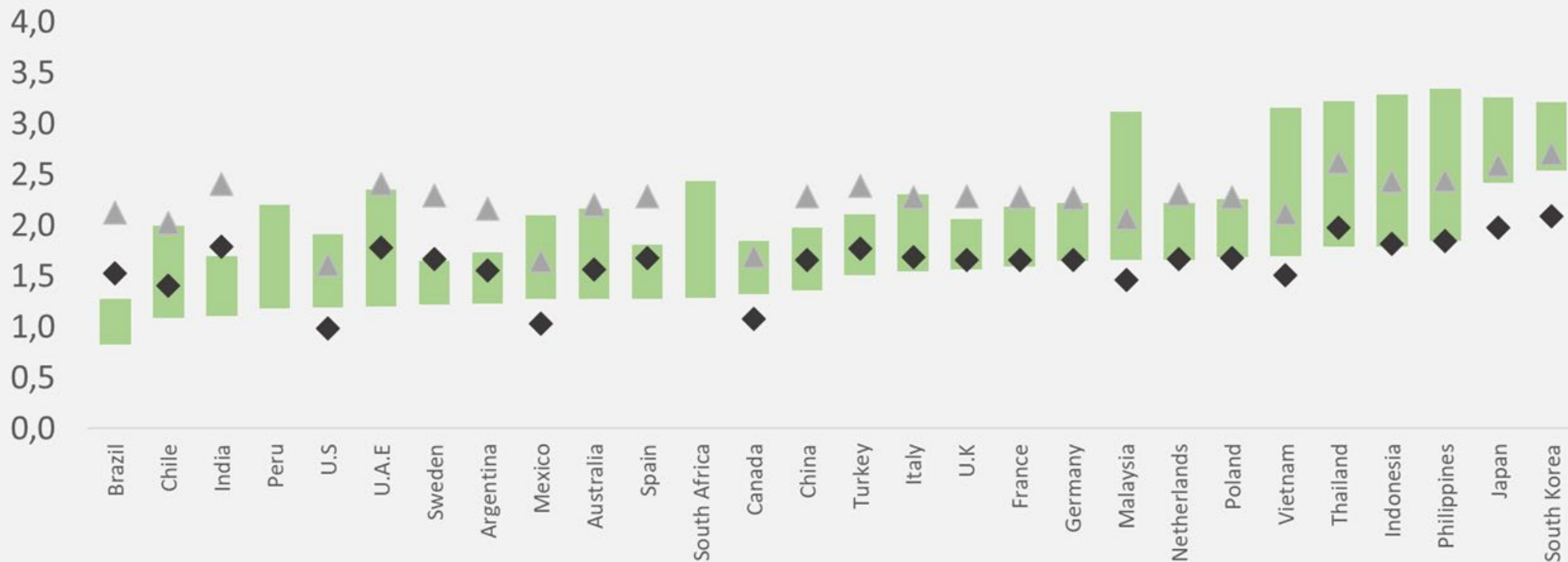
# According to external evaluations, Brazil is potentially the most competitive country in H<sub>2</sub>

## HYDROGEN PRODUCTION COSTS COMPARISON - 2030

### SELECTED COUNTRIES

Values in \$/kg

"Green" renewable hydrogen  
 "Blue" hydrogen from natural gas with CCS  
 "Gray" hydrogen from natural gas without CCS



Source: BNEF

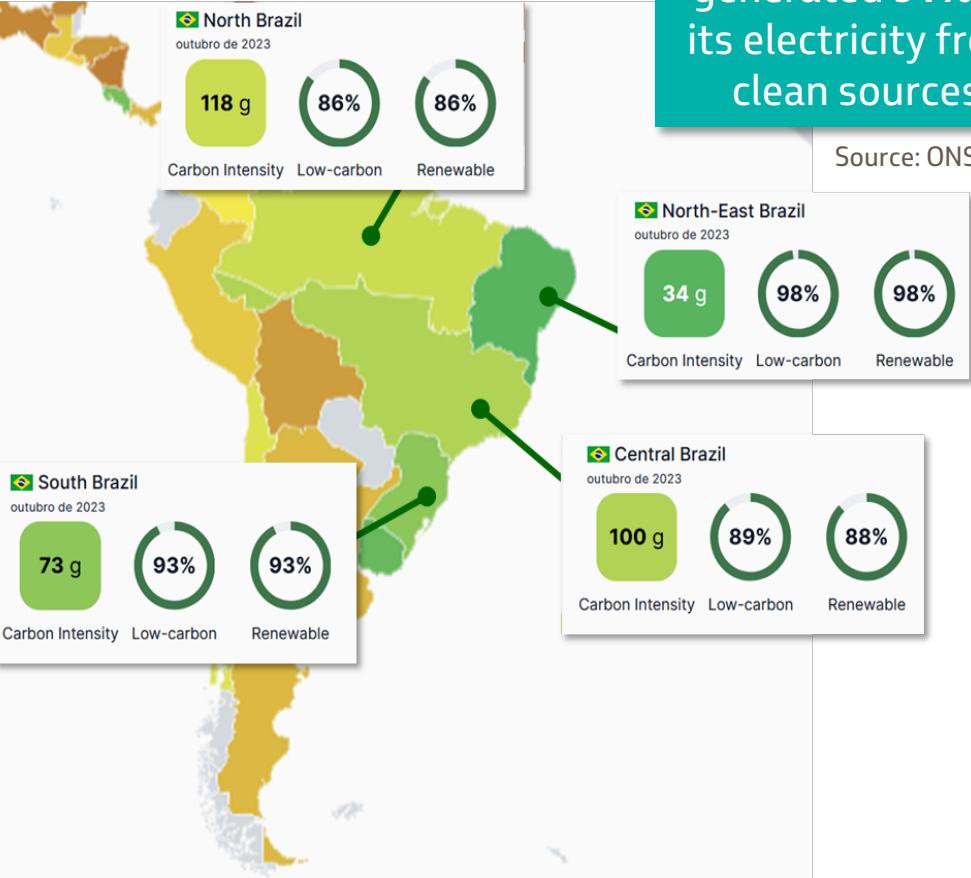
Note: Assumes our optimistic electrolyzer cost scenario. Renewable H<sub>2</sub> cost range reflects a diversity of electrolyzer types, from Chinese alkaline (low) to PEM(high). Assumes equal CCS costs in all countries.

# Key advantages: share of clean sources in energy matrix and an integrated grid

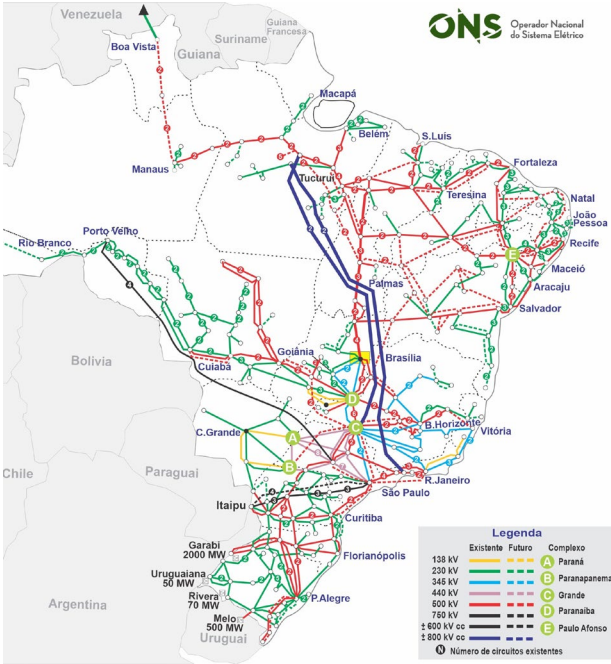
## BIDDING ZONES

In 2023, Brazil generated 91% of its electricity from clean sources

Source: ONS, 2023



## INTEGRATED GRID



Source: ONS, 2023.

## Brazil has biogenic CO<sub>2</sub> sources throughout its territory



Over than 350 ethanol production plants in Brazil (2023)

Source: ANP – Dynamic map – Ethanol Producers

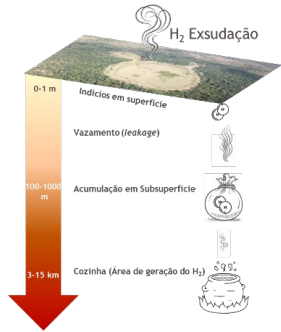
Source: Electricity Maps  
<https://app.electricitymaps.com/map> (jan 2023 - dec 2023)

# Petrobras RD&I: Technology solutions applied to a multifaceted hydrogen and derivatives value-chain

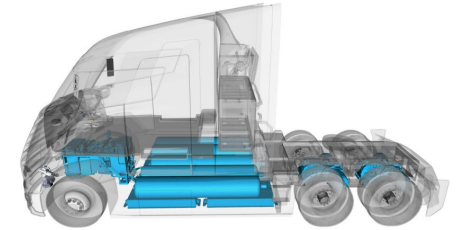
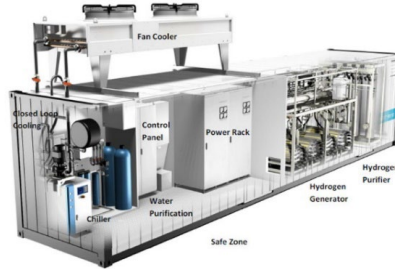
## LOW CARBON H<sub>2</sub>



Develop skills and projects with focus on the **sustainable hydrogen value chain**, promoting the **decarbonization** of existing production and supporting **new profitable diversification businesses**.



Adaptado de Rigollet et al., 2023



### Geoscience

**Geological hydrogen:** H<sub>2</sub>

- Exploration
- Production

*Geological storage of hydrogen*

*Production of hydrogen in subsurface conditions*

### Production

*Steam Methane Reforming (SMR):*

- Optimization and energy efficiency H<sub>2</sub>
- With carbon capture H<sub>2</sub>
- With renewable feedstocks H<sub>2</sub>

*Water electrolysis* H<sub>2</sub>

*Natural gas plasma pyrolysis* H<sub>2</sub>

*Other technologies*

*Offshore production*

### Infrastructure

*Storage*

- Compressed, liquefied, LOHC, ammonia etc.

*Transport and distribution*

- Natural gas blending in pipe network
- Dedicated pipelines
- Long-distance (overseas) transport
- Hydrogen hubs

### New uses

*Transportation: fuel cells and internal combustion engines*

*Industry: feedstock and energy carrier*

*Power generation: stationary fuel cells and co-firing*

*Low-carbon products:*

- Fuels: E-fuels, ammonia,
- CO<sub>2</sub> conversion
- Petrochemicals feedstocks





# *Biorefining*

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# Transition to low carbon products - legal & regulatory drivers



Decarbonization targets and mandates affect or will affect products that correspond to approximately 60% of the Company's revenues (diesel, gasoline, jet fuel, and bunker).

## REGULATED SECTOR



### Biofuels for the airline industry

Bio Jet Fuel



ICAO - UN body specialized in defining standards for international aviation

#### Brazil

- "Future Fuel" bill: 1 to 10% decarbonization 2027-2037

#### International

- Zero net growth from baseline emissions in 2019

## REGULATED SECTOR



### Biofuels for the road sector

Renewable Diesel and Biodiesel



Commitments to decarbonize countries through regional initiatives

#### Brazil

- "Future Fuel" bill: Renewable Diesel Mandate (3%) above biodiesel mandate

## REGULATED SECTOR



### Biofuels for the maritime industry

Biobunker and maritime diesel



IMO - UN body specialized in defining standards for international navigation

#### Brazil

- Still no mandate forecast

#### International

- 20-30% decarbonization in 2030
- 70-80% decarbonization in 2040
- Net zero in 2050

## NON-REGULATED SECTOR



### Bioproducts

Green Propylene, Green Ethylene, Green HLR, Green NAPHTHA, Green BTX



# Biorefining – investments in dedicated units and integrated with refining facilities

## ROAD TRANSPORTATION

### CO-PROCESSING

Integrated to current Downstream operations to produce oil products with renewable content

*Products in commercial phase*

## SHIPPING TRANSPORTATION

### BIOBUNKER

Marine fuel with renewable content aligned with IMO decarbonization strategy

*Commercial tests with 10% and 24% renewable content performed in 2023.*

## AIR TRANSPORTATION

### RPBC AND GASLUB DEDICATED PLANTS\*

- Aligned with CORSIA's demands
- Flexibility of raw materials (tallow and vegetable oil)
- Segregated production of 100% renewable derivatives
- SAF's decarbonization potential will depend on the raw materials

## GREEN PETROCHEMICALS

### PROCESSING

Vegetable oil in FCC at RPR for bioaromatics

### CO-PROCESSING

Bio-Oil (RPR) or Ethanol (RECAP) in FCC for green HLR, Propene and Ethylene with renewable content

*PARTNERSHIPS – Integration to the supply chain of more sustainable raw materials*

*\* Units have flexibility for renewable diesel production*

**CCUS**

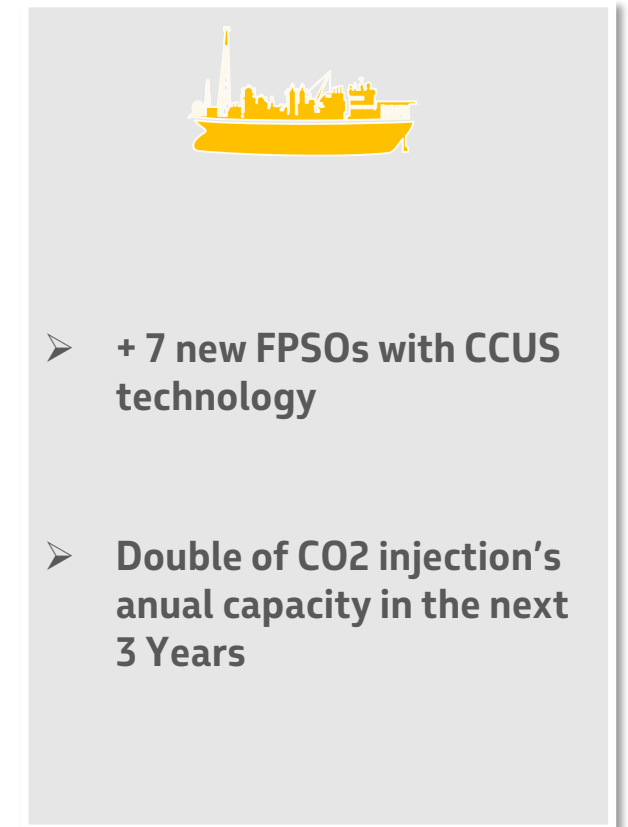
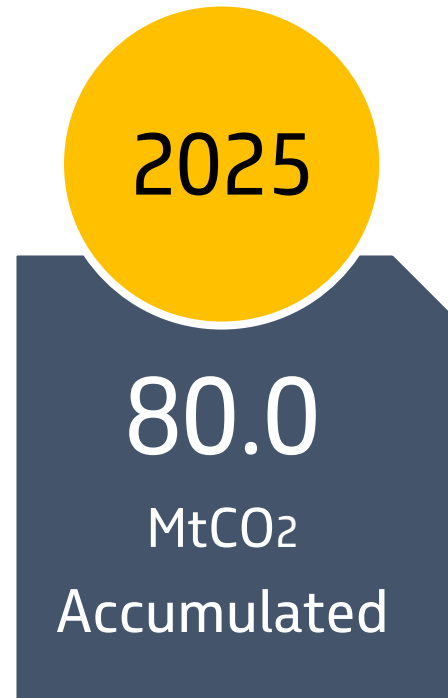
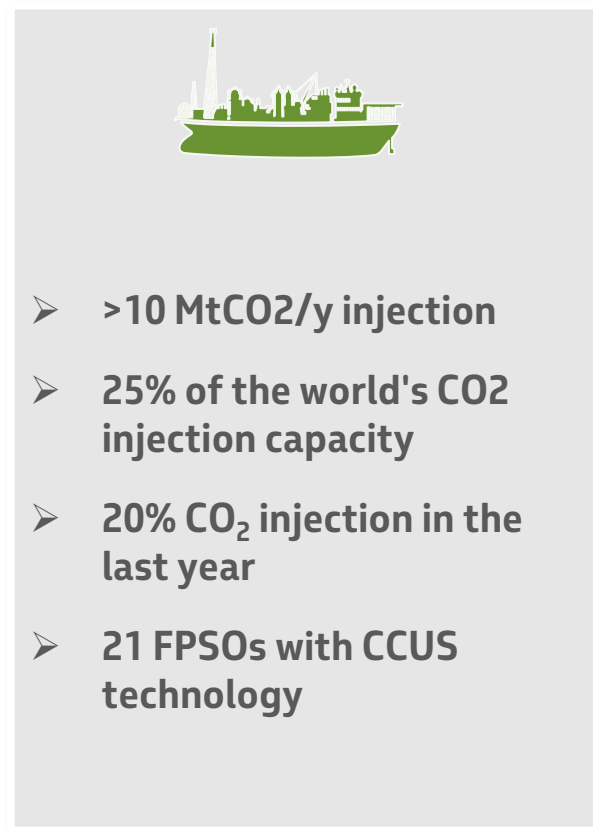
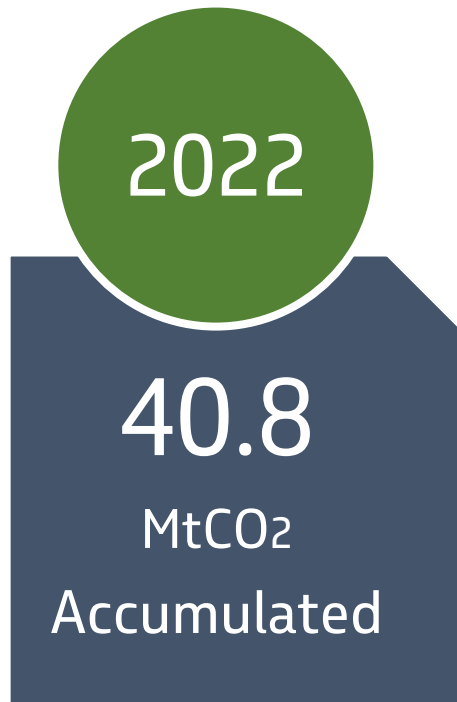
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# Pioneer and largest CCUS project in the world

Reducing emissions and increasing the reservoir's recovery

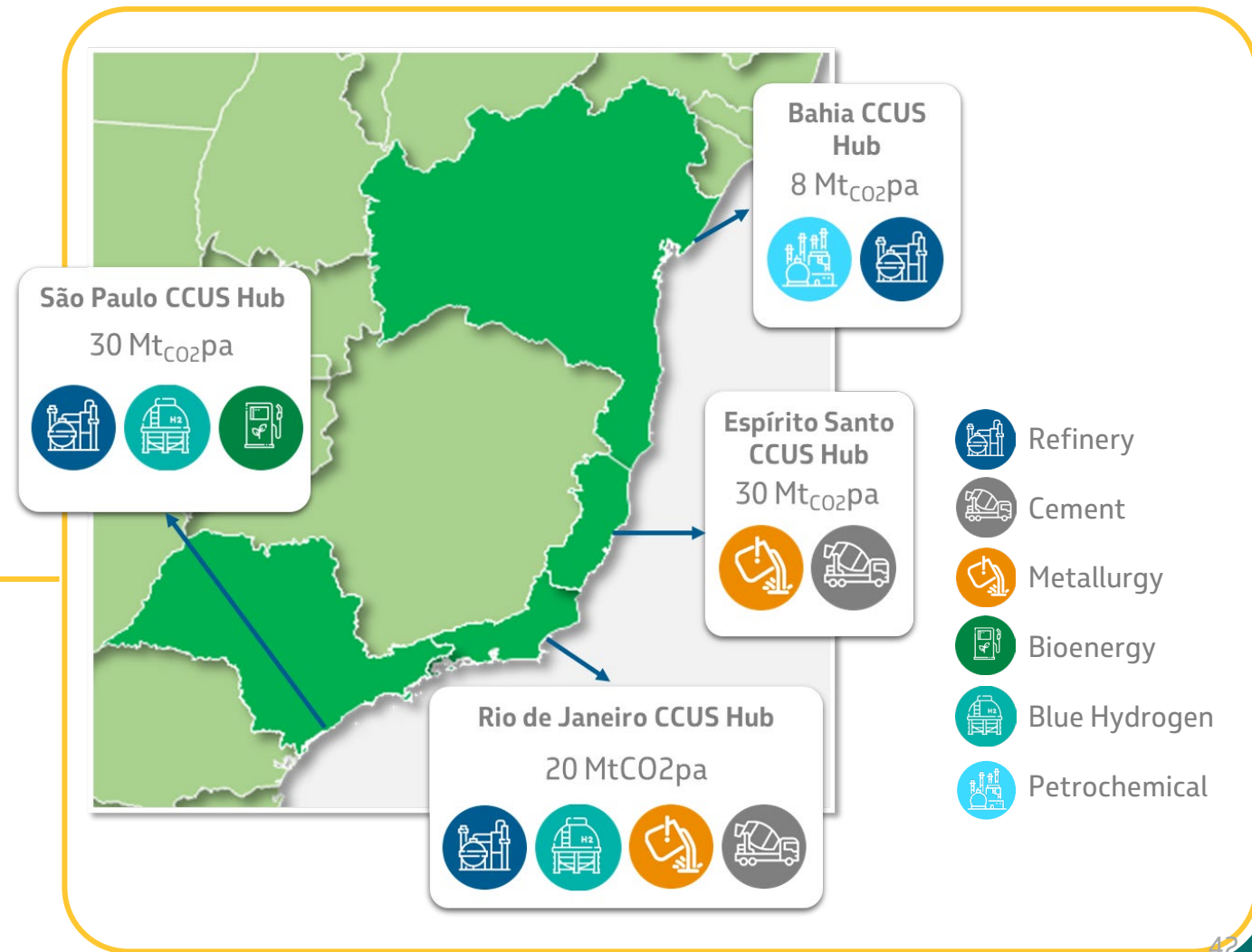
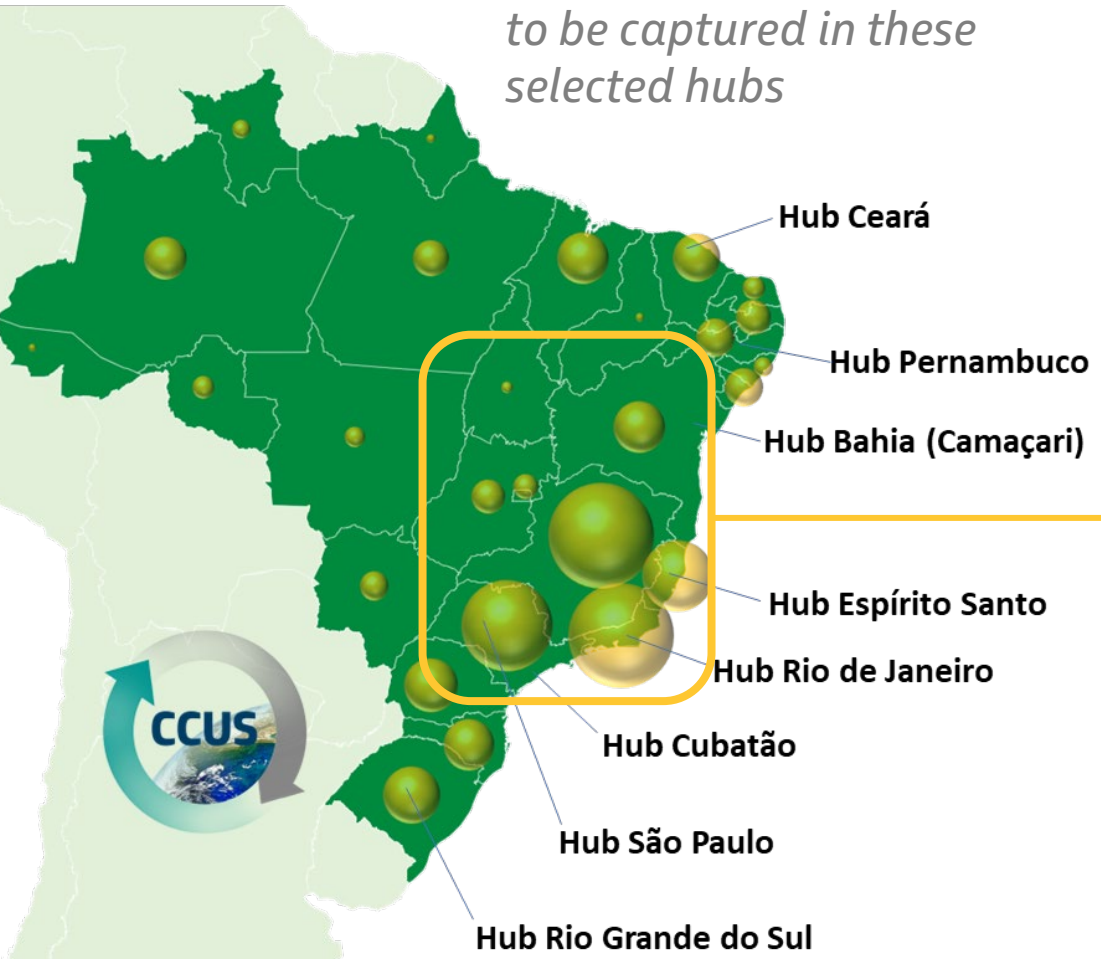
Currently the largest CO<sub>2</sub> injection project in the world:  
First CCUS project in ultra-deep waters (started in 2010)  
Increasing recovery factor



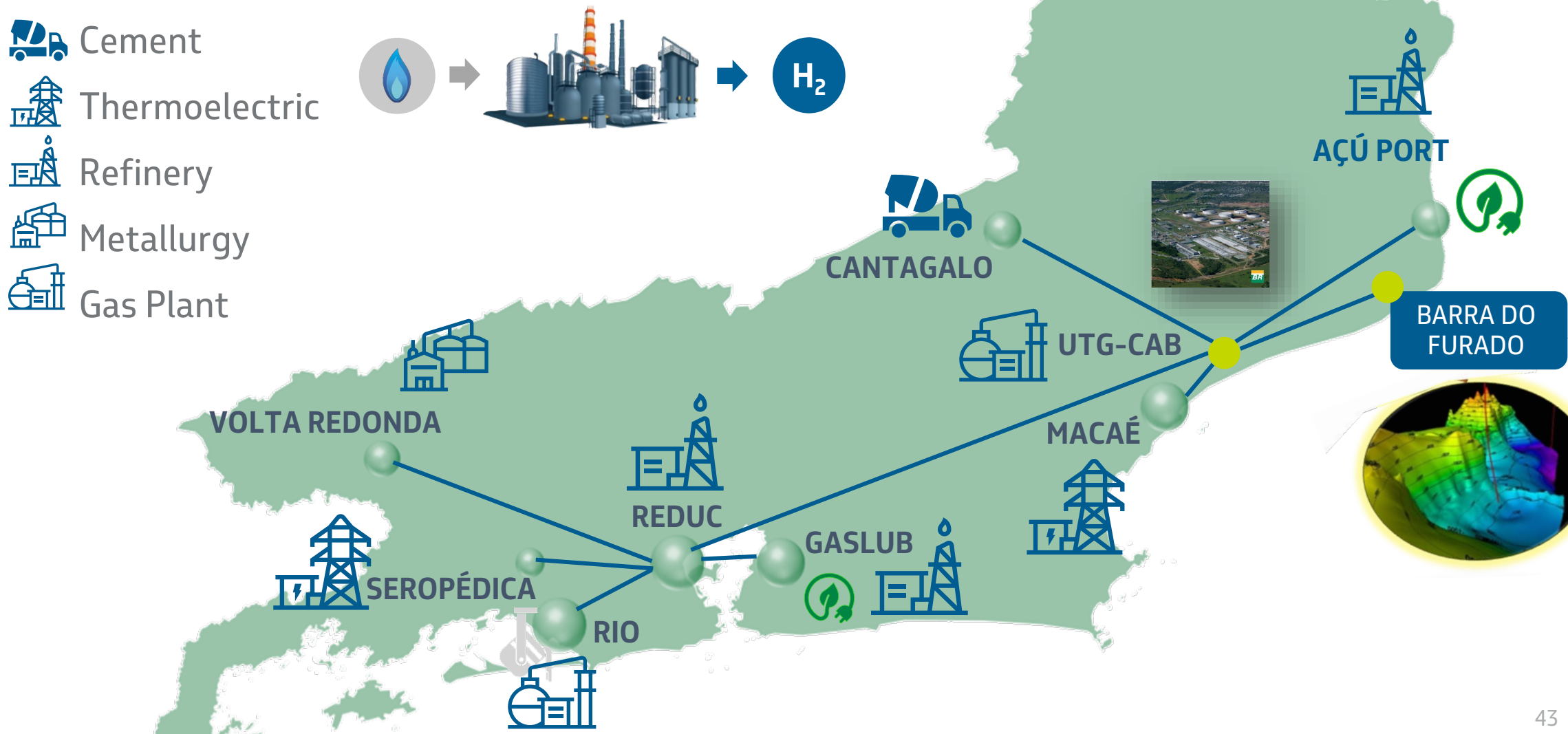
# CCUS HUBS UNDER STUDY

Each of our CCUS hubs under study potentially have the capacity to store the CO<sub>2</sub> industrial emissions of their respective area of influence for more than 50 years

Capacity of 266 MtCO<sub>2</sub> /year to be captured in these selected hubs



# Rio de Janeiro Hub Project





# Technology Roadmap to CCUS New Frontiers

15 CCUS



## TECHNOLOGY ROADMAP

**TODAY**  
The Largest Offshore CCUS in the World

<p>NEW MATERIALS FOR MEMBRANES</p>	<p>CCS from OFFSHORE EXHAUST GASES</p>	<p>OXY-COMBUSTION</p>	<p>SCALE-UP OF CO2 STORAGE SOLUTIONS</p>	<p>BECCS</p>	<p>SUBSEA CAPTURE</p>	<p>POWER HUB-CCS</p>	<p>CO2 CONVERSION</p>	<p>DAC</p>
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## PETROBRAS CCUS AMBITION

2022  
**40.8**  
MtCO2 accumulated  
25% of the total CO2 injected by the industry worldwide



2025: 80Mt CO2 stored in the pre-salt CCUS-EOR project



First of a kind - CO2 storage in saline formation (100 ktons CO2/year)



Commercial Hub



Multiple Hubs



2050 Net Zero Ambition



# *New Energies*

---



# Petrobras Innovation Ventures

*Investment Program (US\$ 0.1 bi) targeting Innovative Businesses*



## Objectives

Search for both strategical and financial objectives:

- Access to new business models
- Early exposure to disruptive technologies
- Identification of new markets and suppliers



## CVC

- Corporate Venture Capital (CVC) as a tool to accelerate positioning in energy transition
- It complements other Open Innovation tools used by Petrobras, bringing new investments focused on innovative businesses for the energy transition



## Work in progress

- Budget approved by the Board of Directors
- Rules and details to be announced in 2024

**DEEP DIVE**  
**PETROBRAS** 2024

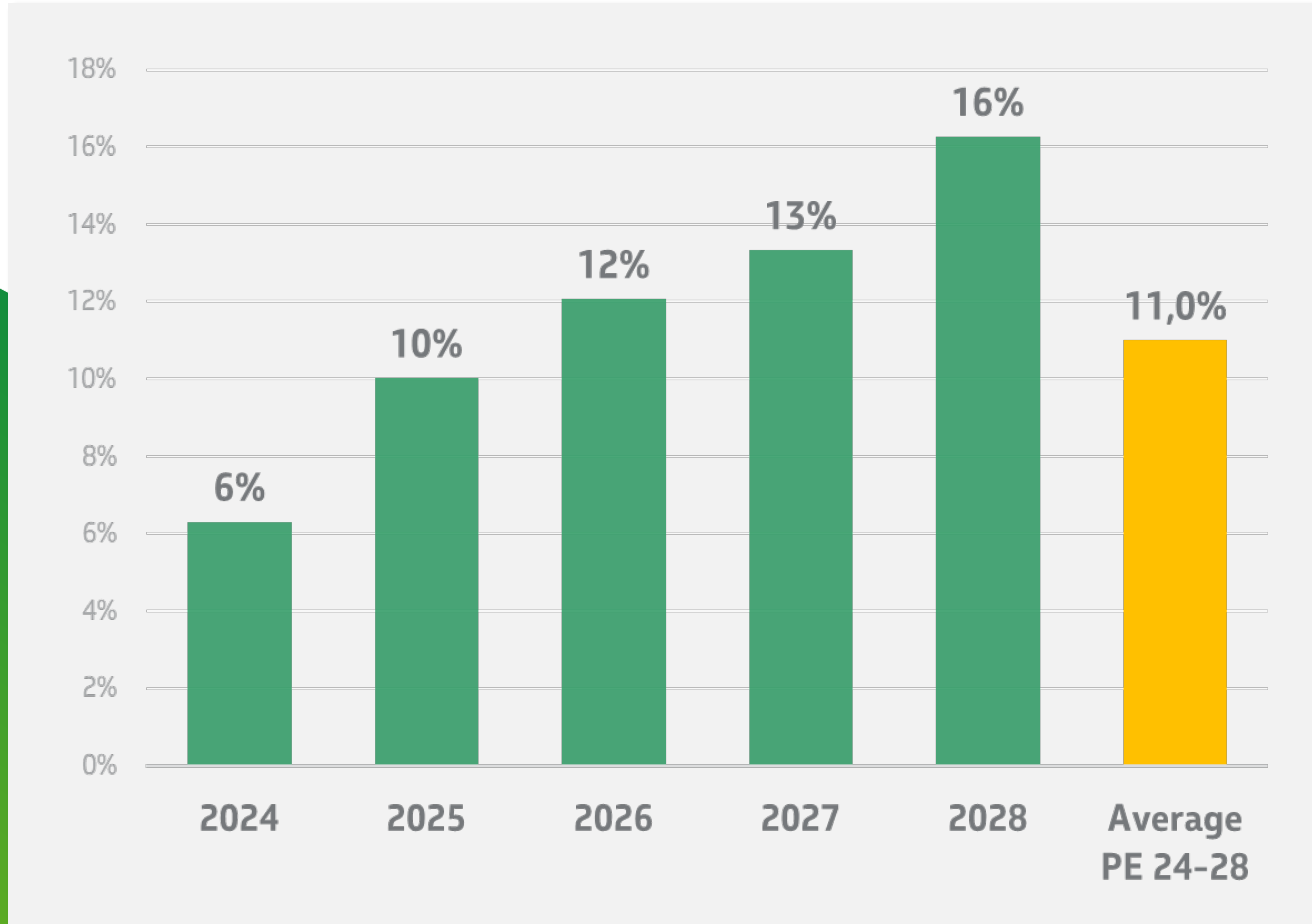
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*Energy Transition*

*Conclusion*



# Low carbon capex projection grows over the plan horizon in alignment with increased business maturity and decarbonization goals



**US\$ 11.5 billion (11% of total CAPEX)**

## OUR BUSINESS STRATEGIES

### Gas and Energy and Renewables

- 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 sources.

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





**DEEP DIVE**  
**PETROBRAS 2024**

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*Energy Transition  
Q&A session*





**DEEP DIVE**  
**PETROBRAS** 2024

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*Diversity, Equity  
and Inclusion*

*Carolina Pires  
Mariana Rodrigues*



**Diversity, Equity  
and Inclusion  
Policy**




**Strategic Plan  
2024 – 28+**

**DIVERSITY,  
EQUITY AND  
INCLUSION**

**Code of  
Ethical  
Conduct**



**Ethical Conduct  
Guide for  
Suppliers**



## Code of Ethical Conduct

## Duties in Human Rights

---

*Ensure a work environment that respects, welcomes, and promotes diversity of culture, race, skin color, ethnic origin, nationality, social position, age, religion, gender, sexual orientation, personal appearance, physical, mental, or psychic condition, marital status, opinion, political conviction, gender identity, or any other factor of individual differentiation (...)*

## Human Rights and compliance with legislation

---

*In this way, the supplier commits to promoting diversity, ensuring respect for differences and equal opportunities in access, remuneration, career development, and requiring similar attitudes from its (sub)contractors(...)*



## Ethical Conduct Guide for Suppliers

# Petrobras approves Diversity, Equity and Inclusion Policy

*Approved on the National Day of Fight for People with Disabilities, the document reinforces the company's commitment to improve the promotion of diversity*

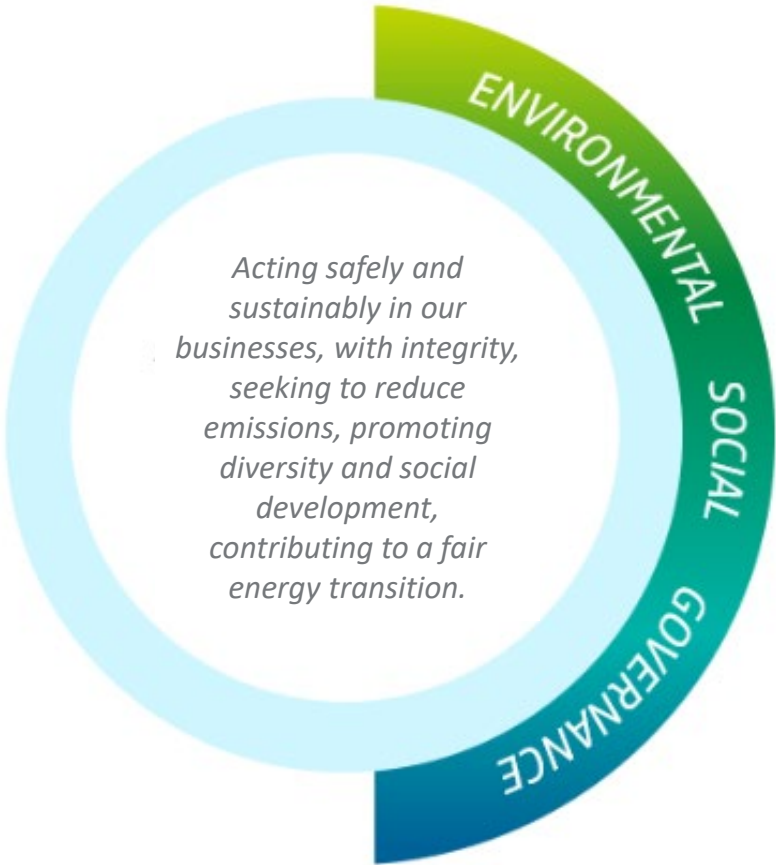
Published in 21/09/2023 at 19:49:09

## *Diversity, Equity and Inclusion Policy*

*Approved by the Board of Directors in September 2023, the Petrobras DEI policy strongly and effectively addresses discrimination and harassment, as well as implements affirmative actions to eliminate and remedy the effects of discrimination against underrepresented groups.*



# Strategic Plan 2024-28+ / ESG Positioning



### REDUCE CARBON FOOTPRINT

*Net Zero ambition 2050*



### PROTECTING THE ENVIRONMENT

*Zero spill ambition*



### CARING FOR PEOPLE

*Zero fatality ambition*



### ACTING WITH INTEGRITY

*Ambition to become reference in ethics, integrity and transparency*



# ESG Positioning 2024-28+ / Social

Suitable working conditions and environment

Promotion of diversity and respect for differences and equal opportunities

Fighting prejudice and discrimination

Prevention of psychological, physical and sexual violence in work relations

Respect for freedom of association and collective bargaining

Education on Human Rights

Reporting and Complaints Channel

Ethics and respect for human rights

Human Rights Awareness

Promotion of basic work principles

Combating degrading practices and disrespect for the rights of children and adolescents

Personnel Management

Relationship with communities

Respect for communities

Respect for indigenous peoples and traditional communities

Respect for the environment

Transparent operations

Reporting and Complaints Channel

Dialog with communities

Promotion of Safety Practices

Education of risk-prone communities

Transportation of individuals and communities

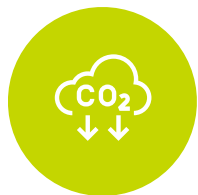
Risk assessment system

Impact repair

Performance effectiveness monitoring

Accountability





## REDUCE CARBON FOOTPRINT

- Promote intrinsic decarbonization, aiming for operational emissions neutrality by 2050, considering origination and acquisition of competitive and high-quality carbon credits as a complementary strategy;
- Expand the supply and access to low-carbon energy and products in a cost-effective transition to alleviate energy poverty and reduce portfolio exposure to greenhouse gas emissions.
- Leverage knowledge and innovation ecosystems in low-carbon solutions.
- Collaborate with stakeholders to accelerate inclusive and sustainable development opportunities.



## ENVIRONMENTAL PROTECTION:

- Be water positive in water-critical areas of operation by reducing freshwater intake and improving local water availability, contributing to water security.
- Minimize generation and maximize reuse, recycling, and recovery of waste, promoting circular economy practices and seeking zero landfill disposal.
- Promote conservation, restoration, and biodiversity gains, aiming for a net positive impact in the regions of operation..
- Enhance process safety, readiness, and contingency response, preventing and mitigating accidents, leaks, and environmental impacts



## CARE FOR PEOPLE:

- Be a vector for socio-environmental development.
- [Be a reference in human rights and the promotion of diversity, equity, and inclusion.](#)
- Promote well-being and comprehensive health care for the workforce.
- Ensure people's safety through practices that incorporate human factors with a focus on organizational learning.



## ACT WITH INTEGRITY:

- Strengthen our governance model with a balance between efficiency and control.
- Be a reference in ethics, integrity, and transparency.
- Encourage the adoption of ESG practices among our stakeholders.



# ESG Positioning 2024-28+ / Social



To achieve more than 50% physically active employees, contributing to a healthier and more productive life by 2028

*Raising levels of people's health through a culture of well-being*



To implement 100% of the commitments of the UN Global Pact Mind in Focus Movement by 2030

*Ensure healthy and safe environments through the management of psychosocial factors at work*

To be among the top three O&G companies in the Human Rights ranking by 2030

*To accomplish HR due diligence in 100% of our operations and 100% of our workers and third parties trained in HR*



To promote Diversity, increasing the percentage of women to 25% and the percentage of black people in leadership positions to 25% by 2030

*Current level at 20% with actions to increase gender and color/race representation in leadership positions each year*



Promote diversity in Petrobras' Nominations for our equity holdings:

- Reach 30% of women in Board of Directors, Executive Board and Fiscal Board by 2026
- Increase by 10% the nominations of black people for the Board of Directors, Executive Board and Fiscal Board by 2030

# Petrobras Values



# Petrobras Values



## Care for People

Taking care of individuals by promoting diversity, equity and inclusion, as well as ensuring health, well-being, physical and psychological safety



## Integrity

Acting with ethics, transparency and coherence between speech and practice



## Sustainability

Generating value for the company and stakeholders with a long-term vision and commitment to life, fair energy transition, environment, and society



## Innovation

Building new paths for the company, overcoming barriers through collaboration, technology, technical expertise, and continuous learning



## Commitment to Petrobras and to the country

Working with excellence and purpose for the development of Petrobras and the country

## *Institutional commitments undertaken by Petrobras:*





## Commitments turned into actions

---

- Quotas in hiring processes, affirmative management selection processes, women in Succession Program, Mentoring, benefits, affinity groups, surveys, data monitoring, Education and Communication initiatives for leadership and employees.
- **Launch of the first Racial Equity Program in November 2023**, with educational initiatives and affirmative actions. Strategic Plan Goal - achieve 25% diversity in color and race in leadership positions by 2030.
- **Creation of the Diversity, Equity, and Inclusion Management in June 2023.**
- **Creation of the Human Rights Management in August 2023.**
- **Commitment to Life Program**  
*Health, Safety, and Environment (HSE) initiatives*
- **Creation of the Support of Victims of Workplace Violence Management in July 2023**







## *Petrobras Program Against Sexual Violence*

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# ***Petrobras Program Against Sexual Violence***

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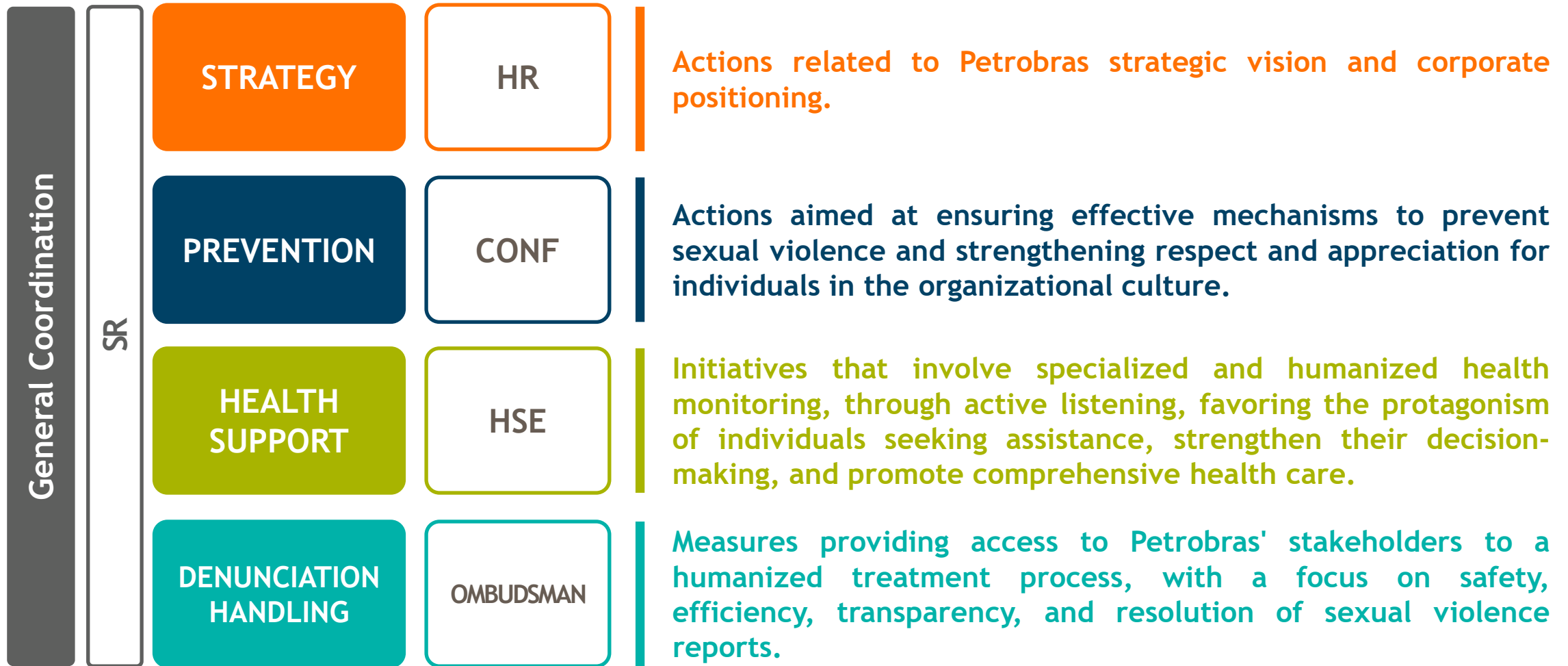
## **Centralizes and monitors**

*the implementation of actions to combat harassment, misconduct, and sexual violence, currently underway or to be implemented by the company..*

## **Creates a**

*Diverse  
Respectful  
Safe and sexual-violence-free  
work environment.*

# Petrobras Program Against Sexual Violence



# Petrobras Program Against Sexual Violence – Actions

## STRATEGY

Conduct engagement surveys.

Implement an action plan for a diverse and respectful environment.

Approve a diversity policy.

Define diversity goals.

Execute a communication plan on sexual violence.

Incorporate human rights violation risks across all company areas.

## PREVENTION

Train specific audiences.

Demonstrate commitment and engagement of self-administration in promoting a culture of respect.

Develop and publish guidelines for preventing and combating discrimination, moral harassment, and sexual violence.

Review internal regulations to include provisions for combating sexual violence.

Semi-annually disclose reports on complaints and disciplinary measures.

Provide mandatory e-learning on harassment and discrimination.

## HEALTH SUPPORT

Implement systematic support for people affected by workplace sexual violence

Establish a formal structure to manage the health support channel.

Develop protocols for the health support channel.

Establish standards for the health support channel.

## DENUNCIATION HANDLING

Centralize investigation and reduce timelines.

Review standards associated with the complaint handling process.

Create a structure with a diverse, qualified, and dedicated multidisciplinary team.

Train teams dedicated to the topic.

Evaluate process follow-up by a representative of the complainant/victim.

Ensure measurement and transparency in the performance of sexual violence denunciation handling.

Provide feedback to the complainant and collect opinions on the process.

Realizar estudo sobre Sistema de Consequência

Conduct studies on the consequence system.

Implement an integrated system for handling sexual violence records

# Health Support Channel – support channel for individuals affected by workplace violence.

## SUPPORT

*Actions aimed at active listening, fostering the person's seeking assistance, strengthening their decision-making, and promoting comprehensive health care.*

May-2023



0800



SERVICE  
NOW



ATENDIMENTO  
PRESENCIAL

- Available 24/7
- Health professionals
- Confidential
- Entire workforce
- This is not the Whistleblowing Channel



# *Petrobras Program Against Sexual Violence and the Health Support Channel*

---

The creation of the Petrobras Program Against Sexual Violence and the establishment of the Health Support Channel **were important responsive actions** to mitigate risks related to cases of sexual violence within the company.

The consolidation of the support process within health provided **specialized assistance** to individuals affected by workplace violence.

**We have been approached by various companies** for the presentation of our support process, with positive evaluations of the practices carried out in the support channel and **collective biopsychosocial interventions** related to workplace violence demands.

There are plans to **expand the program** to cover all types of workplace violence, with a corresponding expansion of the health support channel.

The insights gained by the health team dedicated to the support process **deepened the understanding of the complexity** related to workplace violence, playing a crucial role in creating prevention initiatives.



**DEEP DIVE**  
**PETROBRAS 2024**

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*Diversity, Equity and Inclusion  
Q&A session*



**DEEP DIVE**  
**PETROBRAS 2024**

*Governance  
and Compliance*

*Mario Spinelli*



# Strengthening Corporate Governance



## Board of Directors

responsible for approving global strategies - commercial, financial, risks, investments, transaction with related parties and others



## Executive Board

responsible for managing the business and achieving results



## Endorsement of statutory committees

before Officers, Executive Board and Board of Directors decisions



## Decision-making process requires validation

from technical areas and legal and compliance analysis



## Independent Governance and Compliance

Internal Audit and Ombudsman structures. **External whistleblowing channel**, with assured anonymity and non-retaliation

## Petrobras is overseen by several regulators

CVM (investors and capital market), CGU (Comptroller General Office), TCU (Federal Court of Accounts), SEST (control of governance practices), CADE (anti-trust body)

Procedures aiming at technical decisions

Prevent undue political interference

Projects with economic return



# Governance reinforces rational decision-making process

## VETO POWER

Veto power of Chief Governance and Compliance Officer over decisions of the Executive Board which are not compliant with the applicable legislation and internal rules

## INDEPENDENCE

Chief Governance and Compliance Officer selection process by headhunter; election by BoD for 2-year tenure; dismissal only by the Board of Directors, with the approval of the majority of board members elected by minority shareholders

## STRENGTHENING OF GOVERNANCE AND COMPLIANCE

Creation of new executive position to conduct the disciplinary accountability process, including those established on the Anticorruption Act, segregating the investigation process from the accountability process



## Legal aspects

---

### OIL LAW

Petrobras must practice market prices and act in a free and competitive market.  
*(Law 9478/97 – Lei do Petróleo, article 61)*

### STATE-OWNED COMPANIES ACT AND BYLAWS

When oriented to pursue public interest, the associated costs need to be disclosed.  
Compensation for the Company in case of differences to market conditions.  
*(ex: implementation of investment projects and fuel marketing)*

### CORPORATE ACT

The Directors and Officers cannot act to the detriment of the Company.  
*(Law 6404/74 – Lei das S/As, article 245)*

# Nomination rules

## Applicable law, Bylaws and Policy for Nomination of Senior Management Members





**DEEP DIVE**  
**PETROBRAS 2024**

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Governance Q&A session





**DEEP DIVE**  
**PETROBRAS** 2024

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*Portfolio  
Management*

*Andrea Damiani*

Strategic Plan  
2024\_2028+

Our value  
proposition



Increasing oil and gas production



Integration with downstream



Value generation with just transition

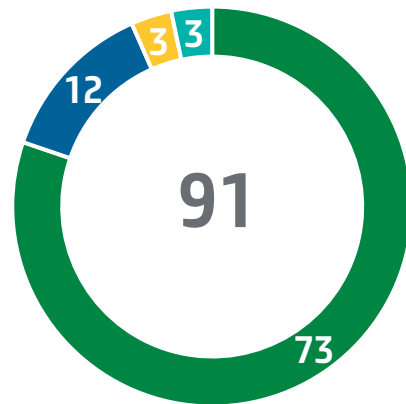


Focus on capital discipline

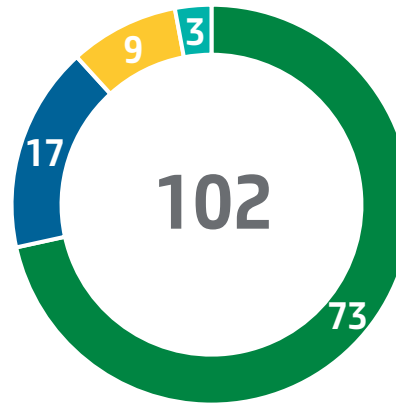
## Higher investment in the 2024-2028 timeframe for long-term value Generation

- Exploration & Production
- Refining, Transportation and Marketing
- Gas and Low Carbon Energies
- Corporate

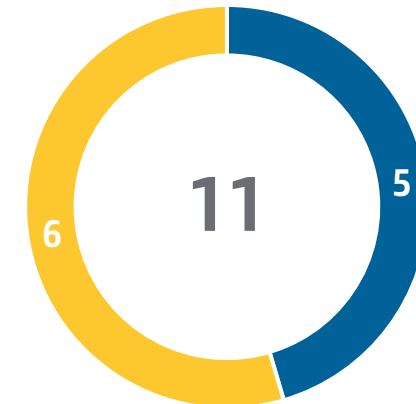
Portfolio under implementation



Total CAPEX\*



Portfolio under evaluation



\*Does not include US\$ 12billion FPSOs. Includes potencial acquisitions



COMPLIANCE

WELL-DEFINED  
INTERNAL  
PROCEDURES

BEST MARKET  
PRACTICES

TECHNICAL  
ANALYSIS

ECONOMIC  
ANALYSIS

ROBUST GOVERNANCE

PROJECT  
DEVELOPMENT

INVESTMENT

ACQUISITION

PROFITABILITY CRITERIA

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Profitability Ratio
- Payback
- Break Even Price
- Risk Analysis

Projects only sanctioned with positive NPVs

OUTCOME

- ▶ Return on capital
- ▶ Reduced risk
- ▶ Sustainability
- ▶ Operational efficiency

# Decision-making process with quality assurance and accountability

*Petrobras follows strict governance and control standards, both in its investment and acquisition projects*

## Quality Assurance

- Technical & Business Advice and Review Groups composed of different areas of the company
- Recommendations for decision-making
- Recommendations for project improvement

## Advisory Committees

- Statutory Technical Committee: Multidisciplinary committee formed by company executives
- Issue recommendations for decision: The same duties and responsibilities apply to managers
- Advisory Committees to the Board of Directors: Formed by the company's directors and external members

## Decision Makers

- Board of Directors and Executive Board
- Final Investment Decision

Layers of the decision-making process involve multiple areas of the company and technical, executive, and senior management levels. All decisions pass through collegiate bodies.

# Segregation of duties and regulators oversight

## Project development involves several areas of the company, with segregation of duties



### Business Area

Identifies opportunities, develops projects and submits them for approval



### Corporate and Technical Areas

Each area provides the assumptions relative to its attributions. Macroeconomic assumptions generated by the Strategy Department and approved by senior management in the Strategic Plan



### Business Performance

Independent area performs the valuation for new M&A processes/valuation review for new projects



### Portfolio

Conducts M&A projects and negotiations and submission of documentation for approval



### Compliance

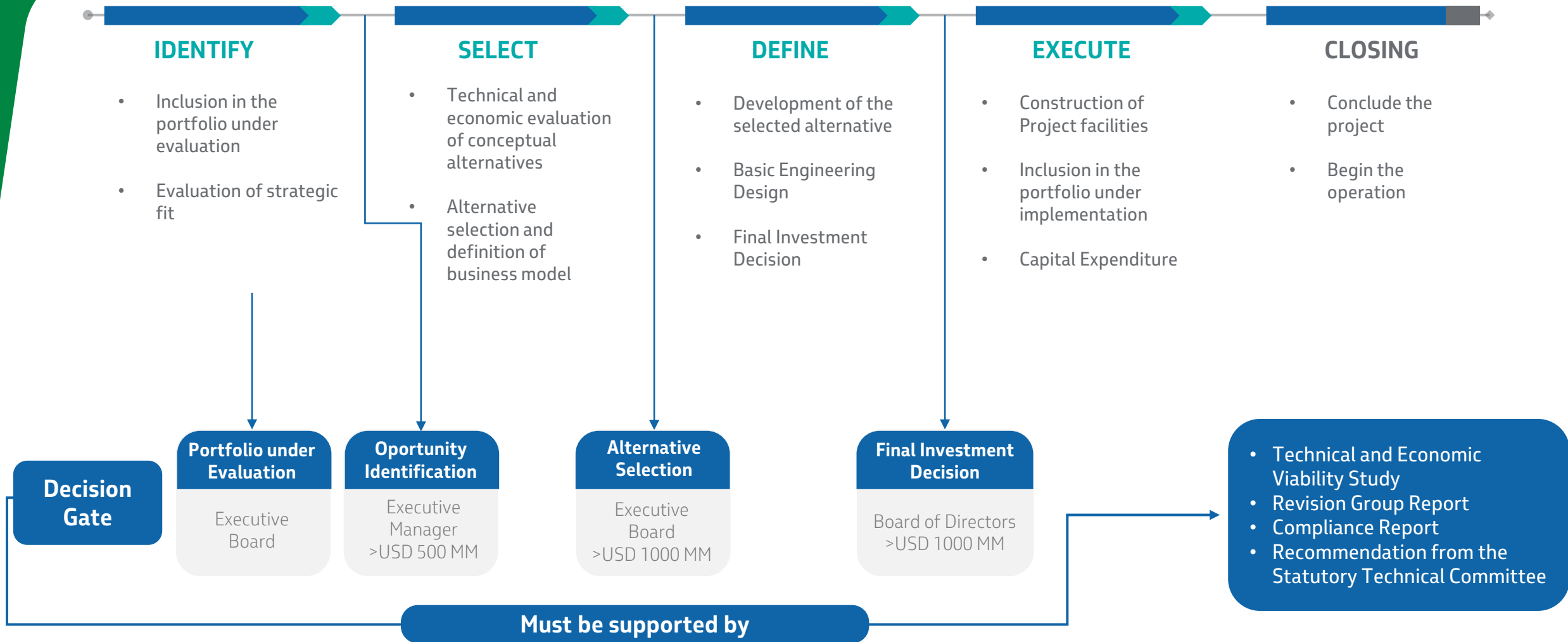
Ensures process compliance

## Petrobras is supervised by several regulators

**CVM and SEC** (investor protection)  
**CGU** (Comptroller General Office)  
**TCU** (Federal Court of Accounts)  
**SEST** (control of governance practices)  
**CADE** (anti-trust body)

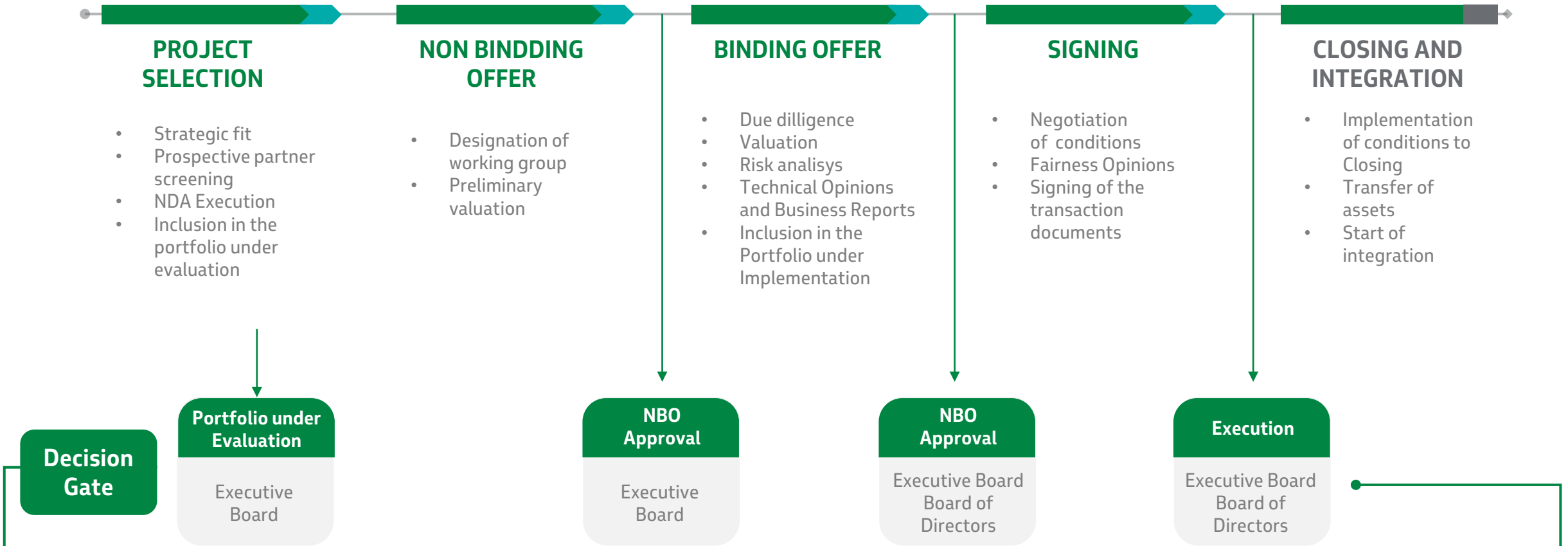
# Project governance composed of validation and approval stages

## CAPITAL INVESTMENT PROJECTS



# Project governance composed of validation and approval stages

## ACQUISITIONS



All decisions must consider the recommendation by the working group and by the Technical Statutory Committee  
Board of Directors decision must consider additional recommendation by Investment Advisory Committee and Audit Advisory Committee





**DEEP DIVE**  
**PETROBRAS 2024**

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Portfolio Q&A session



**DEEP DIVE**  
**PETROBRAS** 2024

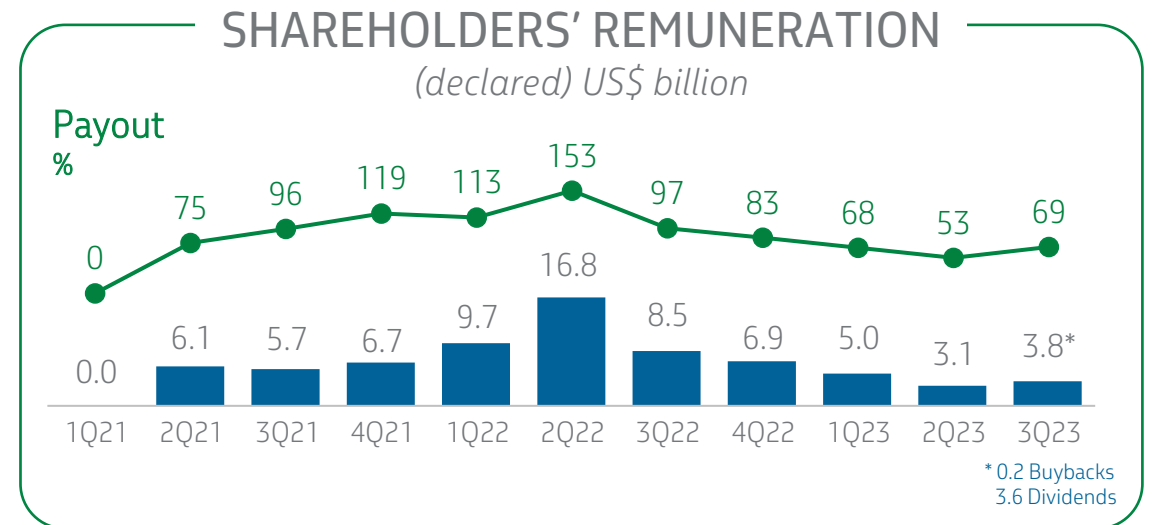
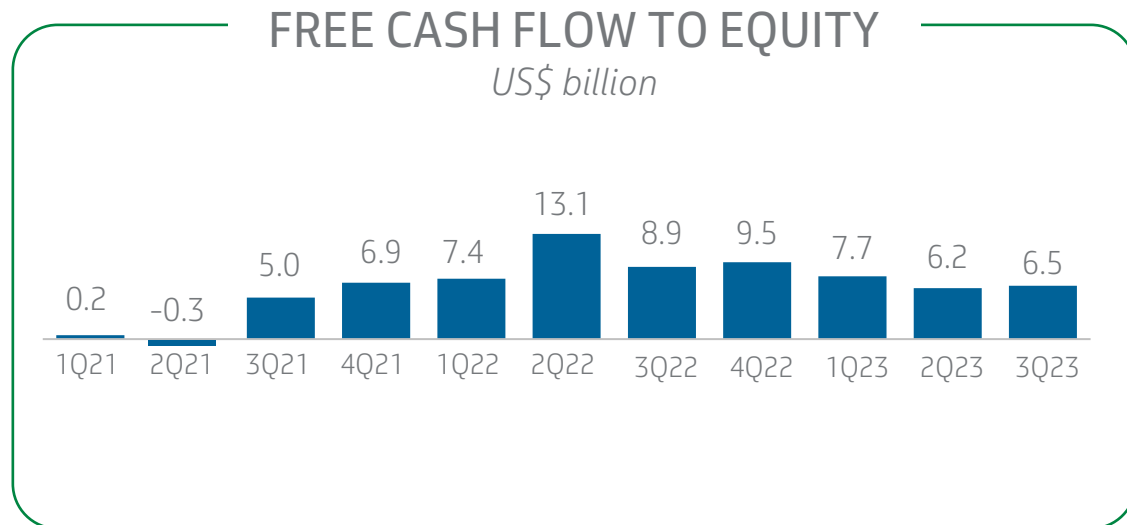
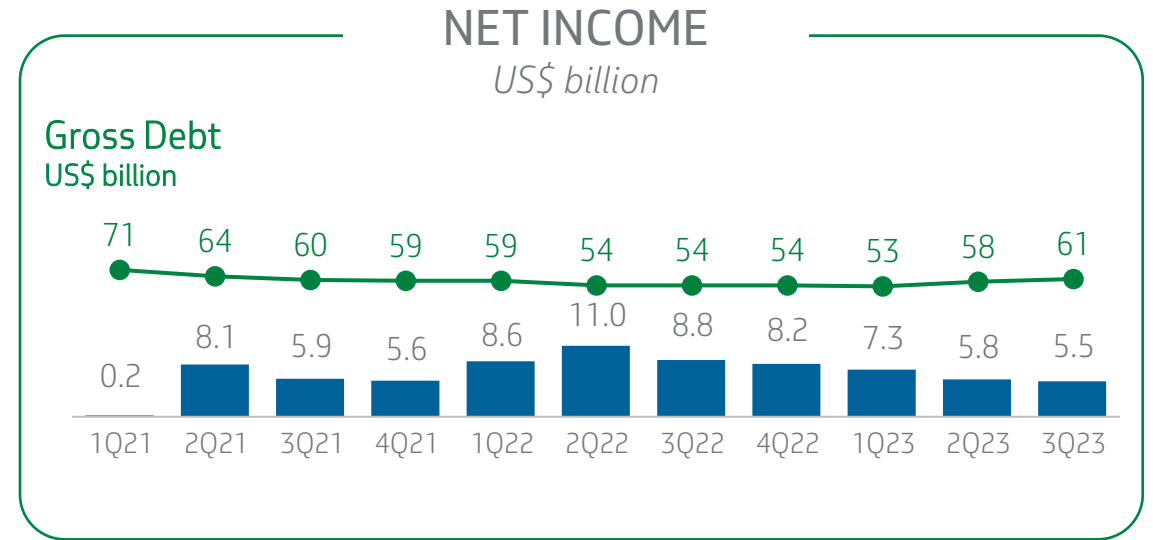
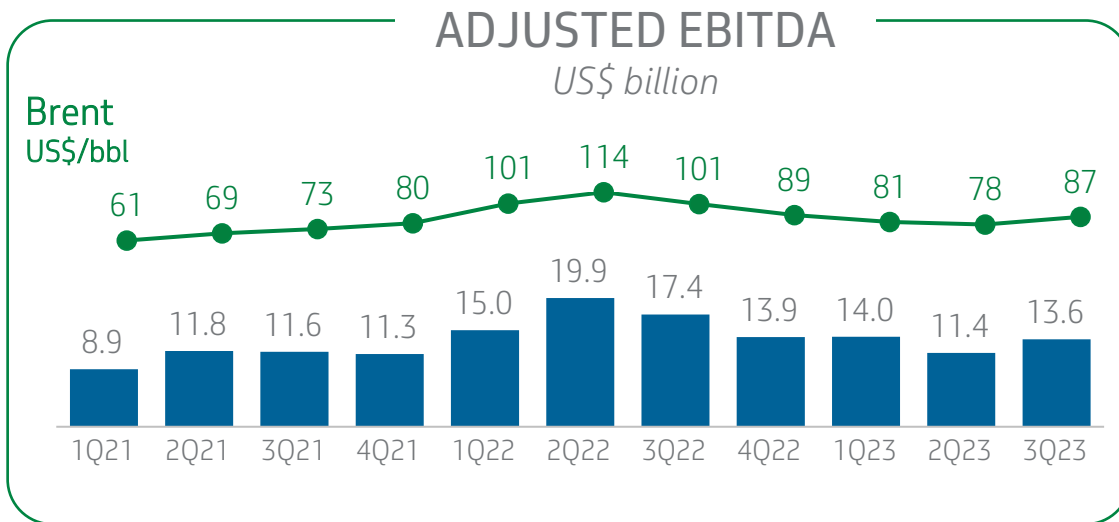
**FINANCIAL  
STRATEGY**

Giuliano Carrozza

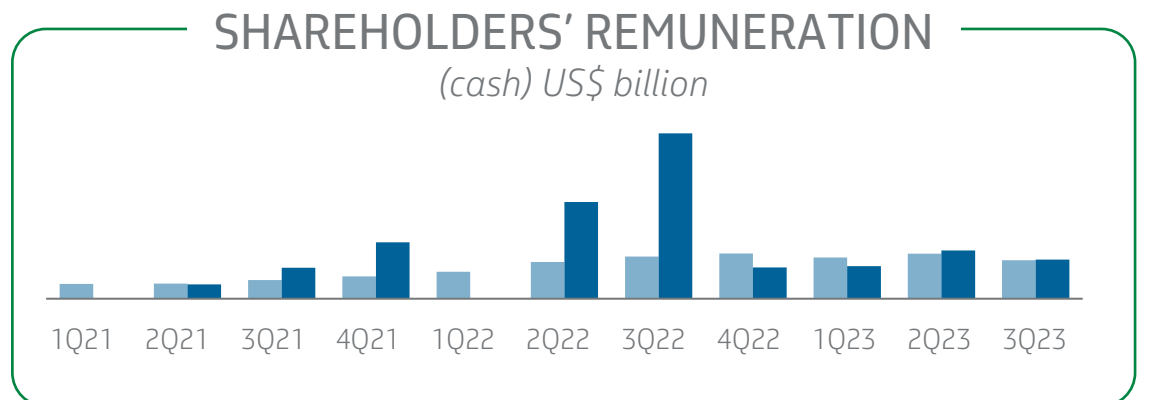
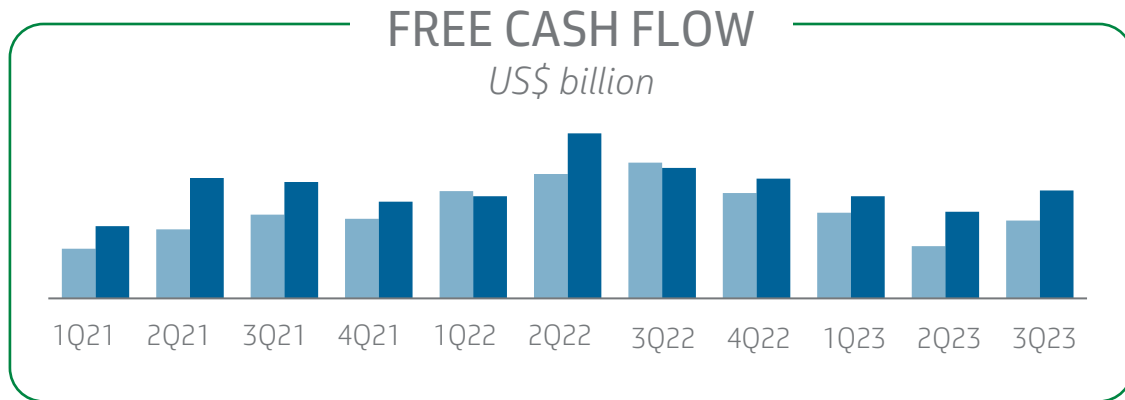
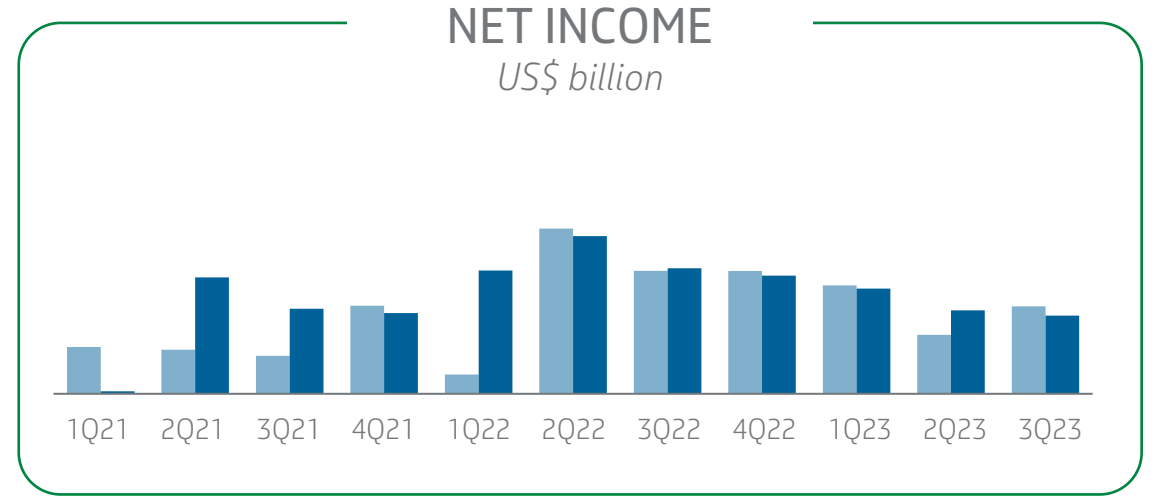
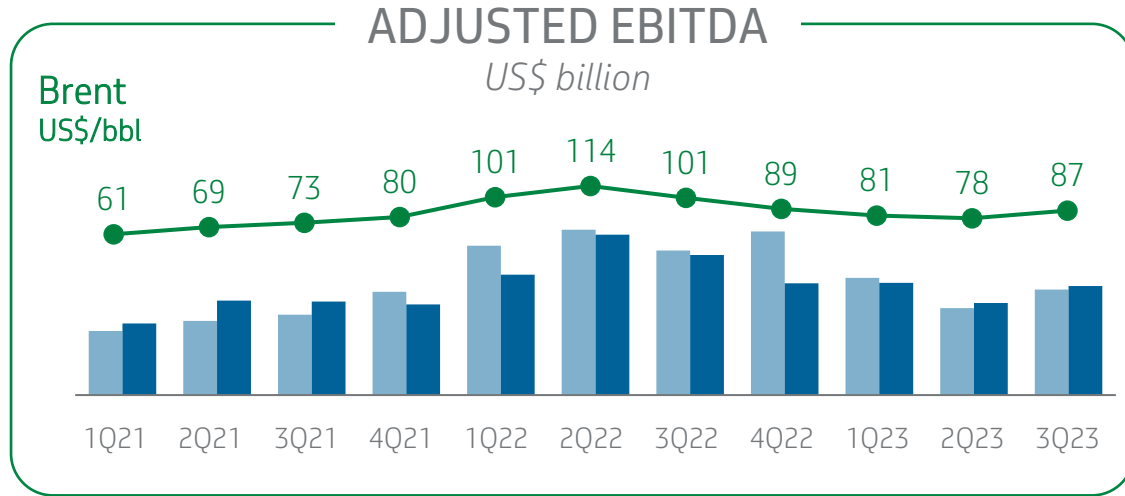


# Petrobras' strong results: consistent performance brings opportunities

Liability management along with return to shareholders



# Petrobras' strong results: in-line with peers



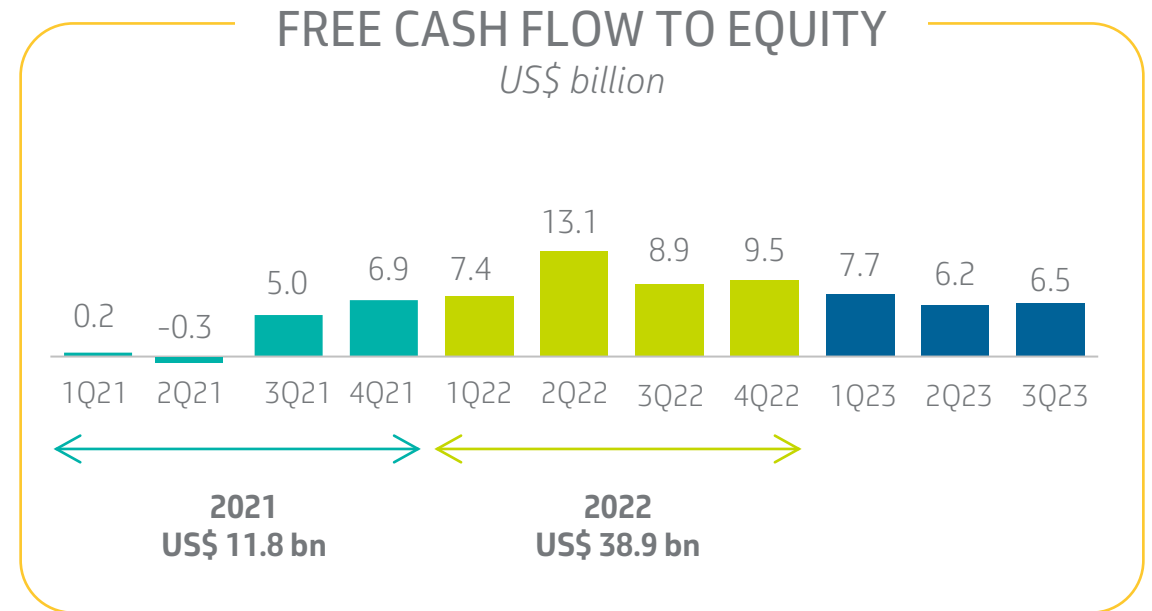
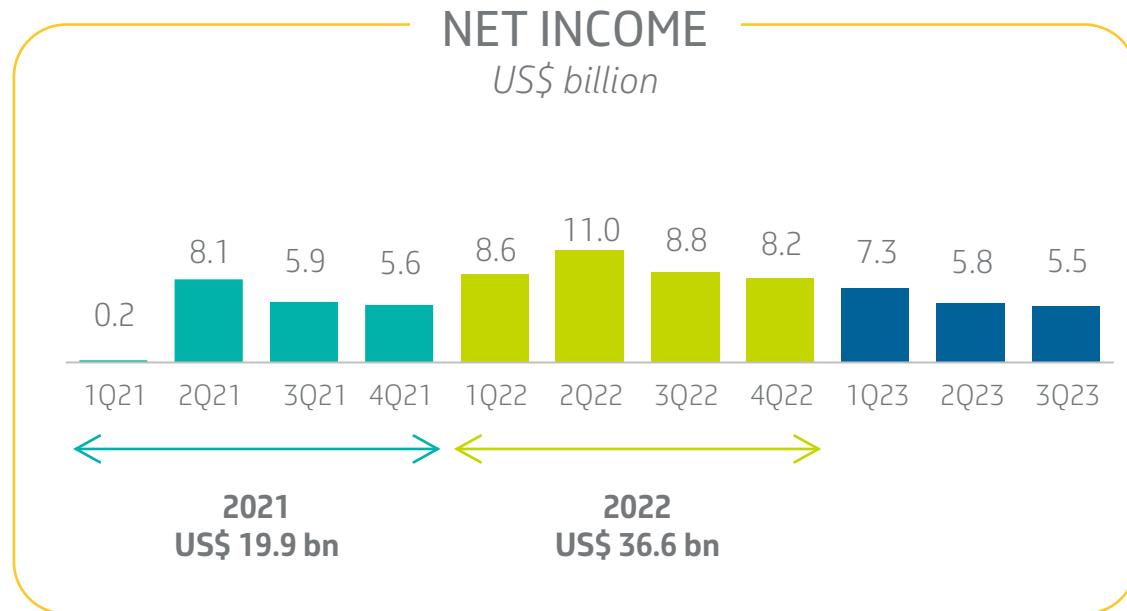
Source: Petrobras Financial Statements and Bloomberg for other companies.

■ Peer Group's Avg (BP, Chevron, Equinor, Exxon, Shell, Total Energies)  
 ■ Petrobras



# Capital remuneration reserve implementation: why?

Crucial to make our Shareholder Remuneration Policy effective



**Our Policy is cash-oriented, it makes sense to avoid focusing on accounting metrics in scenarios such as 2021 (NI > FCFE).**

**Main goals of the capital remuneration reserve:**

- Reduction of exposure to extraordinary events without immediate cash effects;
- More regularity to dividend payments, once ensured its financial sustainability, even in periods with adverse results;
- Make the Policy effective: reserve constitution must comply with the Policy.



## **Capital remuneration reserve**

*Brazilian law differs from other countries*

---

*Under Brazilian Corporate Law, annual profits must be either allocated to reserves or paid out as dividends. Therefore, the bylaws of corporations can create specific accounting reserves in addition to those provided by law.*

*Similar reserves are not seen in the US: under Delaware Law, corporations are not subject to equivalent corporate accounting rules and are not obliged to pay the annual profit as dividends.*

*Europe: although in general it is to the board/shareholders sole discretion whether dividends are paid and in what amount, the bylaws and other organizational documents of companies incorporated in certain EU jurisdictions allow for the creation of reserves for future allocation of earnings as determined by the board of directors or similar governing bodies.*

## Capital remuneration reserve: benchmarking on B3

Before Petrobras, 8 out of the 10 largest companies had statutory reserves

*As a result, the bylaws of many Brazilian corporations provide for some type of profit/dividend reserve for future payment of dividends.*



ambev



ITAÚSA

# Capital remuneration reserve: characteristics

Bylaws of Petrobras, Art. 56



## Purpose

- Dividends, interest on equity, or other forms of remuneration to shareholders provided for by law
- Share buy-backs

Transparency: provided by law

- Absorption of losses
- Incorporation into share capital as a remaining purpose



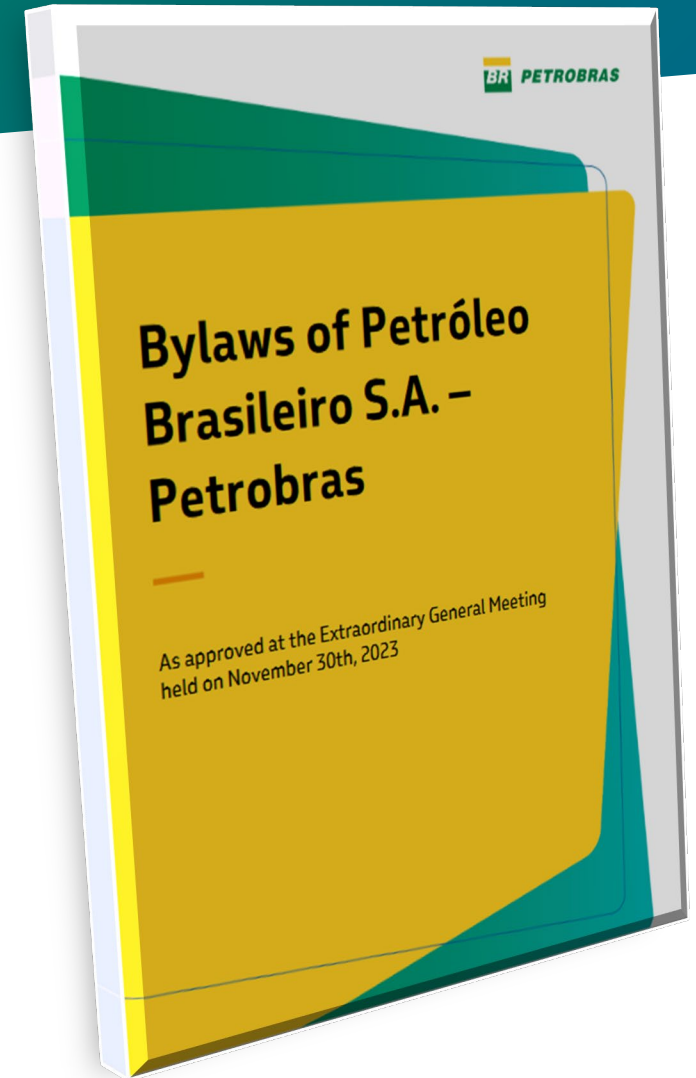
## Allocation

- Up to 70% of the adjusted net income for the year



## Limit

- Share capital





# And why is it important to have an effective, cash-oriented Remuneration Policy?

## SHAREHOLDER REMUNERATION POLICY

### 1. MINUTE OF APPROVAL

Policy approved by Petrobras' Board of Directors – Meeting no. 1,713, item 3, topic 78 of 07-28-2023.

### 2. COVERAGE

This Policy applies to Petróleo Brasileiro S.A. (Petrobras).

### 3. PRINCIPLES

**3.1** At Petrobras, the distribution of shareholder remuneration will follow the provisions of the legal and statutory rules and in this shareholder remuneration policy ("Policy").

**3.2** Petrobras seeks, through its dividend Policy, to guarantee its continuity and financial sustainability in the short, medium and long term and to provide predictability to the flow of remuneration payments to shareholders. Consequently, the payment of shareholder remuneration must not compromise the Company's short, medium and long-term financial sustainability.

**3.3** Remuneration of Petrobras' shareholders shall occur through the payment of dividends and interest on own capital and/or the repurchase of its own shares. The buyback, when it occurs, must be carried out through a structured program approved by the Board of Directors.

**3.3.1** The repurchases of shares carried out in the context of the Shareholder Remuneration Policy will always have the objective of maintaining the acquired shares in treasury and their subsequent cancellation.

### 4. GUIDELINES



*Financial sustainability is a key principle of our Policy, encompassing all forms of distribution, which has been adopted since its first inception in 2019.*



*Accounting metrics such as net income are more prone to being affected by non-recurrent events without relation to the companies' liquidity position.*

# Financial sustainability: relevance of our Strategic Plan

KEY GUIDELINES ARE ESTABLISHED ON THE STRATEGIC PLAN



Capital allocation



Cash references

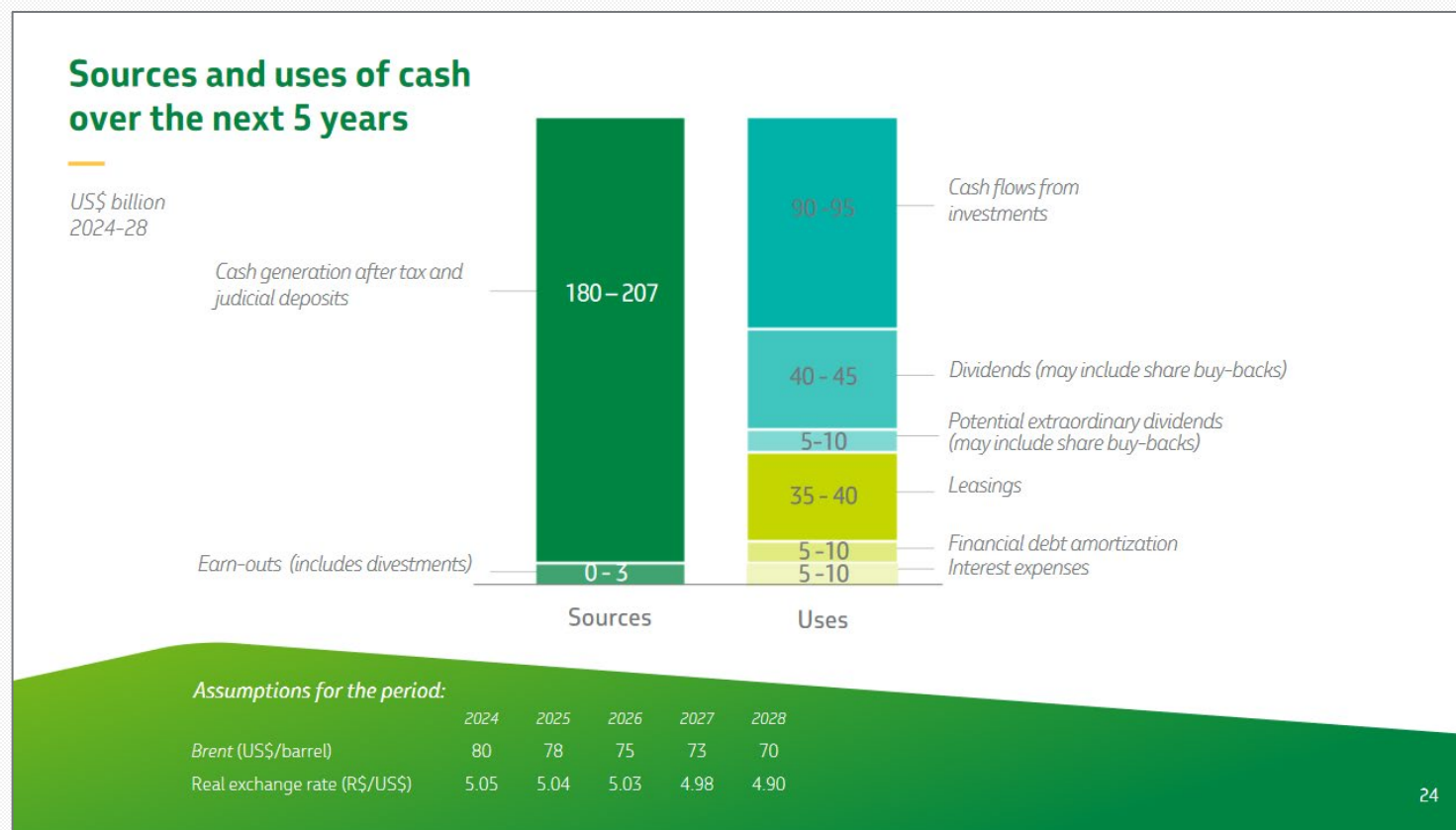


Value creation



Gross debt level

AND IT BALANCES OUR VISION AND LONG-TERM SUSTAINABILITY



# Strategic Plan: tackling cost inflation with savings initiatives

## KEY GUIDELINES ARE ESTABLISHED ON THE STRATEGIC PLAN



Capital allocation



Cash references



Value creation



Gross debt level

## WE ARE COMMITTED TO FINANCIAL RESPONSIBILITY



Savings that exceed our expected CAPEX on new oil & gas frontiers throughout Petrobras' 2024-2028+ Strategic Plan were achieved in the last three years.



Commitment to generating value for our shareholders through financial responsibility and operational efficiency.

# Strategic Plan: creating value from tax litigations

## KEY GUIDELINES ARE ESTABLISHED ON THE STRATEGIC PLAN



Capital allocation



Cash references

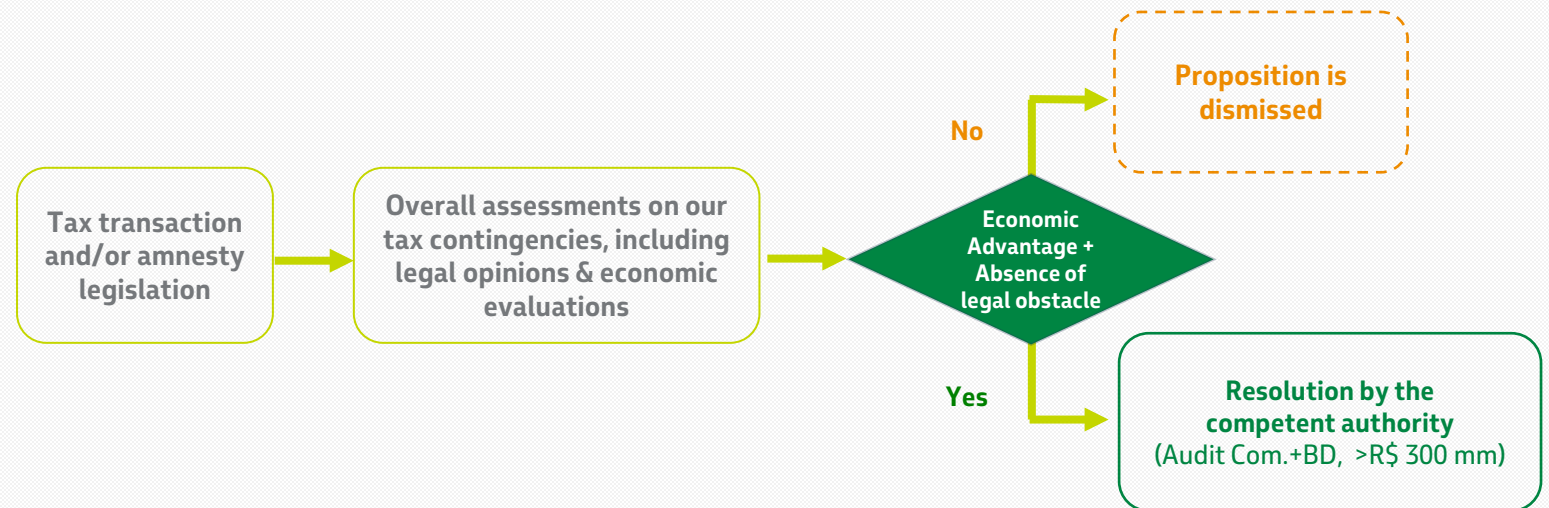


Value creation



Gross debt level

## TAX AGREEMENTS ARE POSSIBLE BASED ON TECHNICAL ANALYSIS



### KEY FACTORS:

- Cost of tax transaction must be lower than the maintenance cost of litigation;
- Cash optimization: prevent new judicial deposits & recover blocked amounts;
- Auditing Committee and BoD do participate in the most relevant & material cases;
- Structured process that complies with our internal controls and best practices.



# Strategic Plan: establishing cash management parameters

## KEY GUIDELINES ARE ESTABLISHED ON THE STRATEGIC PLAN



Capital allocation



Cash references

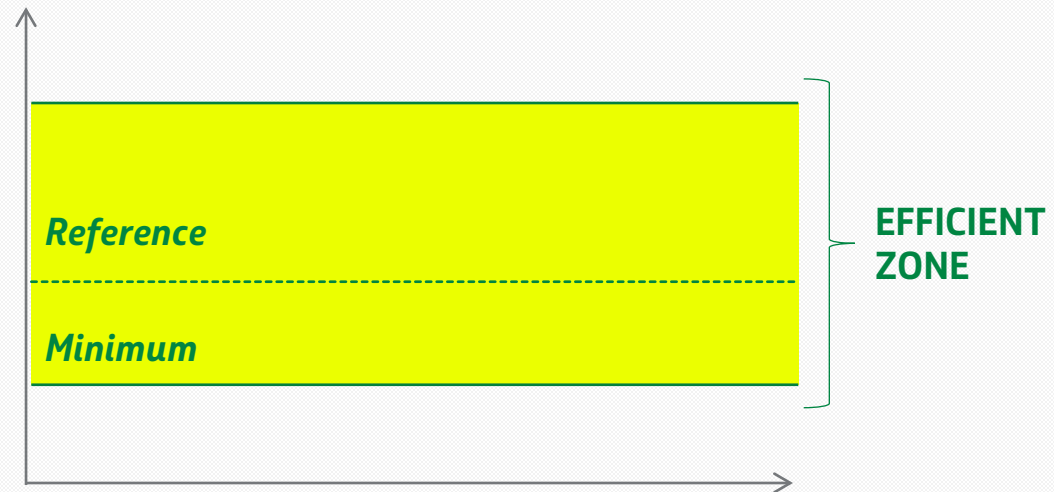


Value creation



Gross debt level

## OPERATIONAL AND PLANNING REFERENCES



**MINIMUM:** routine cash management, focusing on operational needs.

**REFERENCE:** cost effective planning reference.

**EFFICIENT ZONE:** adequate cash mgmt. with a cost x risk approach.

## Strategic Plan: value creation initiatives

### KEY GUIDELINES ARE ESTABLISHED ON THE STRATEGIC PLAN



Capital allocation



Cash references



**Value creation**

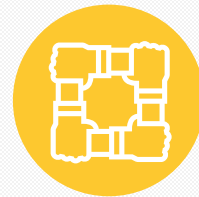


Gross debt level

### WE ARE ALWAYS PURSUING VALUE CREATION INITIATIVES



Our team is constantly looking for opportunities to unlock value: Eletrobras agreement recovered R\$ 1.2 bn on a 30-year old dispute.



Joint-Ventures: regularly optimizing its operations, closely working with our E&P partners to amplify value levers.

## Strategic Plan: balancing capital structure and defining debt level

### KEY GUIDELINES ARE ESTABLISHED ON THE STRATEGIC PLAN



Capital allocation



Cash references



Value creation



Gross debt level

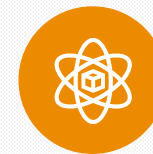
### DEBT GUIDELINES ARE BASED ON SEVERAL APPROACHES



Market benchmarking



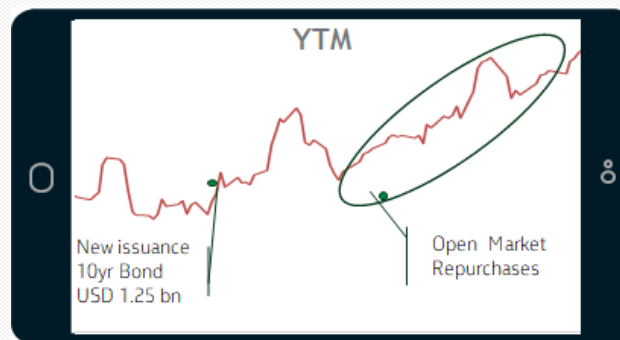
Rating agencies parameters



Capital structure based on market data



Capital structure based on company forecasts



### ACTIVE LIABILITY MANAGEMENT

An appropriate debt level enables seizing market opportunities.

# Remuneration decision-making: back to financial sustainability

KEY GUIDELINES ARE  
ESTABLISHED ON THE  
STRATEGIC PLAN



Capital allocation



Cash references

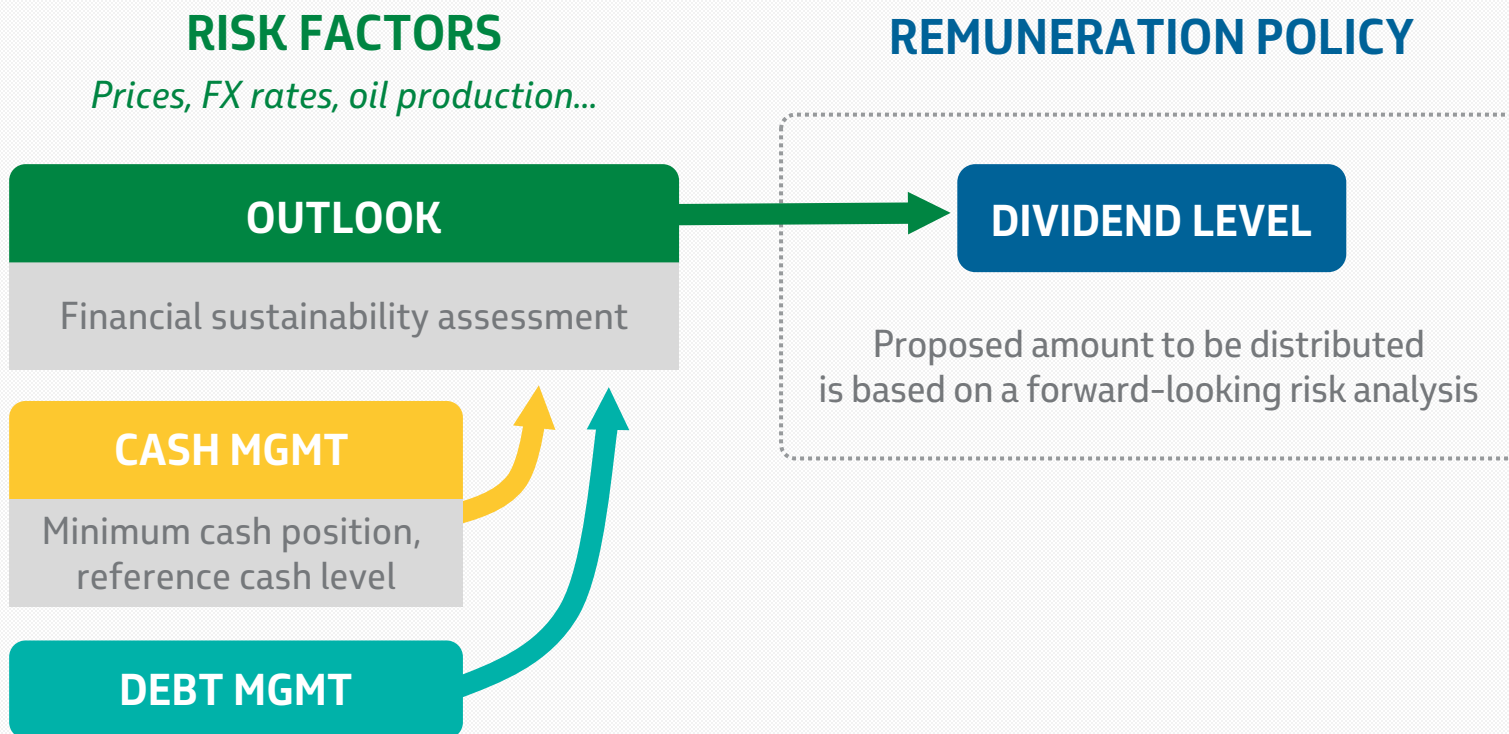


Value creation



Gross debt level

WHICH ARE CONSIDERED ALONG WITH SEVERAL RISK FACTORS



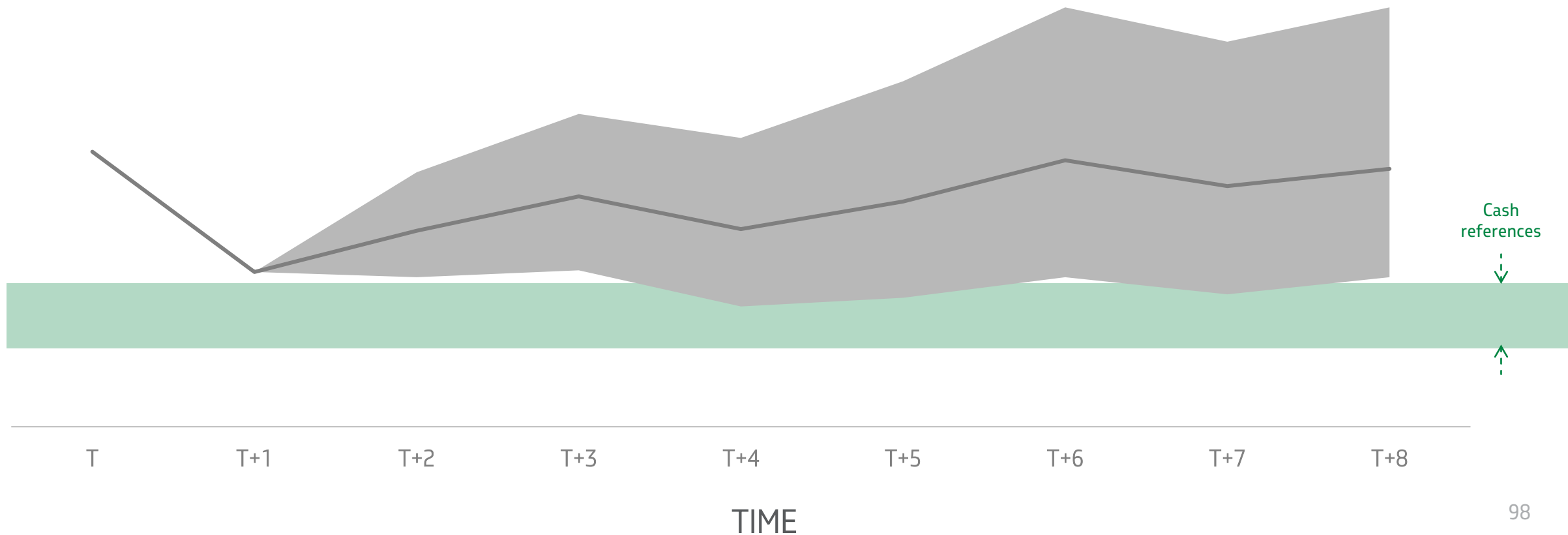


# Remuneration decision-making: financial sustainability assessment

## CASH POSITION FORECAST

### IN SHORT

Dividends decisions do not consider only past information, including most recent cash position, but mainly a forward-looking and risk-averse approach, taking into account forecasted inflows and outflows along with several risk factors.



## Shareholders' remuneration follows the same decision framework since 2021

2021		2022		2023	
		1Q22	US\$ 9.7 bn	1Q23	US\$ 5.0 bn
2Q21	US\$ 6.1 bn	2Q22	US\$ 16.8 bn	2Q23	US\$ 3.1 bn
3Q21	US\$ 5.7 bn	3Q22	US\$ 8.5 bn	3Q23	US\$ 3.6 bn <sup>1</sup>
4Q21	US\$ 6.7 bn	4Q22	US\$ 6.9 bn		

- Updates actual data
- Forecasts cash position @risk
- Assess remuneration level

Note: Other US\$ 1.4 billion (interests) also distributed.

<sup>1</sup> US\$ 0.2 billion in share buybacks

*"As provided for in the policy, the decision to distribute dividends and/or other earnings for the 2022 fiscal year considered several factors and variables, such as our results, financial condition, cash needs, prospects of current markets and potential, in addition to our investment opportunities."*



**DEEP DIVE**  
**PETROBRAS** 2024

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*Final  
Remarks*





**DEEP DIVE**  
**PETROBRAS 2024**

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Financial Strategy  
Q&A session