

*PETROBRAS DAY 2021*

# *INVESTING RESPONSIBLY*

*VALUE CREATION • ENVIRONMENT • SOCIAL • GOVERNANCE*

# DISCLAIMER

The presentation may contain forward-looking statements about future events that are not based on historical facts and are not assurances of future results. Such forward-looking statements merely reflect the Company's current views and estimates of future economic circumstances, industry conditions, company performance and financial results. Such terms as "anticipate", "believe", "expect", "forecast", "intend", "plan", "project", "seek", "should", along with similar or analogous expressions, are used to identify such forward-looking statements. Readers are cautioned that these statements are only projections and may differ materially from actual future results or events. Readers are referred to the documents filed by the Company with the SEC, specifically the Company's most recent Annual Report on Form 20-F, which identify important risk factors that could cause actual results to differ from those contained in the forward-looking statements, including, among other things, risks relating to general economic and business conditions, including crude oil and other commodity prices, refining margins and prevailing exchange rates, uncertainties inherent in making estimates of our oil and gas reserves including recently discovered oil and gas reserves, international and Brazilian political, economic and social developments, receipt of governmental

approvals and licenses and our ability to obtain financing.

We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information or future events or for any other reason. Figures for 2021 on are estimates or targets.

All forward-looking statements are expressly qualified in their entirety by this cautionary statement, and you should not place reliance on any forward-looking statement contained in this presentation.

In addition, this presentation also contains certain financial measures that are not recognized under Brazilian GAAP or IFRS. These measures do not have standardized meanings and may not be comparable to similarly-titled measures provided by other companies. We are providing these measures because we use them as a measure of company performance; they should not be considered in isolation or as a substitute for other financial measures that have been disclosed in accordance with Brazilian GAAP or IFRS.

## Cautionary statement for US investors

We present certain data in this presentation, such as oil and gas resources, that we are not permitted to present in documents filed with the United States Securities and Exchange Commission (SEC) under new Subpart 1200 to Regulation S-K because such terms do not qualify as proved, probable or possible reserves under Rule 4-10(a) of Regulation S-X

# STRATEGIC PLAN



# 2022 TARGETS



**GHG  
Index<sup>1</sup>**

**E&P**  
16,5 kgCO<sub>2</sub>e/boe

**Refining**  
39,2 kgCO<sub>2</sub>e/CWT



**Spilled  
volume**

**120 m<sup>3</sup>**  
Alert limit



**ΔEVA<sup>2</sup>**

**US\$ 2 billion**



**TRI<sup>3</sup>**

**< 0,7**  
Alert limit

**AMBITION: ZERO FATALITIES AND ZERO LEAKAGE**

<sup>1</sup> IAGEE: compliance with greenhouse gas targets index.

<sup>2</sup> Should gross debt exceed US\$ 65 billion, the metric score will be counted as zero.

<sup>3</sup> Total Recordable Injuries per million man-hours.

# STRATEGIC PLAN 2022 - 2026

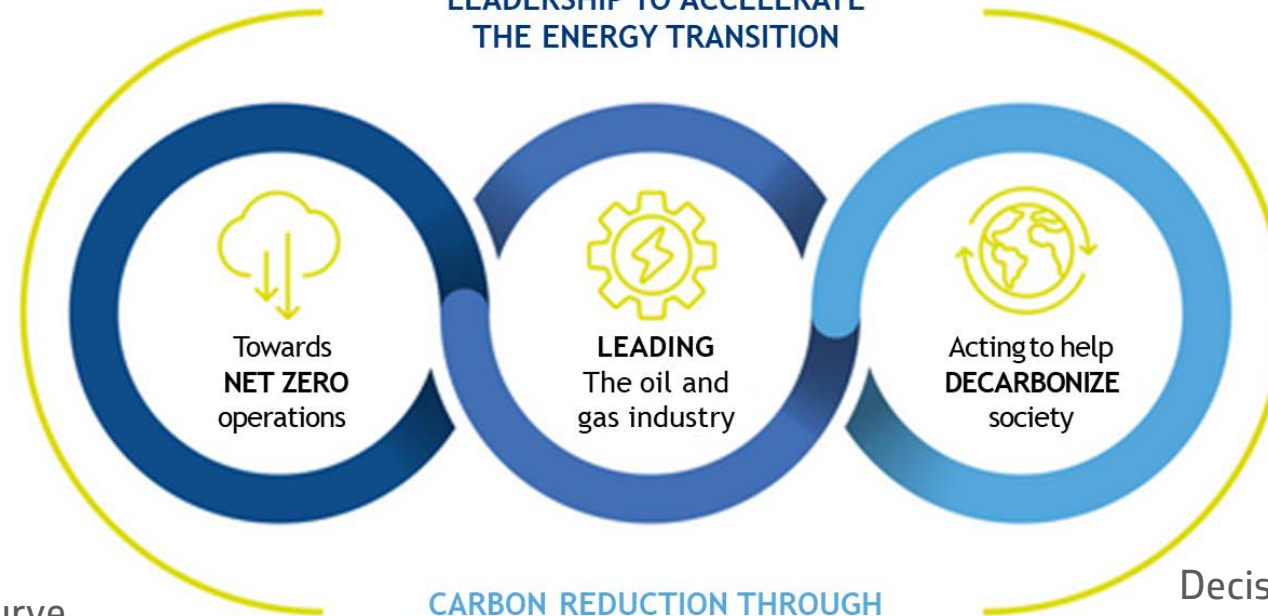
***ROBERTO ARDENGHY***  
***Chief Institutional Relationship  
and Sustainability Officer***

# NET ZERO AMBITION

Achieve Net Zero emissions (scopes 1 and 2) in activities under our control within a timeframe compatible with the Paris Agreement

Influence partners to achieve the same ambition in assets in which we are non-operating partners

LEADERSHIP TO ACCELERATE  
THE ENERGY TRANSITION



Supported by MACC Curve  
(Marginal Abatement Cost Curve)

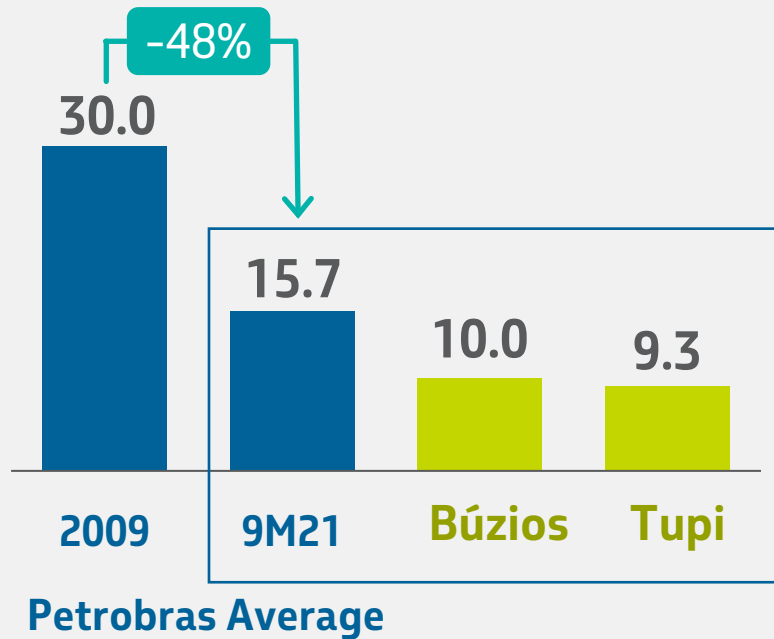
CARBON REDUCTION THROUGH  
INVESTMENTS AND COLLABORATION

Decision aligned with OGCI - Oil  
and Gas Climate Initiative, of which  
we have been a member since 2018

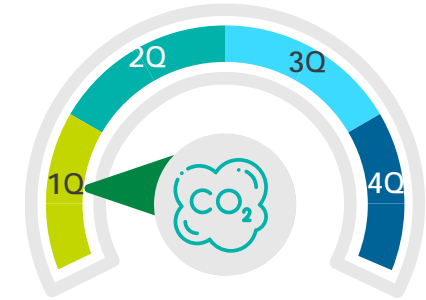
# WE ARE AMONG THE MOST CARBON EFFICIENT IN THE WORLD

## CARBON INTENSITY E&P

kgCO<sub>2</sub>e/boe produced



- Emissions per barrel cut by nearly half in 11 years
- Absolute reductions despite increase in oil and gas production of around 40%
- Large pre-salt fields: 10 kgCO<sub>2</sub>e/boe produced



- Our production is in the 1<sup>st</sup> quartile in carbon intensity in the offshore O&G industry
- We have the largest offshore CO<sub>2</sub> reinjection program in the world in the pre-salt fields and we are pioneers in this sort of CCUS<sup>1</sup> operation
- With award-winning ultra-deepwater CO<sub>2</sub> reinjection technologies

<sup>1</sup>CCUS: Carbon capture, use and storage

# INVESTMENTS TO STRENGTHEN OUR LOW CARBON POSITIONING



## DECARBONIZATION OF OPERATIONS

(scopes 1 and 2)

- Creation of a decarbonization fund
- *HISEP*<sup>®</sup>, separation of CO<sub>2</sub>, methane detection, closed flare, CCUS
- All electric – fully electrified platform\*
- Carbon reduction projects in refineries

**CAPEX US\$ 1.8 billion  
+ US\$ 0.25 billion (fund)**



## BIOPRODUCTS

- Renewable diesel
- Biojet Fuel
- R&D in biobunker

**CAPEX US\$ 0.6 billion**



## SKILLS FOR THE FUTURE

(scope 3)

- R&D in modern renewables, products with low carbon footprint and CCUS
- Profitable diversification into new businesses

**CAPEX US\$ 0.13 billion**

**CAPEX 2022–2026: US\$ 2.8 billion**

\* Potential to reduce greenhouse gas emissions by up to 20%. Technology not incorporated in the CAPEX.



# ADVANCING DECARBONIZATION

## DECARBONIZATION FUND

US\$ 248  
million



Incentive for the development of solutions, studies and implementation of additional projects that mitigate carbon emissions



Portfolio approach: selection of projects that reduce emissions with the lowest cost and greatest impact on emissions



Program to accelerate solutions

# REINFORCING OUR SUSTAINABILITY COMMITMENTS



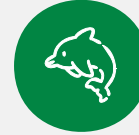
## CLIMATE CHANGE

1. 25% reduction in absolute operating emissions by 2030
2. Zero routine flaring by 2030<sup>1</sup>
3. 40MM ton CO<sub>2</sub> reinjection by 2025 in CCUS<sup>2</sup> projects
4. 32% reduction in carbon intensity in the upstream segment by 2025 (15 kgCO<sub>2</sub>e/boe, maintained until 2030)
5. 40% reduction in methane emission intensity in the upstream segment by 2025
6. 16% reduction in carbon intensity in the refining segment by 2025, expanding to 30% by 2030 (30 kgCO<sub>2</sub>e/CWT)



## WATER RESOURCES

7. 50% reduction in freshwater capture in our operations by 2030



## BIODIVERSITY

9. 100% of our facilities with biodiversity action plan by 2025



## WASTE

8. Zero increase in residues generation by 2025

## SOCIAL RESPONSIBILITY

10. Investments in social and environmental projects, human rights programs, community relationship and solution to social and environmental problems, involving opportunities for action with our stakeholders and clients of Petrobras products

Carbon commitments related to 2015 base. Other commitments based on 2018.

<sup>1</sup>In accordance to the zero routine flaring initiative of the World Bank

# ***MORE SOCIAL AND ENVIRONMENTAL ENGAGEMENT GENERATING A POSITIVE IMPACT ON SOCIETY***

## **HUMAN RIGHTS**

- Human Rights training program for 100% of employees
- Human Rights due diligence in 100% of operations
- Actions to promote diversity, providing an inclusive environment

## **COMMUNITY RELATIONSHIP**

- Community socioeconomic diagnosis in 100% of operations
- Engagement with communities

## **SOCIOENVIRONMENTAL INVESTMENTS**

- Evaluation and disclosure of the social return of voluntary social and environmental projects
- Development of initiatives that contribute to the solution of social and/or environmental problems

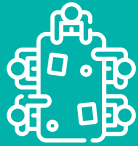


# STRATEGIC PLAN 2022 - 2026

***SALVADOR DAHAN***

***Chief Governance and  
Compliance Officer***

# 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, for example; pricing policy - members have personal liability to act in line with Petrobras' best interests



Endorsement of statutory committees before Officers, Executive Board and Board of Directors decision



Decision-making process requires validation from technical areas and legal and compliance opinion



Independent Governance and Compliance, Internal Audit and Ombudsman structures.

External whistleblowing channel, with assured anonymity and non-retaliation

## 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)

# STRENGTHENING CORPORATE GOVERNANCE

## BRAZILIAN LEGISLATION

- **Corporate Act 6,404/76:** Personal liability of the Board member or Officer who acts to the detriment of the company.
- **State-owned Company Act 13,303/2016:** nomination rules prohibiting political appointment, members of the executive and legislative including relatives, prohibiting conflicts of interest, requiring prior experience and integrity requirements.

## BY-LAW

(MODIFIED ONLY BY GENERAL SHAREHOLDERS MEETING)

- **Directors and Officers Appointment Policy:** contains the law and additional requirements, including integrity checks.
- **Mandatory opinion of the Minority and Audit Committees** in the evaluation of any relevant transaction with the Federal Government.
- **Board of Directors:** minimum of 40% independent members **(today there are 70%)**
- **Governance and Compliance Officer:** has independence with veto power and direct report to the Board. - Specific process of hiring (headhunter) and dismissal (approval by the Board with at least 1 minority vote)
- If directed by the controlling shareholder to assume obligations to serve the public interest under unbalanced conditions from the market, **the federal government shall compensate the Company for any financial loss**

# GENERATING RECOGNITION



Return to *Dow Jones Sustainability Index*



Fulfillment of obligations provided in the agreement with the US Department of Justice (DoJ)



Adherence to good prevention practices to fraud and corruption by the National Prevention Program to Corruption, in partnership with TCU



Transparency Portal reached 1<sup>st</sup> position in the Comptroller General Office (CGU) ranking



Member of the B3 Corporate Sustainability Index (ISE) and Carbon Efficient Index (ICO2 B3)

**ISE B3**



Association for Supply Chain Management (ASCM) certification for environmental, ethical and economic excellence in the procurement and supply chain of goods and services



Among the most transparent companies in sustainability reports in Brazil, according to the Global Reporting Initiative (GRI)



94% adherence to the Brazilian Code of Corporate Governance

# STRATEGIC PLAN 2022 - 2026

**RODRIGO ARAUJO ALVES**

*Chief Financial and  
Investor Relations Officer*



# FINANCE STRATEGIES



**Maintain optimal capital structure**



**Maximize value creation**



**Mitigate risks through management of liabilities**

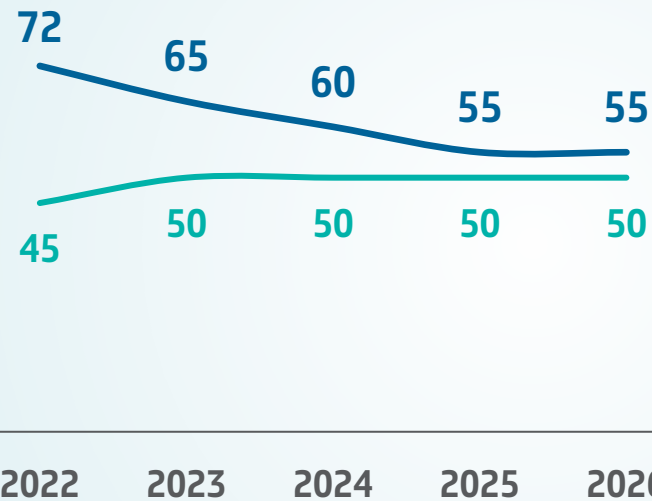


**Commitment to the best capital allocation**

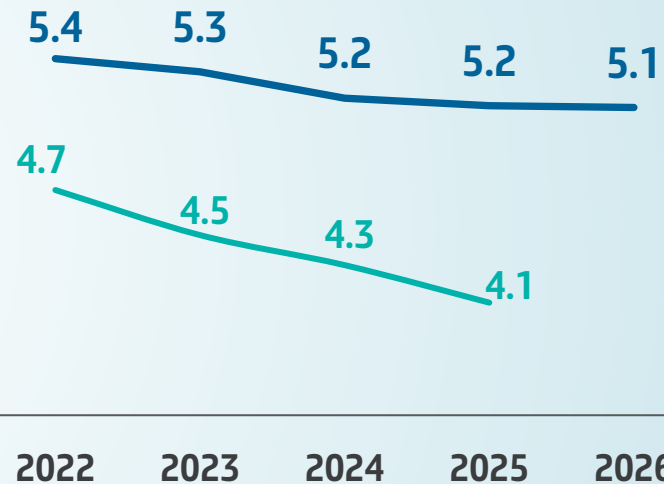
# STRATEGIC PLAN ASSUMPTIONS

2022-2026

Brent Prices  
(US\$/barrel)



Real exchange rate  
(R\$/US\$)

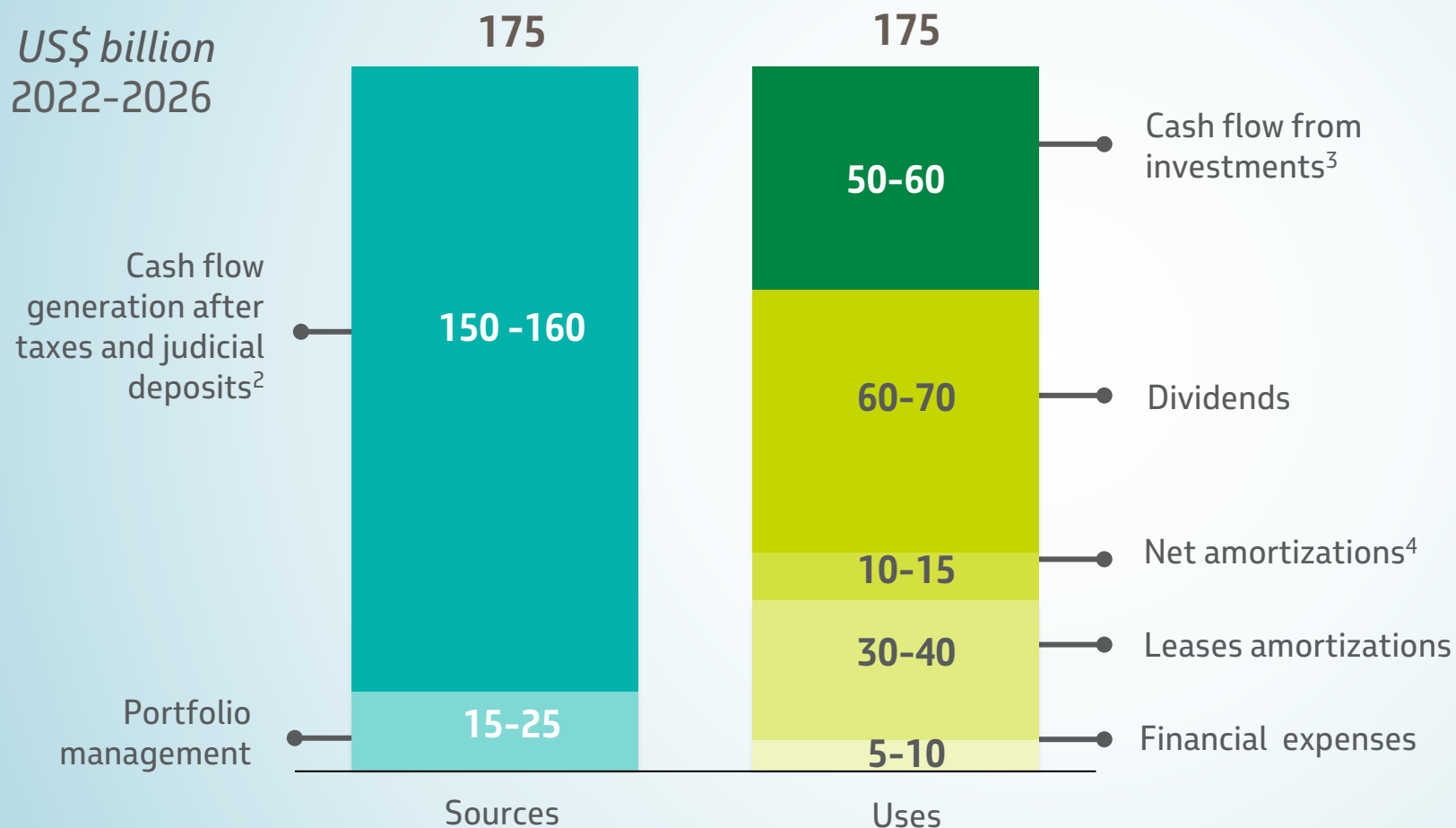


- Strategic Plan 2022-2026
- Strategic Plan 2021-2025

# A STRONGER PETROBRAS GENERATES MORE VALUE FOR SOCIETY

## 58%<sup>1</sup> OF NET CASH GENERATION RETURNS TO SOCIETY

US\$ billion  
2022-2026



### RETURNS FOR SOCIETY

- Total taxes and government take: US\$ 65-70 billion
- Total estimated dividends for the Government: US\$ 20-25 billion

NOTE: Considers US\$8 billion of reference cash.

<sup>1</sup> Dividends paid to the Federal Government plus taxes and government take divided by the cash flow generation after taxes and judicial deposits

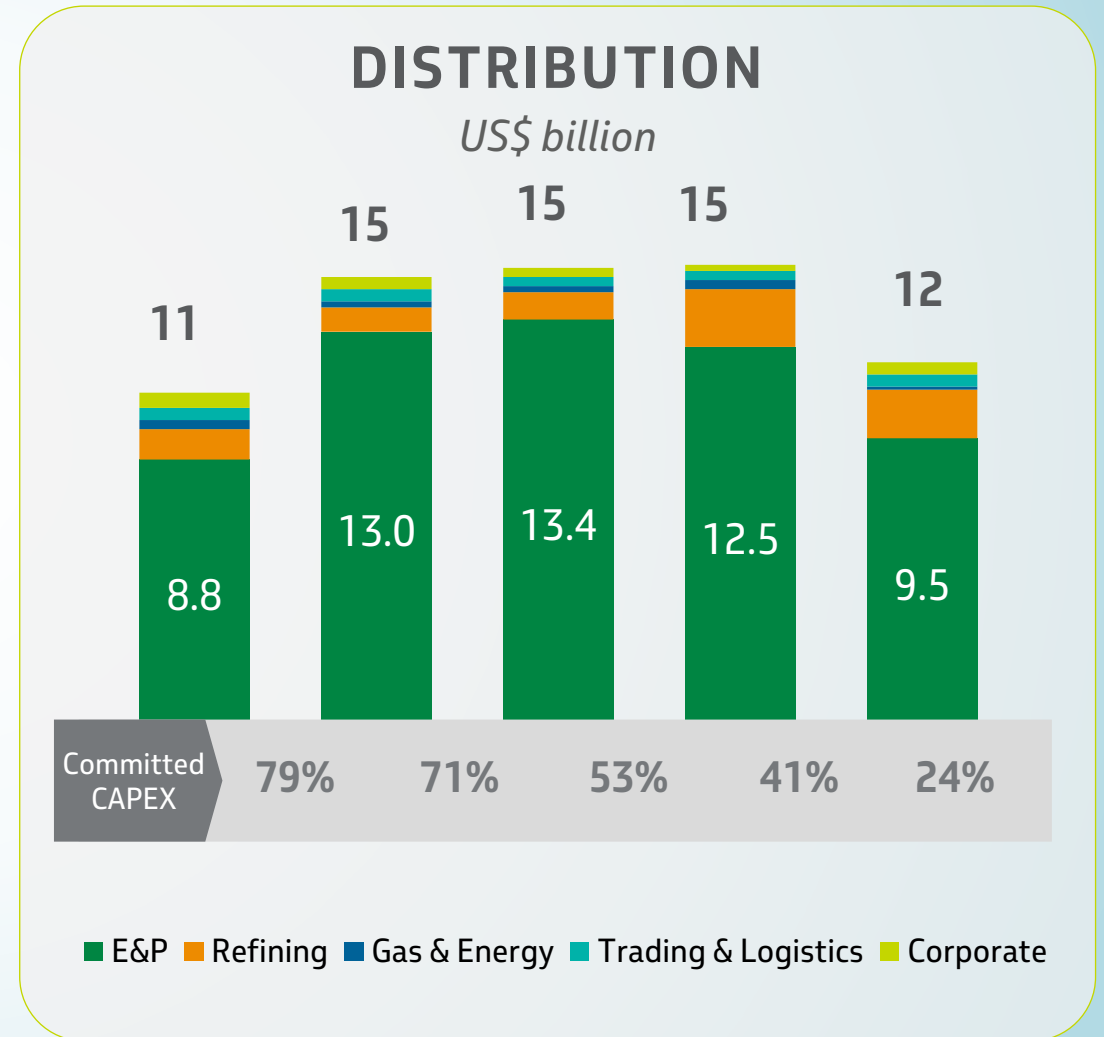
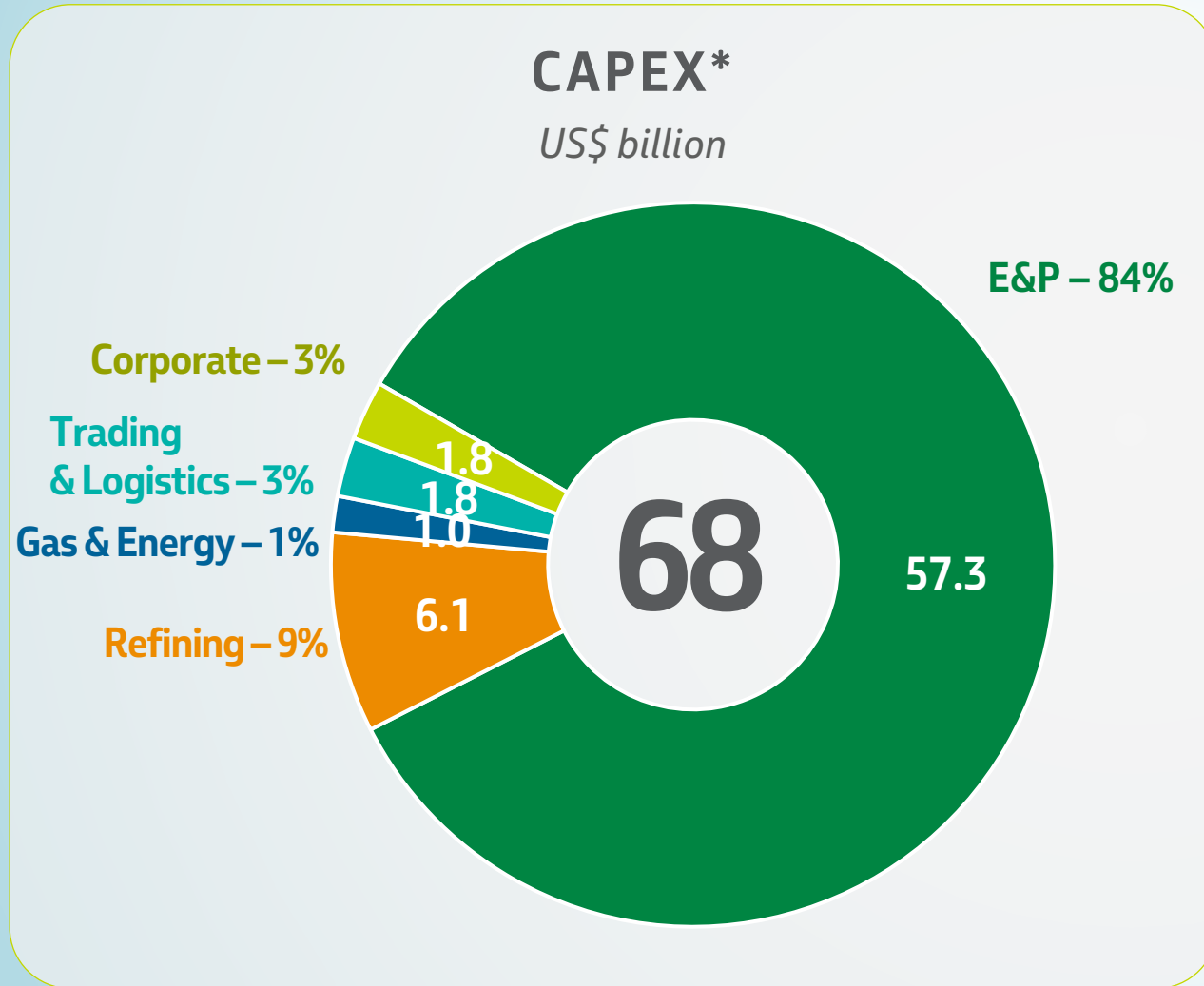
<sup>2</sup> Considers decommissioning costs of about US\$ 1 billion/year

<sup>3</sup> Excludes leases classified as total CAPEX

<sup>4</sup> Considers funding of US\$ 5 billion

# INCREASE OF CAPEX WITH DEBT UNDER CONTROL

CAPEX 2022-2026



\* ~ 60% of CAPEX in dollars

# MAIN DRIVERS FOR IMPROVEMENT IN THE NEW SHAREHOLDERS REMUNERATION POLICY



The achievement of the gross debt target below US\$ 60 billion in 3Q21, considering this level as a target rather than a cap



Provide more predictability with **minimum annual remuneration**



Adjustments in parameters of (a) gross debt, to allow **flexibility in debt management** and (b) investment on free cash flow formula to contemplate signing bonus in auctions



**Commitment to the best capital allocation**



Strengthening Petrobras' **reputation**: a company that returns gains to society and shareholders

# SIMPLIFICATION AND IMPROVEMENT IN THE NEW SHAREHOLDERS REMUNERATION POLICY



Minimum annual dividend of **US\$ 4 billion** for fiscal years in which average Brent prices are above **US\$ 40/bbl**

Gross debt  $\leq$  **US\$ 65 billion** and accumulated positive results:

**60% x (OCF - Investments)**

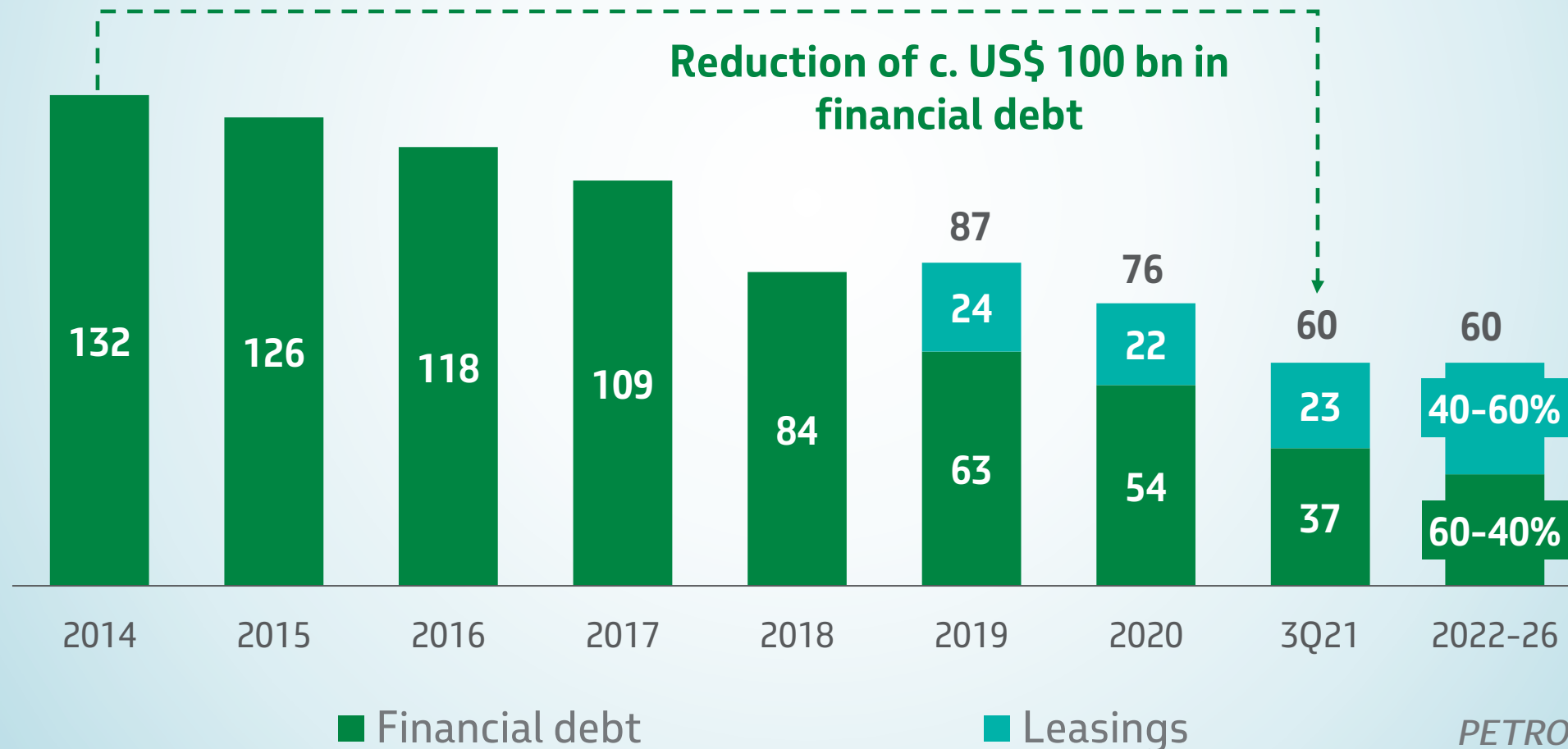
- Quarterly payments
- Possibility of extraordinary payments, regardless of indebtedness level
- In all distribution parameters, dividends cannot jeopardize the financial sustainability in the short, medium and long term



# OPTIMAL CAPITAL STRUCTURE

GROSS DEBT OF US\$ 60 BILLION

Gross debt evolution  
US\$ billion



# PORTFOLIO MANAGEMENT FOR BETTER CAPITAL ALLOCATION

VALUES MOSTLY CONCENTRATED IN E&P\*

## MAIN ASSETS

### EXPLORATION & PRODUCTION

- Onshore and shallow water assets
- International assets
- Albacora and Albacora Leste
- Golfinho/Canapu
- Papa-Terra
- Uruguá/Tambaú
- Camarupim

### REFINING, GAS & ENERGY

- Refineries
- Onshore gas pipelines
- Gaspetro
- Braskem
- Oil-fired thermopower plants
- Fertilizer plants

**US\$ 15-25 BILLION BETWEEN 2022 AND 2026\*\***

*\*impact of aprox. 50 kboed in 2022 production, average impact of c. 250 kboed in the remaining years of the plan.*

*\*\* includes cash-in for the 5% of Buzios stake sold to CNOOC in 2022*



# RISK MANAGEMENT

**Risk appetite** sets the maximum risk limit that Petrobras is willing to take to carry out its strategy

The **financiability of the strategic plan is tested in the resilience scenario (\$35/bbl Brent in the long term)**

## EXECUTION OF THE STRATEGIC PLAN AND ACHIEVEMENT OF ORGANIZATIONAL OBJECTIVES

### FINANCIAL

- **Ensure liquidity and adequate leverage level**
- Investments that ensure **value generation and sustainable return** to shareholders and society
- Focus on **cost reduction**, without giving up on safety and compliance
- Control of commercial and financial **exposure**

### COMPLIANCE, LEGAL AND REGULATORY

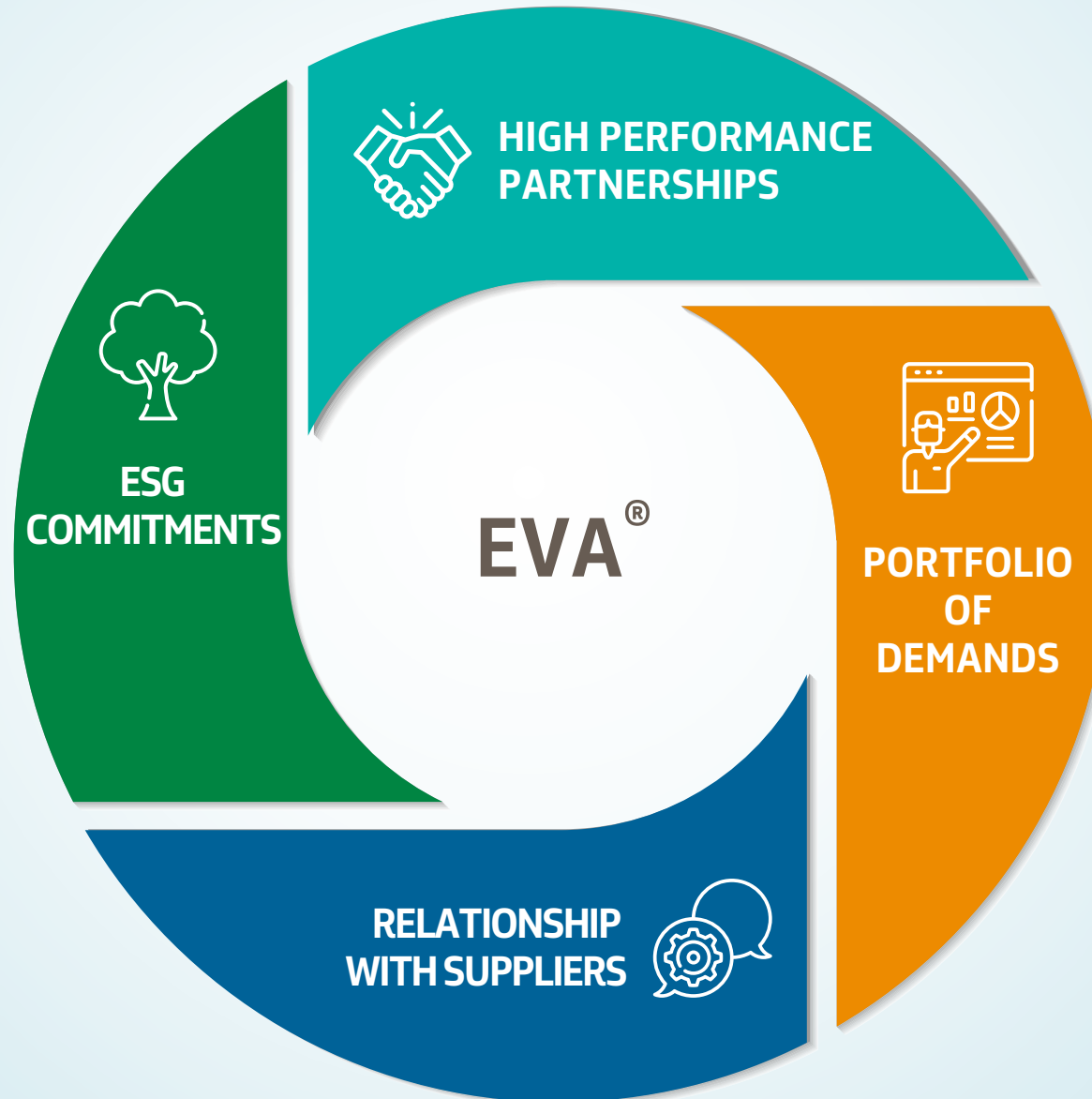
- Zero tolerance for **misconduct** contrary to the principles of the Code of Ethical Conduct
- Zero tolerance for **non-compliance** with legal and contractual obligations
- Requirement of the **same conduct standards** for employees, partners and suppliers

### OPERATIONAL

- **Minimize operational failures** and ensure business continuity
- **Protection of the life, health and safety** of the workforce, communities and other stakeholders impacted by operations, as well as **preserving the environment**

# SUPPLY AS A VALUE LEVER

- Solution for decarbonizing
- More Value Program



- Early Engagement
- Communication for continuous improvement

- Compliance
- Incentive alignment

- Predictability and standardization
- Volume synergies

# RESILIENT OPERATING CASH FLOW

YEAR 2022

	BRENT US\$/bbl				
FX (R\$/US\$)	40	50	60	70	80
4.5	11.1	16.9	22.2	27.4	32.5
5.0	12.7	18.5	23.7	28.9	34.0
5.5	14.0	19.8	25.0	30.1	35.0
6.0	15.1	20.8	26.0	31.2	35.8

# STRATEGIC PLAN 2022 - 2026

**FERNANDO ASSUMPÇÃO BORGES**

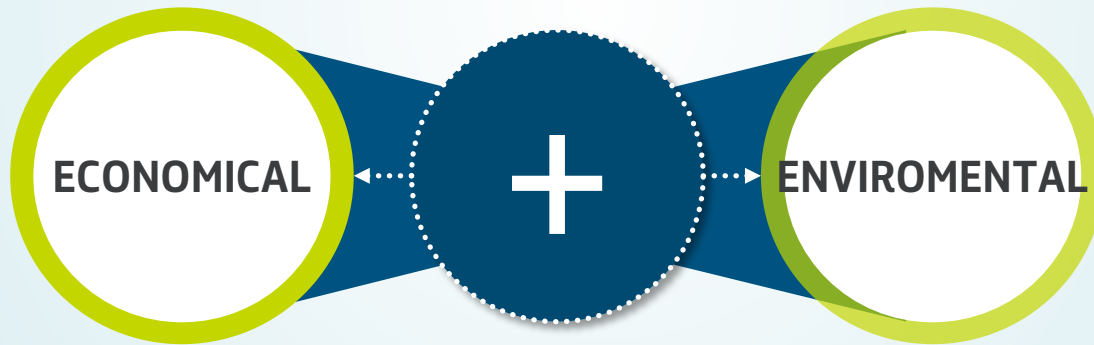
*Chief Exploration and Production Officer*

# REINFORCING OUR STRATEGY OF VALUE MAXIMIZATION



Maximize portfolio value, focusing on deep and ultra-deep waters

Double resilience



BRENT  
US\$ 35/BBL  
IN THE LONG  
TERM

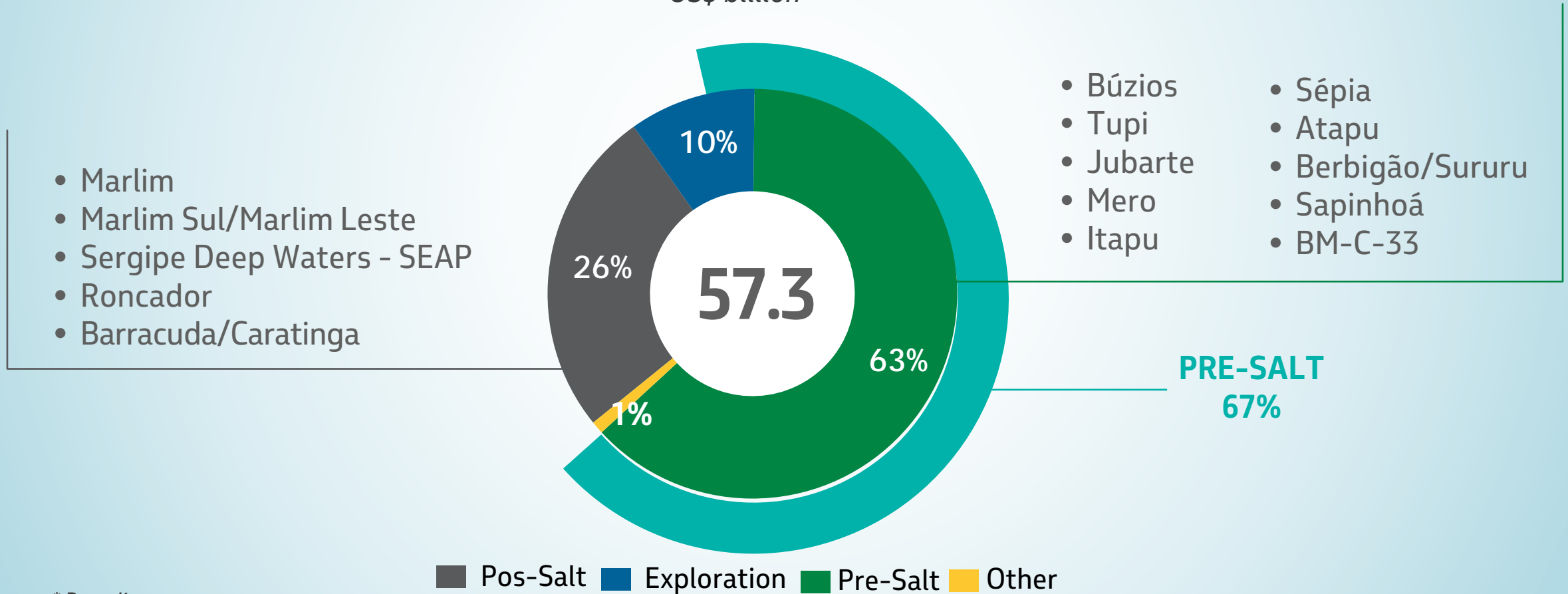
LOW  
CARBON



# E&P INVESTMENTS FOCUSING ON PRE-SALT

## E&P CAPEX 2022 – 2026\*

US\$ billion



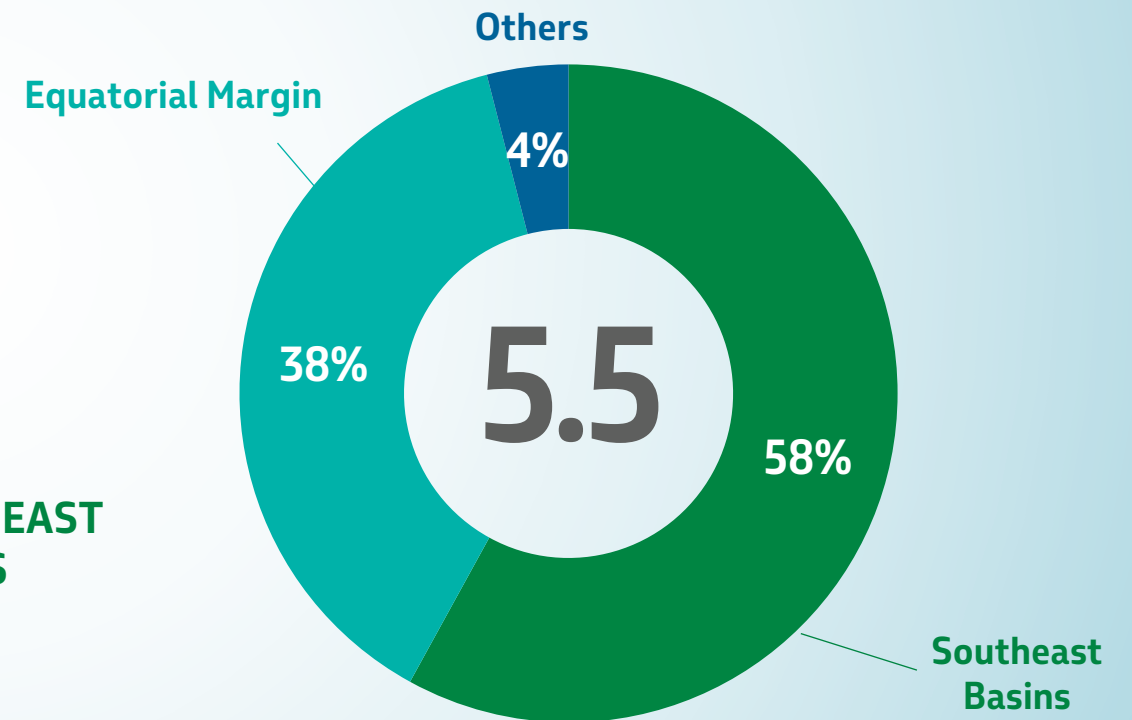
\* Post divestments

# WE SEEK RESERVES THAT FIT THE COMPANY'S FUTURE VISION EXPLORING NEW FRONTIERS AND DISCOVERED AREAS



## EXPLORATORY CAPEX 2022-2026

US\$ billion



# RES20 PROGRAM: PASSPORT TO THE FUTURE

In **68 years**, we have produced **23 billion barrels** of oil equivalent (boe)

In the next **10 years** we aim to incorporate **20 billion boe** on Petrobras operated fields



## LEVERAGES

Investments of US\$ **2.5 billion\*** in high resolution seismic acquisitions

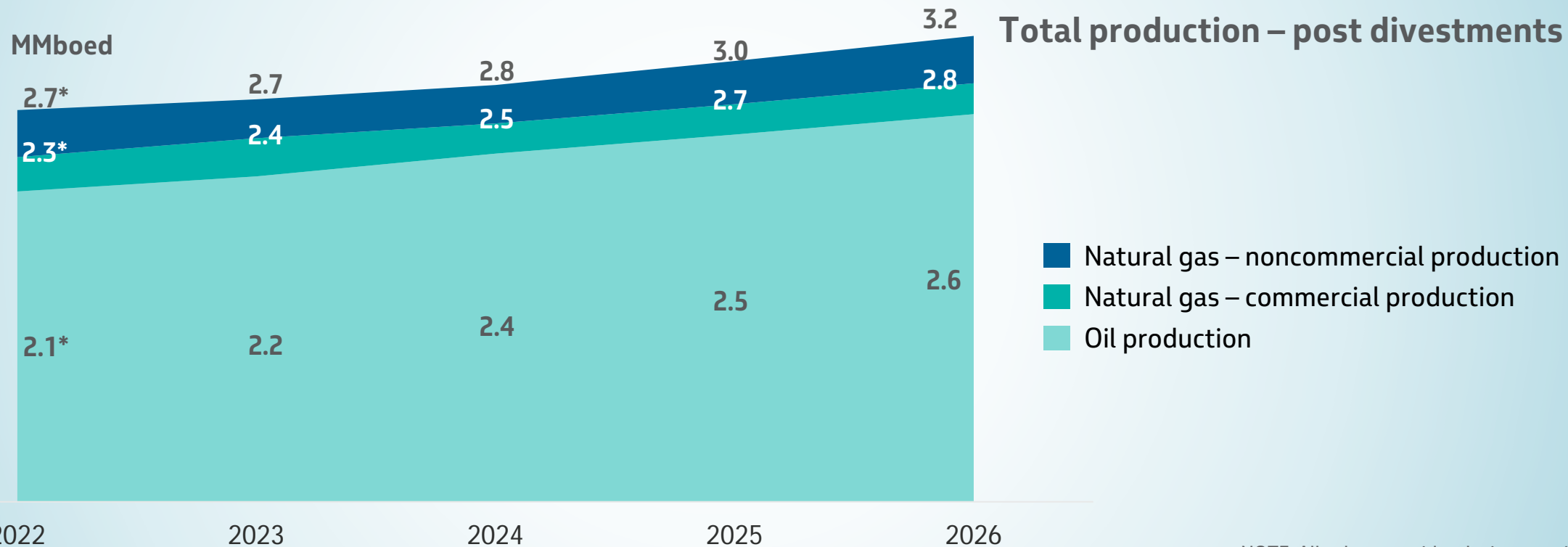
**Director plan per asset** enhancing value generation

Artificial Intelligence and deep technical knowledge, to develop the best reservoir models in the industry

\* In the 22-26 SP horizon



# FOCUS ON VALUE MAXIMIZATION, WITH GREATER CONCENTRATION ON THE PRE-SALT



- Natural gas – noncommercial production
- Natural gas – commercial production
- Oil production

% of Pre-Salt in total production post divestments

70      73      74      77      79

NOTE: All values consider the increase in CNOOC's share in Búzios in 1Q22 and do not consider any effect of the Sêpia and Atapu Surplus Volume Auction

\* With variation of +/- 4%. Reduction of 0.1 MMboed in relation to 2022 forecasts in the previous plan due to COVID effects and increased participation of CNOOC in Búzios.

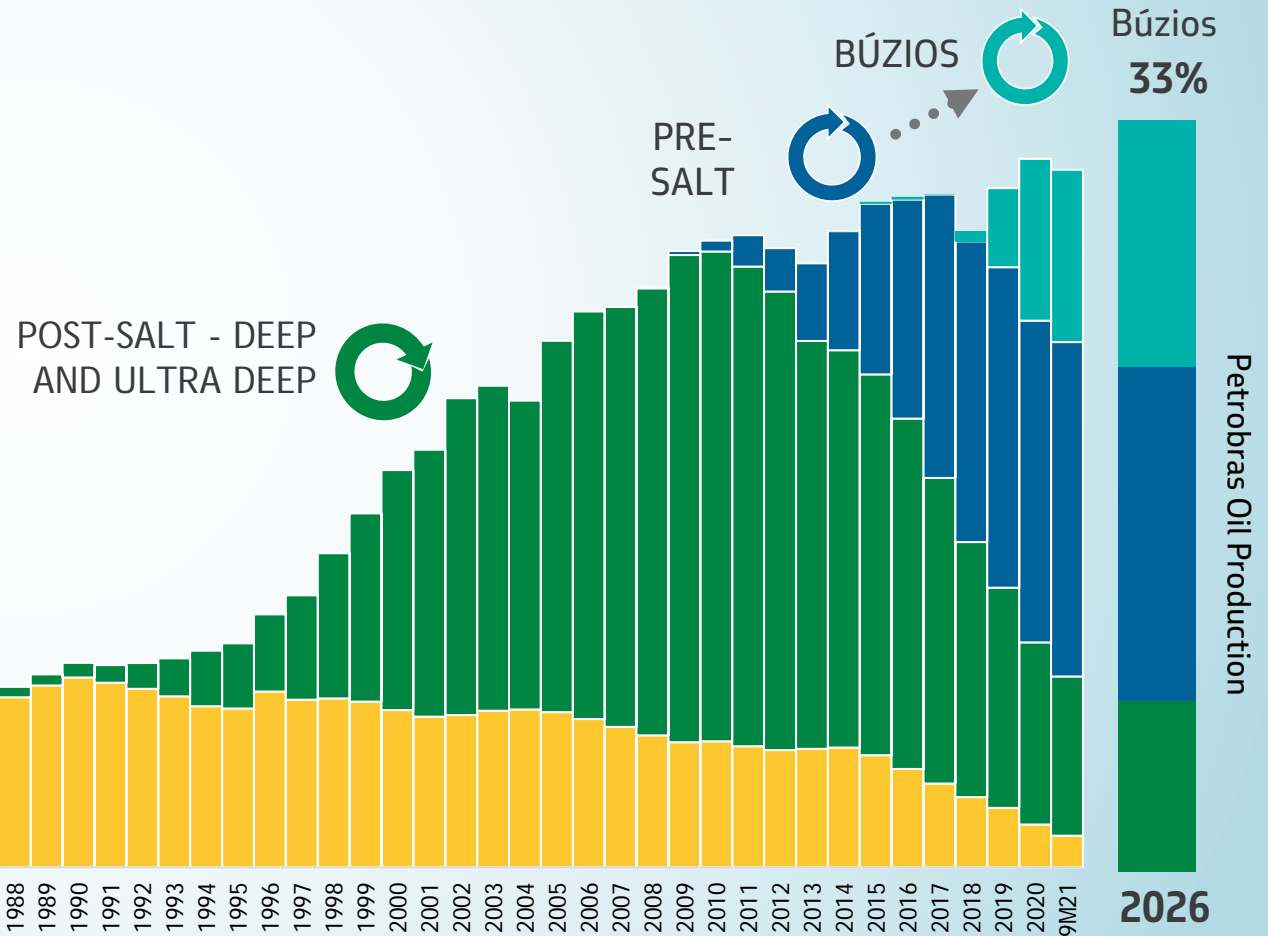
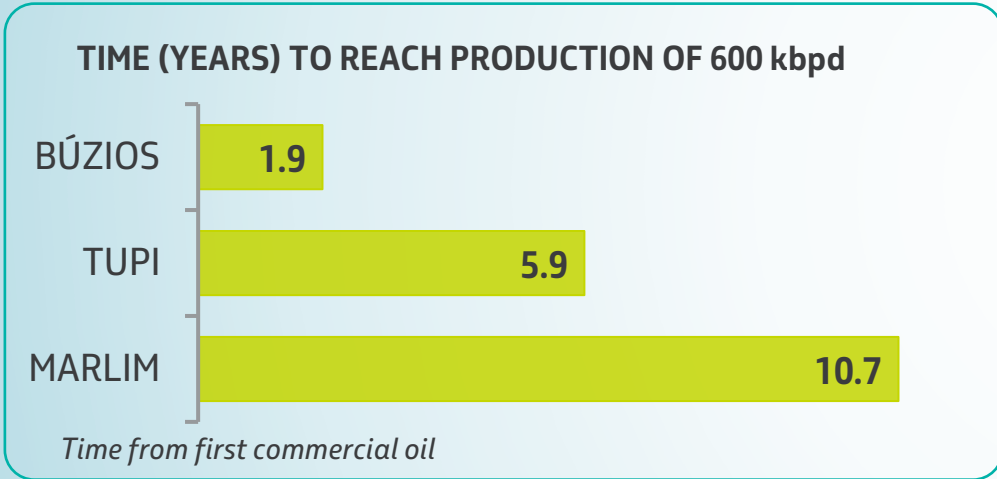
# ACTIVE PORTFOLIO MANAGEMENT REINFORCED BY A NEW VALUE GENERATION CYCLE WITH EMPHASIS ON BÚZIOS



**70 kboed**  
Monthly output peak in 1 well

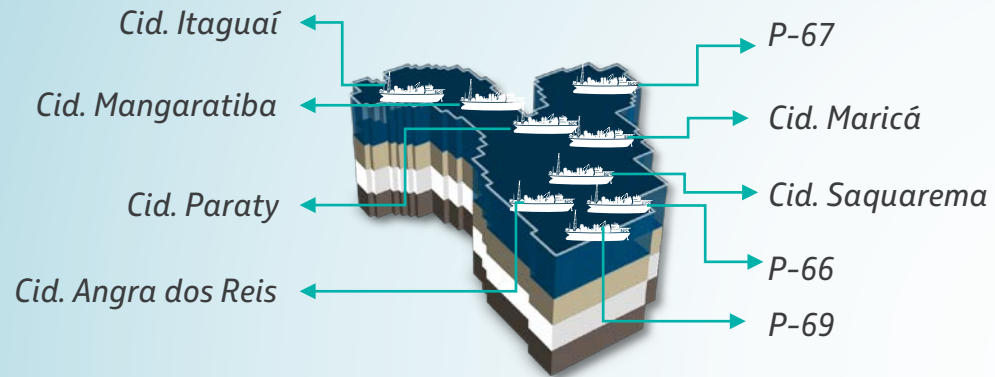


**8 of 10**  
most productive wells are in Búzios (9M21)



# TUPI

WILL REMAIN THE LARGEST FIELD PRODUCING IN ULTRA-DEEP WATERS IN THE NEXT YEARS



**2.6 billion boe**

Accumulated production since 2009  
(including partners)



**~800 kboed**

Current production  
(9M21 – Petrobras share)



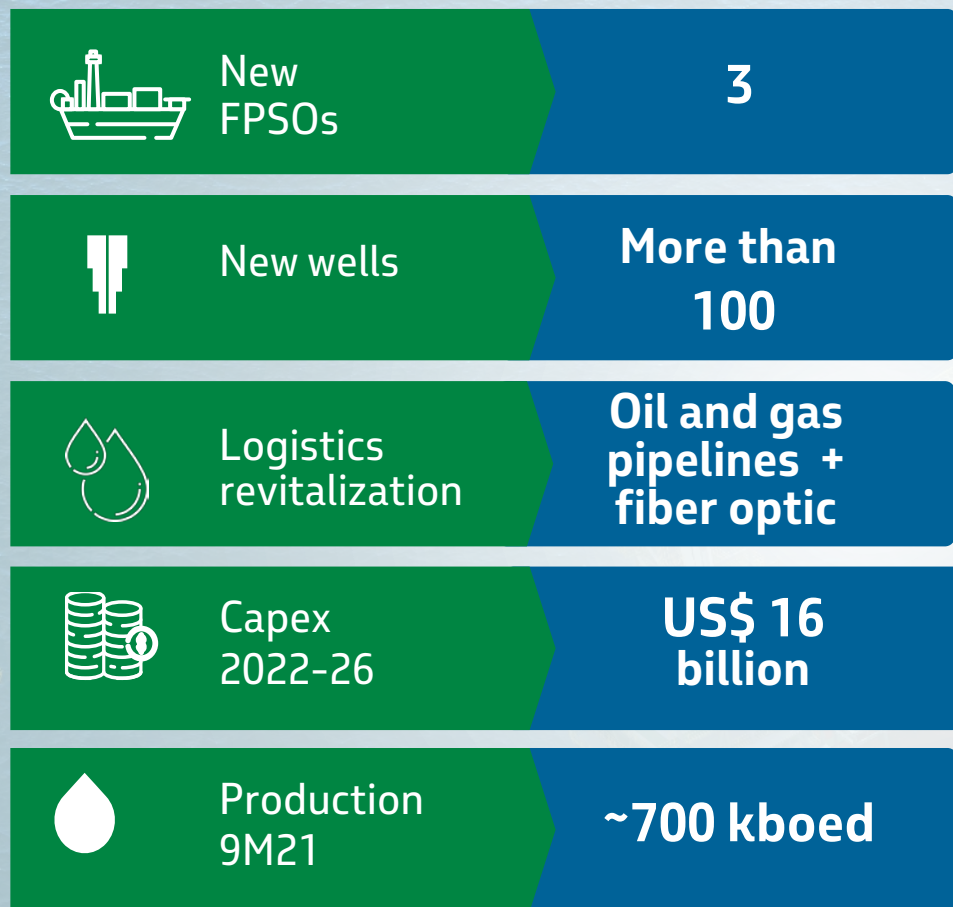
**~US\$ 4.7 billion\***

CAPEX (2022 – 2026)

## LONG TERM MAXIMIZATION OF VALUE GENERATION

- **Large potential** for recoverable volume
- Strengthening of **the integrity and efficiency** of deployed systems
- Development and implementation of **new production projects**
- **Resilience** to low oil prices

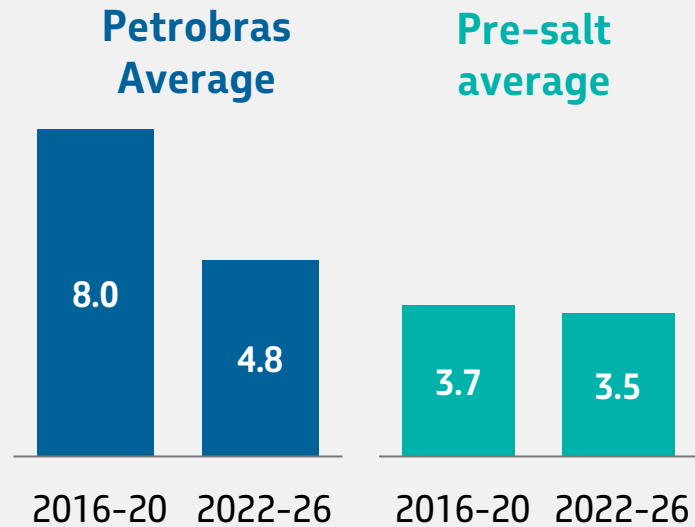
# CAMPOS BASIN REMAINS STRATEGIC IN THE INVESTMENT PLAN



\* Post divestments

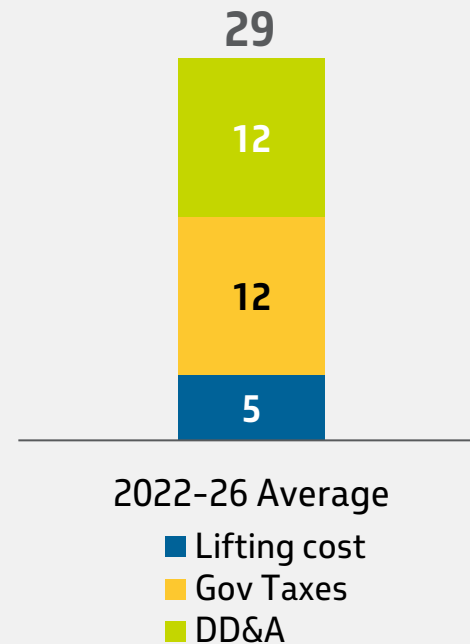
# LOW LIFTING COST REINFORCES OUR COMPETITIVENESS

## LIFTING COST E&P\* US\$/boe



\* Without leasing cost and government taxes

## TOTAL COST OF OIL PRODUCED US\$/boe



Forward  
Breakeven  
US\$/bbl

20

# STRATEGIC PLAN 2022 - 2026

**JOÃO HENRIQUE RITTERSHAUSSEN**

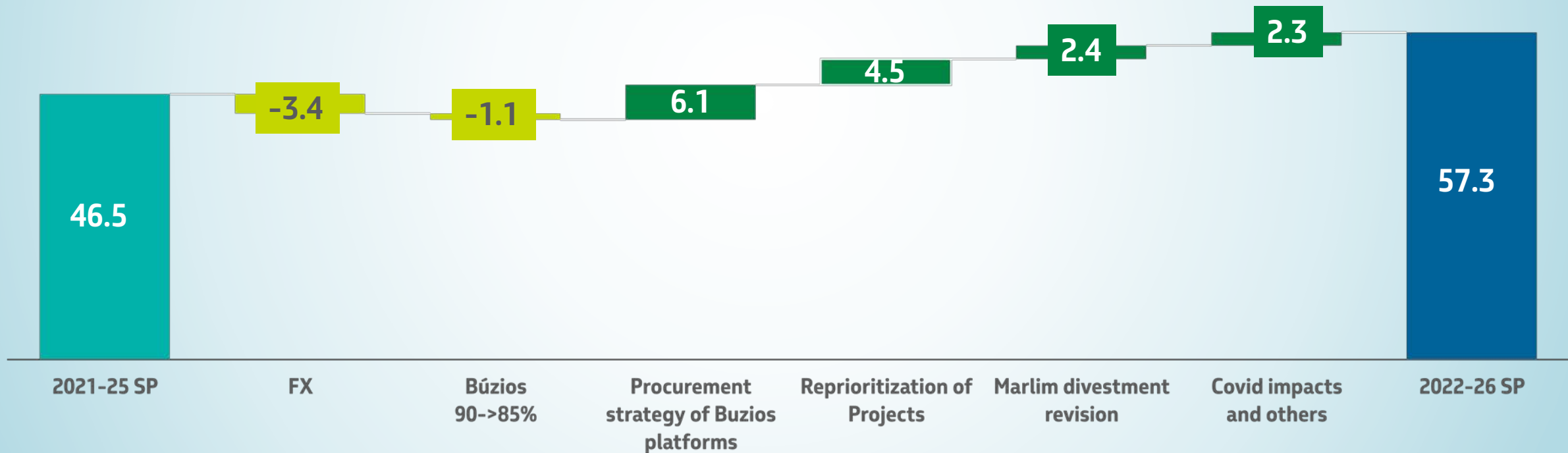
*Chief Production Development Officer*

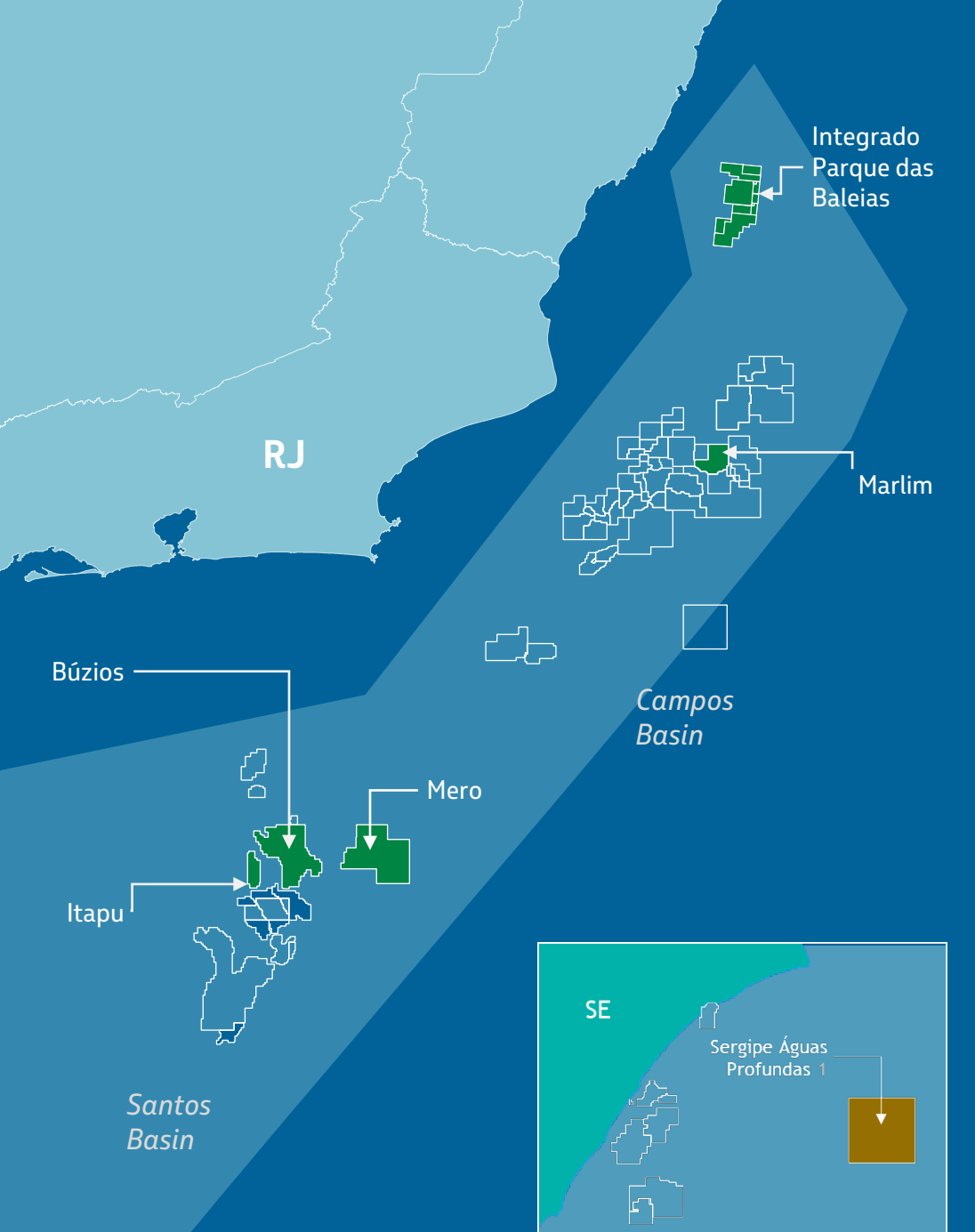
# MORE CAPEX AND MORE VALUE

WITH NEW PROJECTS REPRIORITIZED AND CONSTRUCTION OF OWNED PLATFORMS FOR BÚZIOS

## E&P CAPEX 2022 - 2026

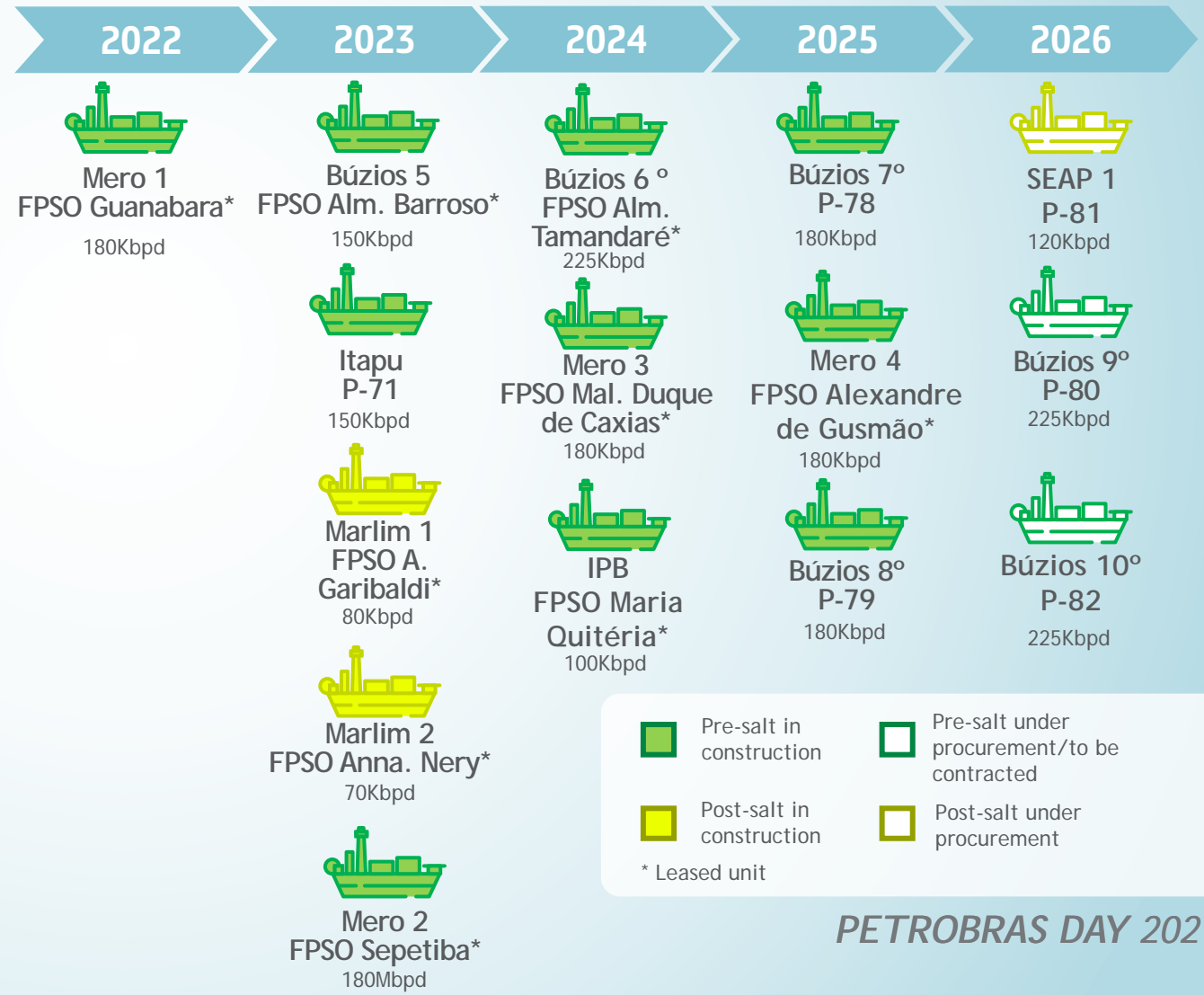
US\$ billion





# LEADER IN FPSO PROJECTS

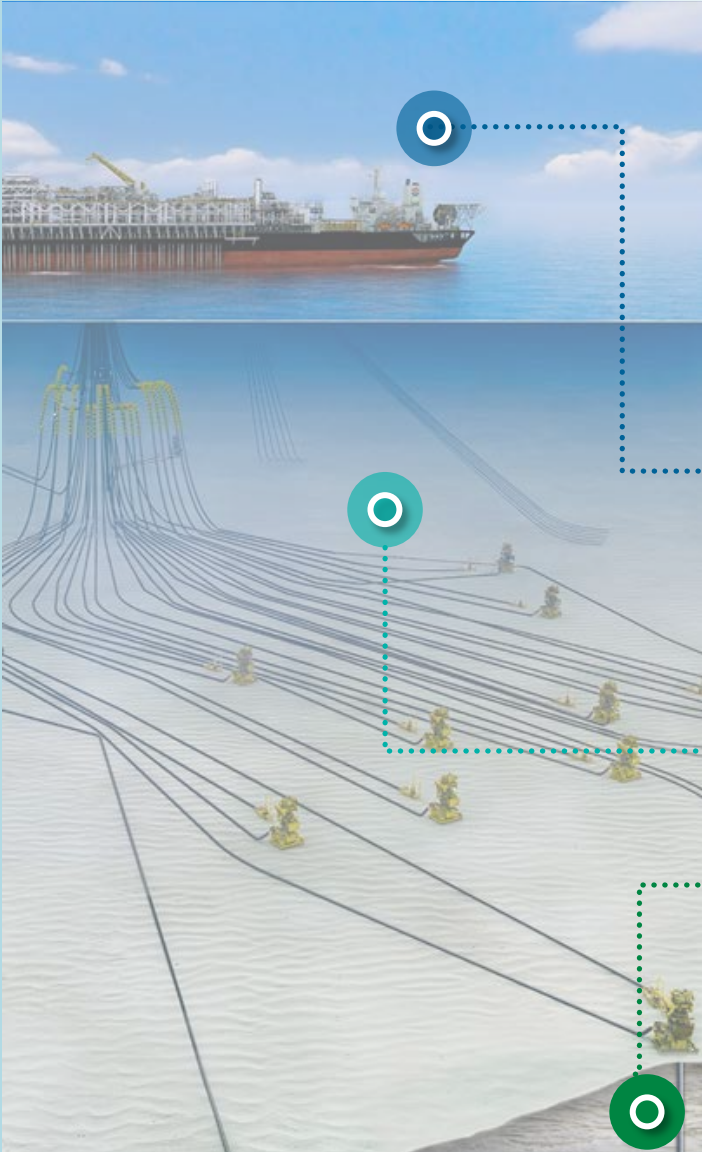
## 15 NEW FPSOs IN 6 FIELDS: 2022 - 2026





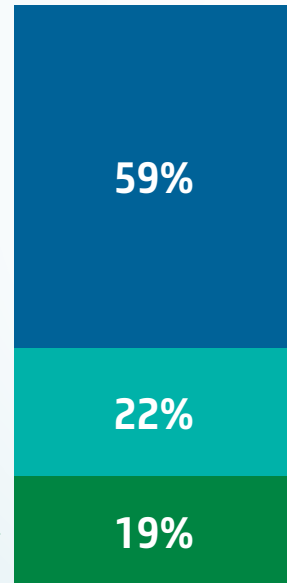
# VALUE GENERATION IN A TYPICAL PRE-SALT PROJECT

## MORE COMPLEX FPSOs WHILE KEEPING PROJECT'S AVERAGE BUDGET



STRATEGIC PLAN  
2022- 2026

US\$ 4-6 billion



Relative to Pre-Salt projects with owned units:  
Capacity from 150 to 225 Kbpd

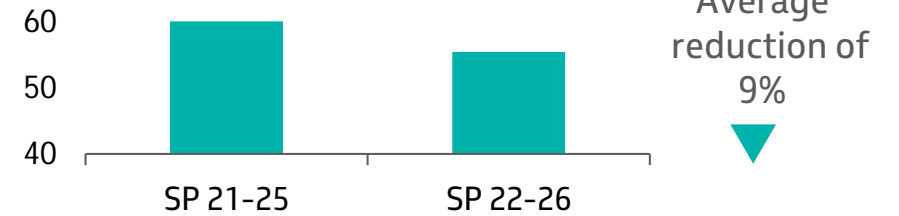
PRODUCTION UNIT

FPSOs COMPLEXITY INCREASE



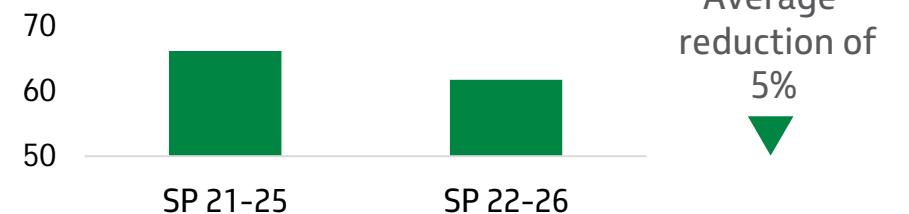
SUBSEA SYSTEMS

AVERAGE CONNECTION COST PER WELL  
(US\$ Million)



WELLS

AVERAGE CONSTRUCTION COST PER WELL  
(US\$ Million)



# **PROGRAM FOR MANAGEMENT OF FLEXIBLE PIPELINES INTEGRITY**

## **POSITIVE RESULTS TO MITIGATE THE IMPACTS OF CORROSION**

**R&D – increase in expertise**

**Special tools for subsea inspection**

**Pipeline replacement – mitigated or immune**

### **Results achieved by controlling the issue**

- Enhancement of engineering models to extend the useful life of pipelines
- New inspection technologies: cost savings of around US\$ 500 million in 2021
- 35% reduction in production losses compared to the forecast in 2021

### **Ongoing initiatives to ensure definitive solutions**

- Expanding the supplier base for special inspection tools
- Development of new products/flexible pipelines qualified for SCC-CO<sub>2</sub>

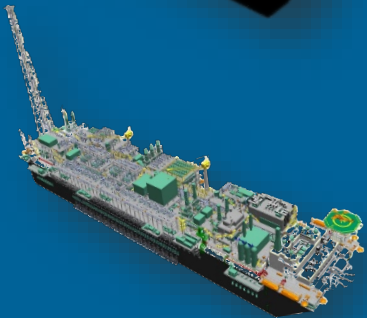




5  
150 Kbpd FPSOs



2  
180 Kbpd FPSOs



3  
225 Kbpd FPSOs

4 production units already in operation  
and 6 planned to start operation in the  
2022-2026 Strategic Plan

\* Petrobras share - 2022-2026 period

# BUZIOS: LOOKING AHEAD

## US\$ 23 BILLION CAPEX\* INCLUDING VALUE MAXIMIZATION TECHNOLOGIES AND INITIATIVES



- New generation of FPSOs with processing capacity from 180 to 225 Kbpd



- 8" rigid lines – higher productivity and injectivity
- New riser system configuration



- Alternate water and gas injection to recover oil trapped in the reservoir
- Intensive use of open hole intelligent completion

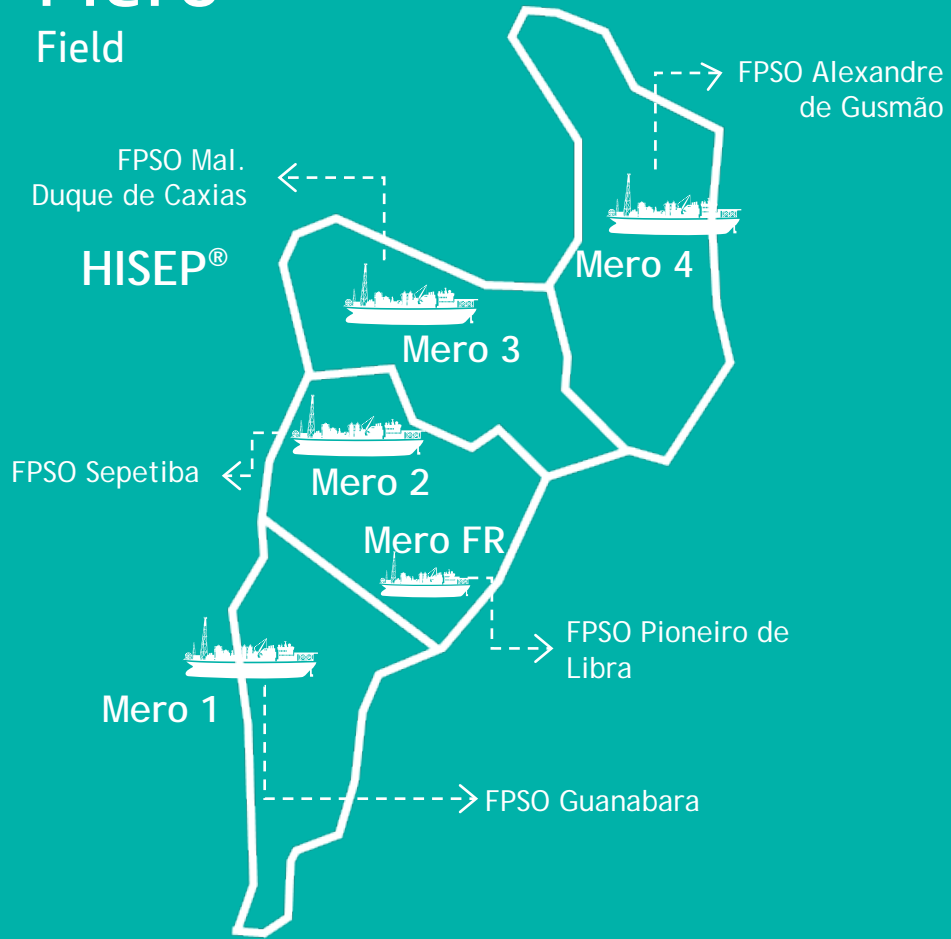
Installed Capacity  
(bpd)

2021  
600K

2026  
> 1,7MM

# Mero

Field



## MERO, FIRST FIELD WITH HISEP® TECHNOLOGY

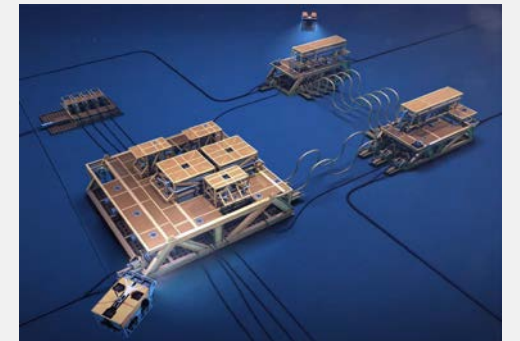
### FPSO Guanabara

Final commissioning stage



### HISEP®

Subsea High Pressure Separation System Technology will be deployed in Mero 3



# WE ARE READY TO DEVELOP A NEW FRONTIER IN SERGIPE DEEP WATERS



1<sup>st</sup> oil  
SEAP I

2026



Capacity  
(Kbpd)

120



Gas export  
(Million m<sup>3</sup>/d)

8

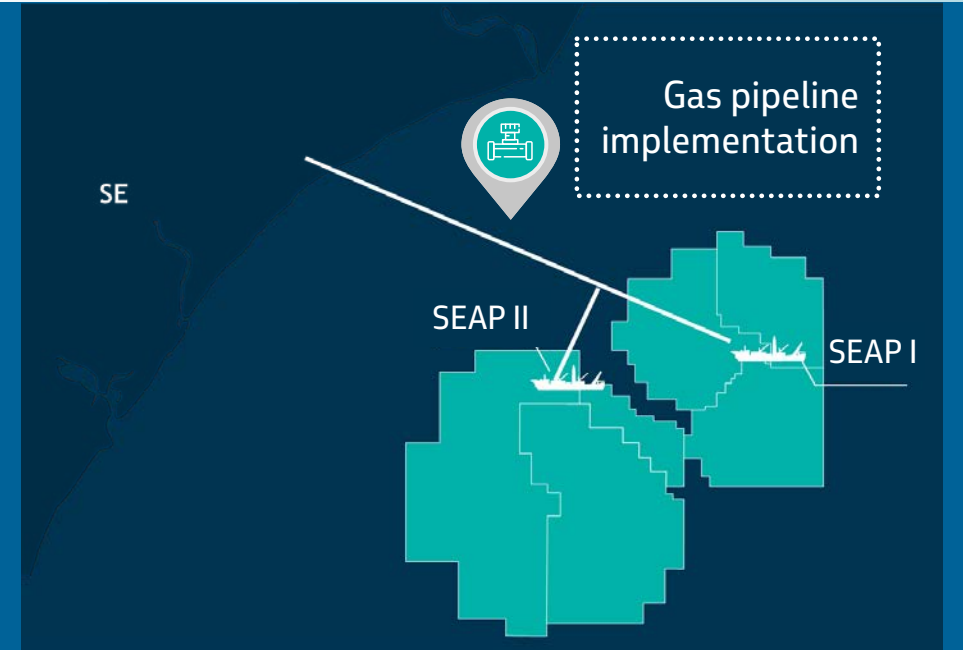


1<sup>st</sup> oil  
SEAP II

After 2026

## PRODUCTION UNITS

- First FPSO bidding process in 2021 using BOT model (Build-Operate-Transfer)
- Development in ultra deep WD (>2.400 m)



# INCREASE IN INSTALLED GAS FLOW CAPACITY AND S-10 DIESEL PRODUCTION



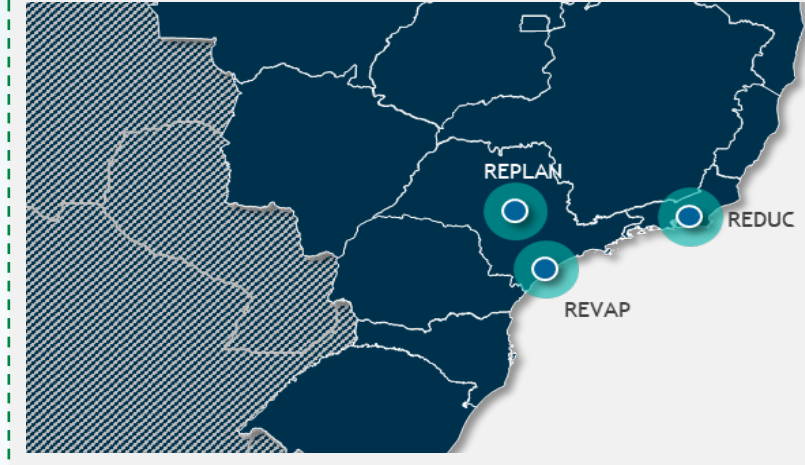
## INTEGRATED ROUTE 3 PROJECT

- Physical progress: >90%
- Operation start-up in 2022
- System capacity increased by 21 MM m<sup>3</sup>/d



## PIPELINE TO EXPORT SEAP GAS

- Implementation of a new gas flow system with a capacity of 18 MM m<sup>3</sup>/d
- Project in the planning stage and expected to start operations beyond the 2022-2026 horizon



## EMISSIONS REDUCTION: HDTs TO DIESEL S-10 PRODUCTION

- Adaptation in Reduc and Revap and a new unit in Replan
- Increase production capacity for S-10 diesel by 132 kbpd

# STRATEGIC PLAN 2022 - 2026

**RODRIGO COSTA**

*Chief Refining and Natural Gas Officer*

# WE STRENGTHENED OUR TRANSFORMATION STRATEGY



Operated assets focused on proximity to oil and gas supply and the consumer market



Focus on marketing our own gas and optimizing the thermoelectric portfolio

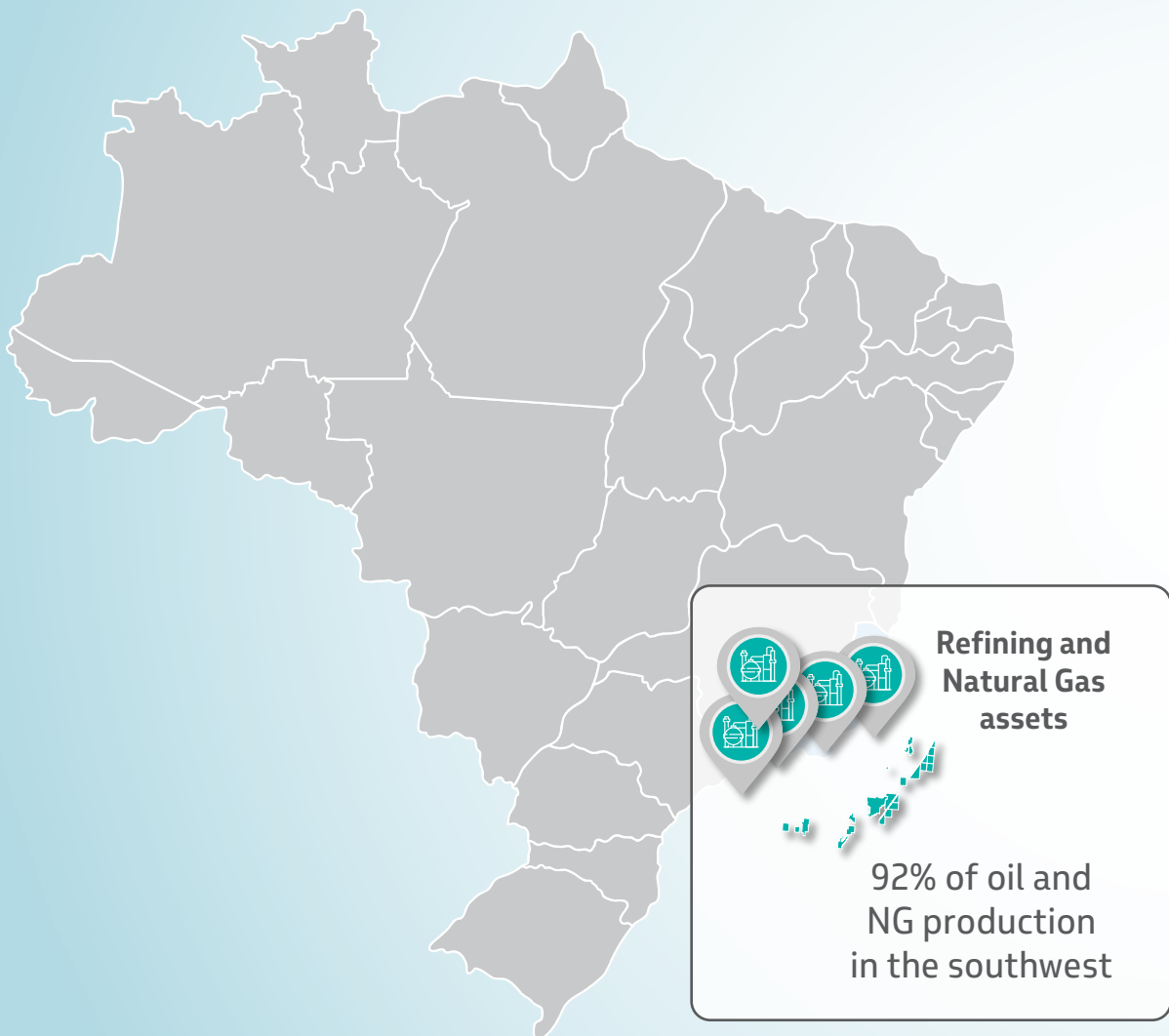
## MORE VALUE





# ACTIVE PORTFOLIO MANAGEMENT

ASSETS CLOSE TO THE SUPPLY OF OIL AND GAS AND THE CONSUMER MARKET



	2021	2026
REFINING	13 refineries  <b>Capacity</b> 2.2 MMbpd	Refineries between RJ – SP* <b>Capacity</b> 1.2 MMbpd
ENERGY	Thermal Power Plants NG/ Fuel Oil / participations  <b>Capacity</b> 6.1 GWmed	Thermal Power Plants <b>NG with high                      efficiency</b> <b>Capacity</b> 4.0 GWmed
NATURAL GAS	Natural Gas Processing Units : <b>66 MM m<sup>3</sup>/d</b> Regasification Terminals: <b>37 MM m<sup>3</sup>/d</b>	Natural Gas Processing Units: <b>84 MM m<sup>3</sup>/d</b> Regasification Terminals: <b>50 MM m<sup>3</sup>/d</b>

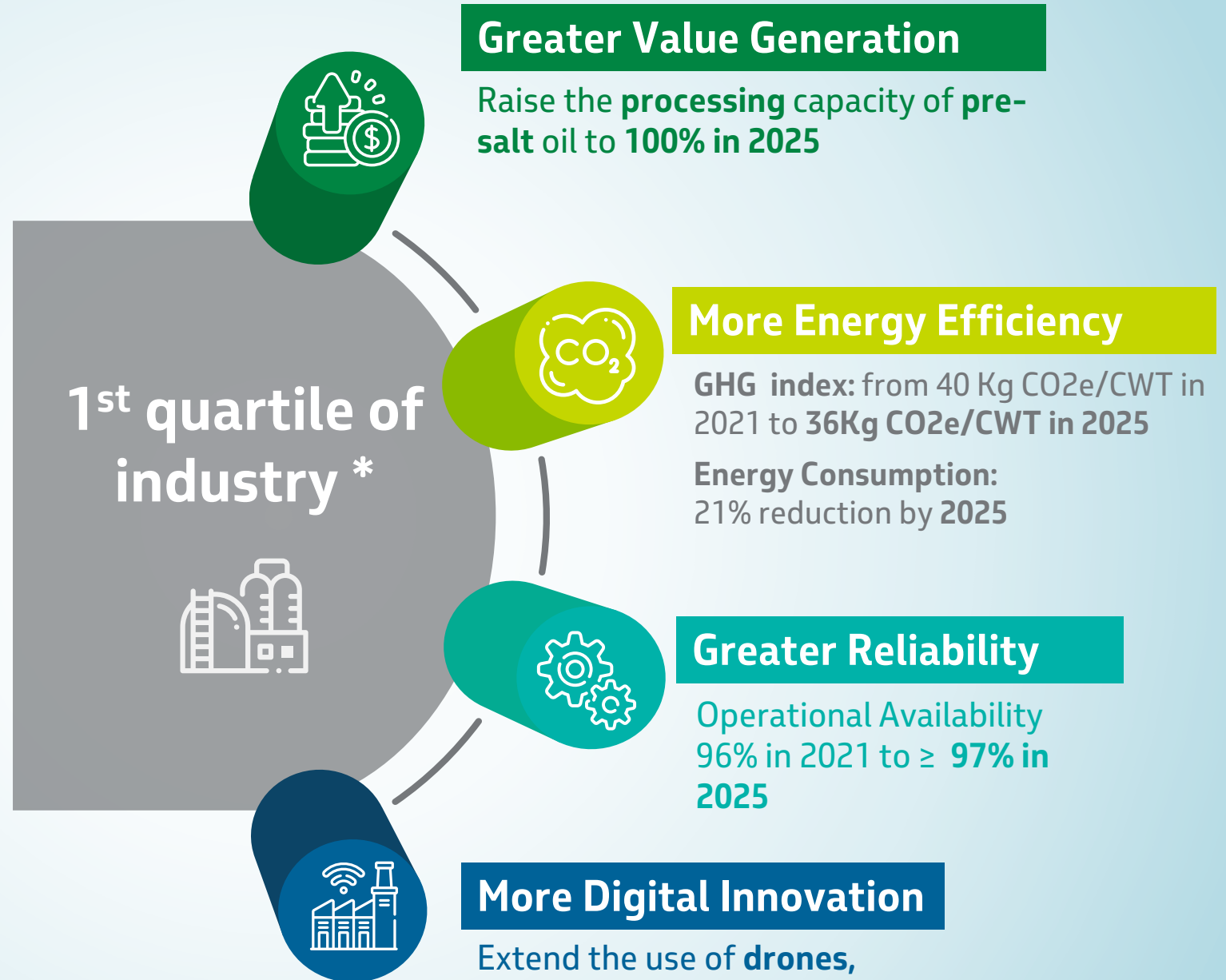
\*New Divestment Process : REFAP, REPAR and RNEST

# ENERGY AND OPERATIONAL EFFICIENCY REFTOP

POSITIONING PETROBRAS AMONG THE BEST REFINERS IN THE WORLD IN EFFICIENCY AND OPERATIONAL PERFORMANCE



CAPEX  
US\$ 300 million



\* Benchmark Refiners USA

# HIGHER QUALITY PRODUCTS

## REPLACEMENT OF S-500 DIESEL BY S-10 AND GROUP I BASE OIL LUBRICANTS BY GROUP II



CAPEX  
US\$ 2.6 billion

### REFINING CAPACITY EXPANSION

#### GASLUB Cluster

Operational Integration REDUC-GASLUB

Base oil production for Group II lubricants:  
**12 Kbpd**

Additional S-10 diesel and jet fuel capacity:  
**93 Kbpd**

#### RNEST - Revamp and Train 2

+ 145 Kbpd of oil

Additional S-10 diesel capacity:  
**95 Kbpd**

#### Diesel quality

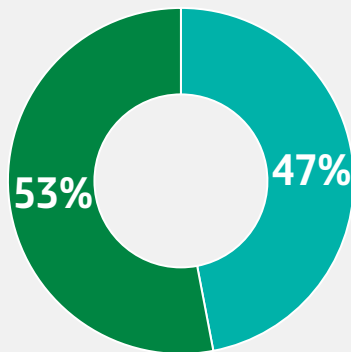
New production unit at REPLAN

Adaptations in REDUC and REVAP

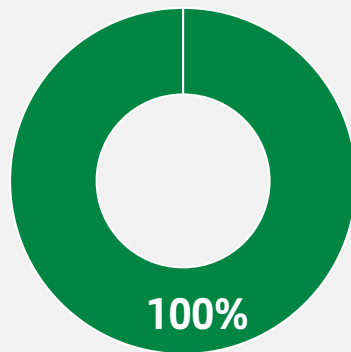
Additional S-10 diesel capacity: **132 Kbpd**

### DIESEL

2021



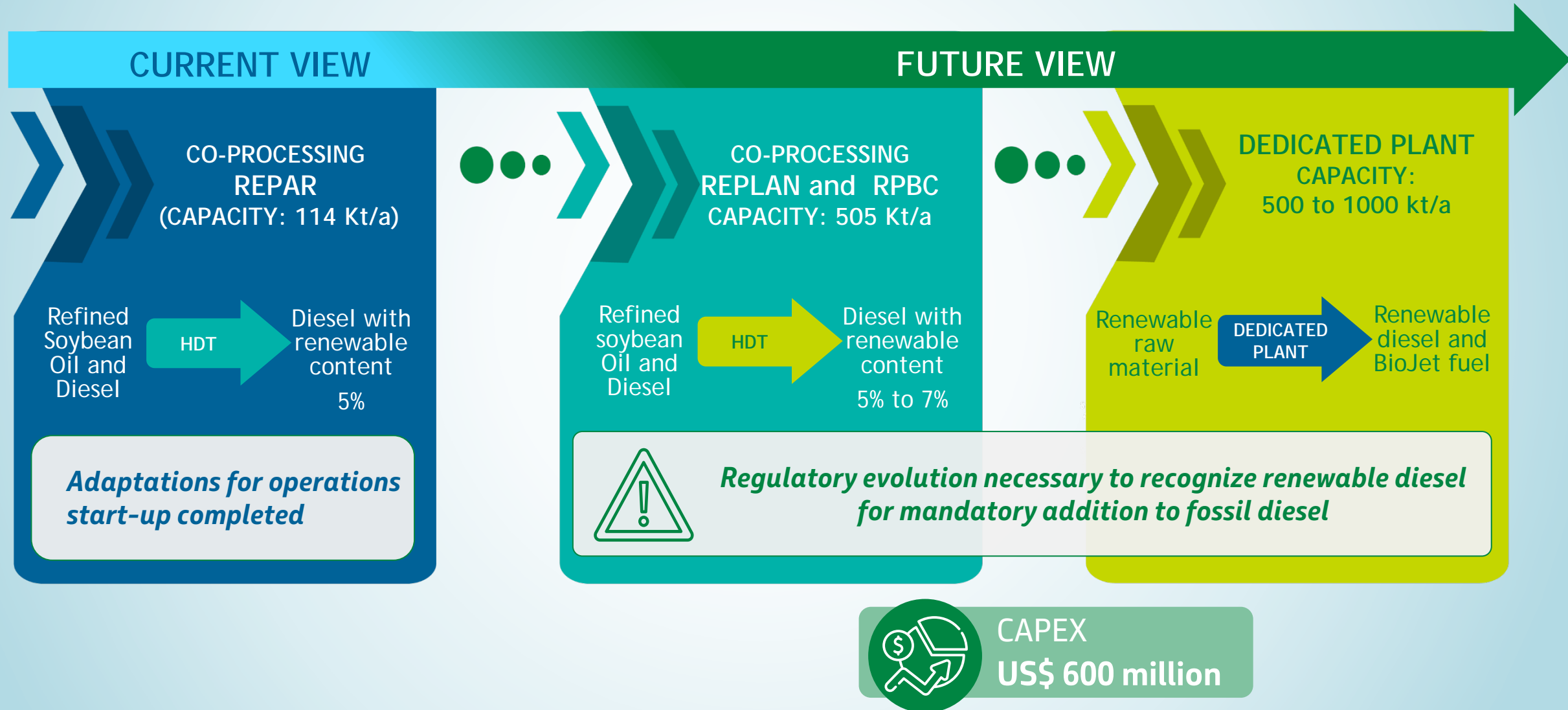
2026



■ S-500 ■ S-10

# SUSTAINABLE AND RESILIENT REFINING

OUR JOURNEY TO OIL PRODUCTS OUTPUT WITH LOWER GHG EMISSIONS



# WE REMAIN COMMITTED TO OPENING THE NATURAL GAS MARKET

## Market Opening Actions

### DIVESTMENT

- ✓ Divestment TAG
- ✓ Divestment NTS
- Divestment GASPETRO - Signing
- Divestment TBG e TSB - Binding Phase

### ACCESS TO INFRASTRUCTURES

- ✓ No preference in infrastructure
- ✓ Indication of movement capacity
- ✓ Integrated flow system
- ✓ Integrated processing system
- ✓ Access to Guamaré

### SUPPLY

- ✓ Reduction of gas purchase from Bolivia from 30 to 20 MM m<sup>3</sup>/d
- ✓ TRBA Leasing, 20 MM m<sup>3</sup>/d
- ✓ Reduction of gas purchases with the termination of contracts with partners/third parties

## New forms of gas sales

- Diversification of contractual terms
- Introduction of new indexes in contracts
- Choice of products with more flexibility



## Products suited to customer needs

# INVESTMENTS FOCUSED ON EFFICIENCY AND NEW PRODUCTS

## REFINING, GAS AND ENERGY CAPEX 2022 - 2026

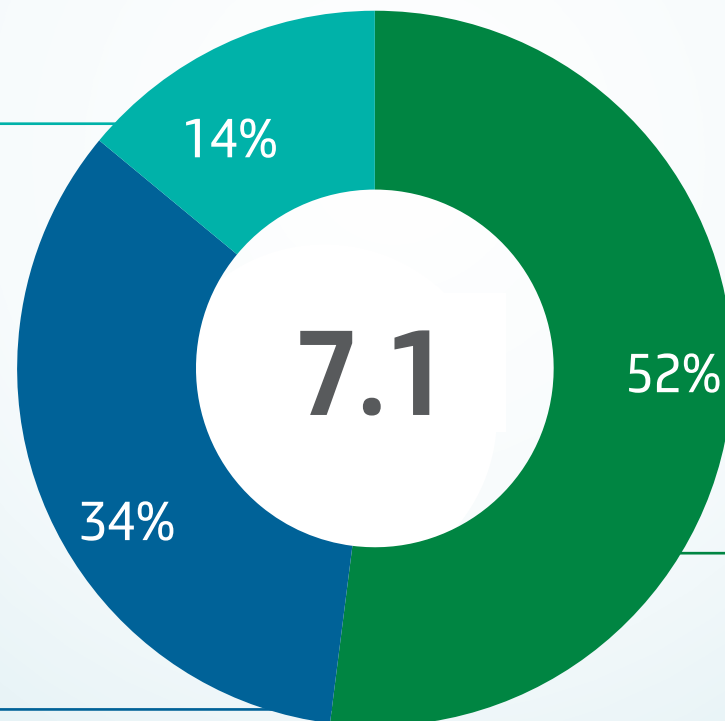
US\$ billion

### Thermal Plant Modernization

#### Route 3

G&E Scheduled Stoppages

HSE



### New Products and Refining Capacity Expansion

GASLUB cluster

RNEST: REVAMP and 2<sup>nd</sup> Train

HDT: New Plant and Adaptations

Biorefining: Renewable Diesel and

BioJet fuel

### Energy and Operational Efficiency of Refining

RefTOP

Refining Scheduled Stoppages

HSE

# 2022 – 2026 STRATEGIC PLAN

**CLÁUDIO MASTELLA**

*Chief Trading and Logistics Officer*





# PETROBRAS PORTFOLIO

## RESILIENT, WELL POSITIONED AND COMPETITIVE OPERATION

### LOGISTICS INTEGRATING REFINING, OIL PRODUCTION AND MARKETS SOUTHEAST AND CENTRAL WEST

PREPARED TO SERVE THE  
DOMESTIC AND GLOBAL  
MARKETS

- Logistics connecting pre-salt and 5 refineries
- 6 waterway terminals
- 15 onshore terminals
- Pipeline system connecting oil production to refining and markets
- Refining cluster located in the most relevant market in the country



*Expansion of the  
global customer  
portfolio through the  
development of new  
markets and increased  
competitiveness*

ONSHORE TERMINAL

WATERWAY TERMINAL

REFINERY

PIPELINES

# PETROBRAS PORTFOLIO

## OPERATIONAL FLEXIBILITY BETWEEN OWNED AND CHARTERED ASSETS GENERATING COMPETITIVENESS IN THE GLOBAL MARKET

Lean structure of strategically located international offices covering the main trading hubs

Flexibility in oil transshipment options

Optimization of the ship fleet seeking a balance between owned and chartered assets

### Transshipment points

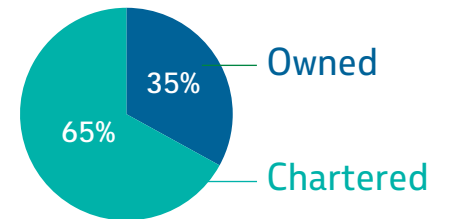
- Owned
- Chartered (or chartering option)

ROTTERDAM

HOUSTON

SINGAPORE

### Fleet of ships for trading



Average of the last 6 years

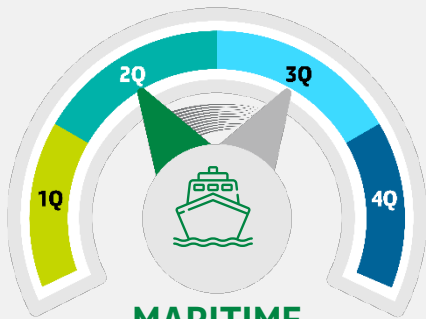
# WE IMPROVED OUR PERFORMANCE

IN E&P LOGISTICS SUPPORT RELATIVE TO OTHER OIL AND GAS COMPANIES

2018

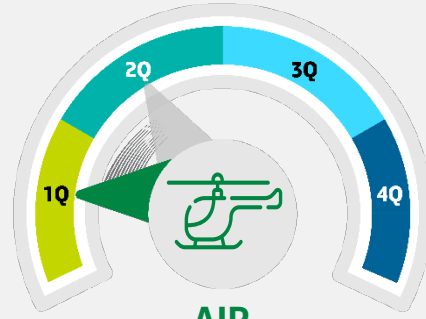
2021

FUTURE



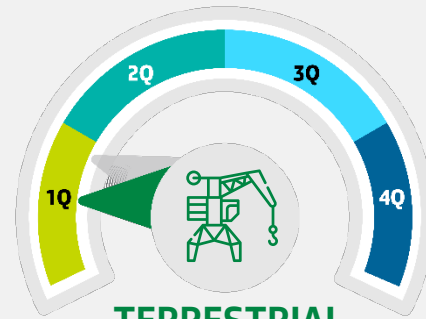
## MARITIME

From 3<sup>rd</sup> to 2<sup>nd</sup> industry quartile



## AIR

From 2<sup>nd</sup> to 1<sup>st</sup> industry quartile



## TERRESTRIAL

Maintenance on the 1<sup>st</sup> industry quartile



Spotted opportunities were implemented and allowed for **cost reduction** and **process efficiency**



**Advances in Petrobras' E&P logistics support greater than the industry average**



## Emissions Reduction

- Itinerary optimization and vessel speed control
- Hybrid vessels



## Digital Transformation

- Drones for cargo transportation and environmental monitoring
- Process automation and systems integration



## Operational Efficiency

- Integrated view of demand, improving the sizing and allocation of resources

# WE ARE REMOVING LOGISTIC BOTTLENECKS AND IMPROVING THE SAFETY AND EFFICIENCY OF OUR OPERATIONS

## Investment in pipelines and terminals



Investments in increased capacity and operational flexibility



## Competitiveness in owned terminals



Implementation of dolphins to increase oil transshipment capacity in owned terminals, generating greater flexibility and lower cost per operation



## Reduction of clandestine tappings



50% reduction in thefts between 3Q20 and 3Q21



Cooperation with public authorities seeking to mitigate risks to life, the environment and to supply

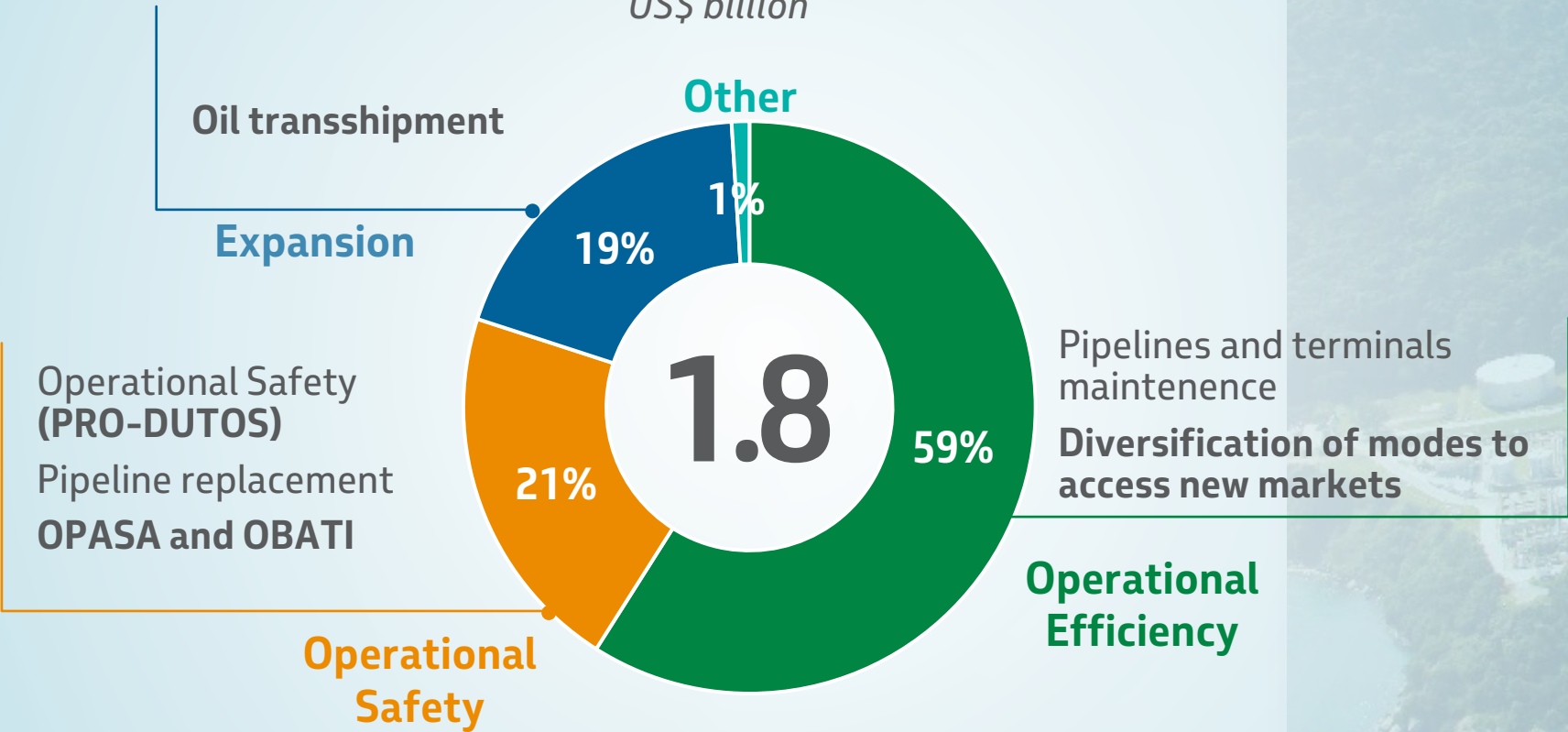
Number of fuel thefts in Brazil



# INVESTMENTS IN TRADING AND LOGISTICS

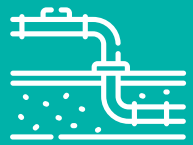
T&L CAPEX 2022-26\*

US\$ billion



\* Post divestment

# SANTOS TERMINAL



Essential terminal for the flow of products from the four refineries in São Paulo



Strategic location close to the most dynamic oil products markets in the country

**Commitments/  
Estimated Investments\***

**R\$ 625.7 million**



## Results

- **Auction held** on 11/19/2021
- **Winning offer** (larger area) in the amount of R\$ 558.2 million

\* Auction guidelines estimates

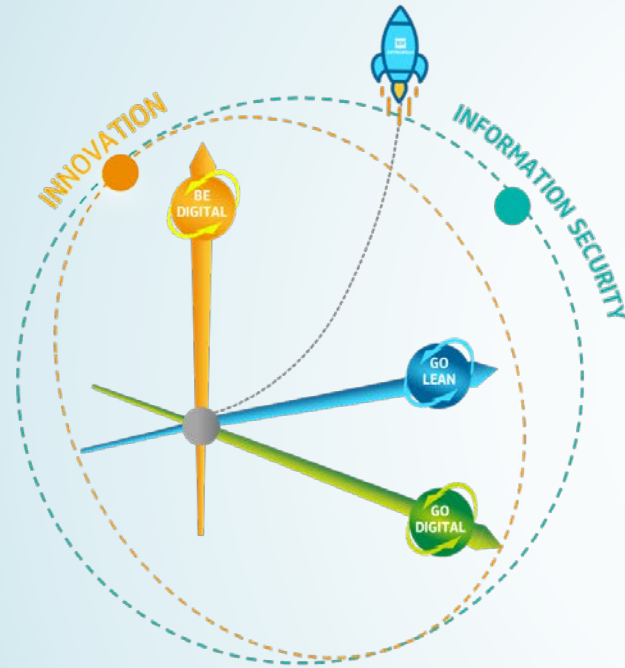
# 2022 – 2026 STRATEGIC PLAN

**NICOLÁS SIMONE**

*Chief Digital Transformation  
and Innovation Officer*

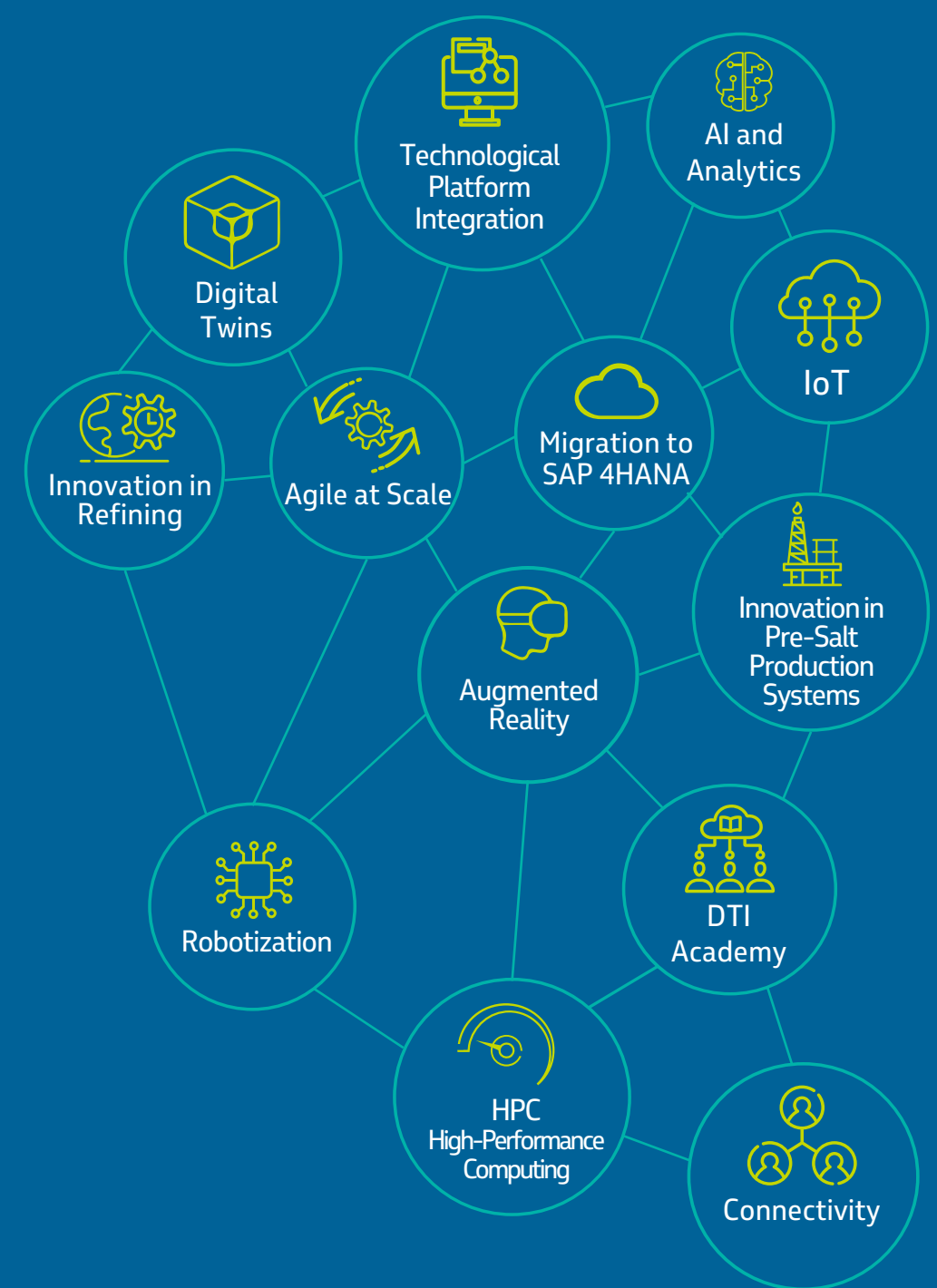
# DIGITAL TRANSFORMATION AND INNOVATION STRATEGY

US\$1.6 BILLION INVESTMENT



## EXPECTED RESULTS FOR THE 2022 – 2026 HORIZON

- Superior to **120 PFLOPS Rpeak** of HPC in 2025
- **80%** Processes digitized by 2026, focusing on process robotization
- **More than 1200** Agile Teams in 2026
- **More than 1200** active patents in 2025
- **More than 25k** Employees trained and re-qualified in digital by 2026





# PROTAGONISM AND PROACTIVENESS IN TECHNOLOGICAL PROTECTION

## BOOSTING INFORMATION SECURITY

CKN - Cybersecurity Knowledge Network



- Budget 7 times higher in 2022 compared to 2019
- National protagonism in promoting the collaboration network in cyber defense - CKN

Technologies  
People  
Processes

# DIGITAL TRANSFORMATION AND INNOVATION IN BUSINESS

## EXPLORATION & PRODUCTION



- Pre-salt connectivity (Optical Mesh + 5G LTE + Medium Earth Orbit)
- From \*HPC to Quantic Computing for Seismic Imaging and Reservoir Simulations
- Use of AI to reduce exploratory risk
- AUV\*\*\*\* for surveillance and seismic
- High Reliability Flowlines and Wells
- O&G Subsea Processing Systems and Autonomous Subsea Injectors
- FPSO All Electric and NUF\*\*

## REFINING



- Advanced Digital Twins with AI
- Massive use of AI, focusing on efficiency and operational safety
- BioJet and Biodiesel production Technologies
- Conversion, energy efficiency, and operational availability improvement technologies

## G&E



- Natural Gas processing efficiency improvement technologies
- AI use in maintenance and operation processes
- Low-emission electric power generation technologies
- Optimization and digitization of the Gas processing chain allowing access to new business models

## TRADING AND LOGISTICS



- CRM Platform for Trading and G&E
- Predictive Analytics (AI) for products logistics
- Implementation of connectivity LTE\*\*\* 4G/5G for warehouses and ports
- Marine BioFuels

\*HPC = High Performance Computing

\*\*NUF = Normally Unattended Facilities

\*\*\*LTE = Long Term Evolution (4G/5G)

\*\*\*\*AUV = Autonomous Underwater Vehicle

**DOUBLE RESILIENCE**

**EFFICIENCY**

**COMPETITIVENESS**

# DIGITAL TRANSFORMATION AND INNOVATION IN THE CORPORATE AREA

## Automation and Digitalization

- Machine Learning with automated supply chain
- Automated and intelligent supply chain
- Automation, digitalization and integration of corporate services focused on user experience
- Automation of internal controls for greater compliance and efficiency

## Integration of New Technology Platforms

- Migration to SAP S/4 HANA
- Use of cloud platforms to accelerate digital transformation (CloudFirst)
- Corporate LABs and accelerators focused on efficiency, safety and innovation (*Corporate Lab, Safety Lab e Cyber Security Lab*)

## AI - Analytics

- Massive use of AI in corporate processes: Legal, SMS, Accounting, Tax, Governance, Procurement, Audit, Ombudsman and Compliance
- Use of Blockchain in the Financial Area and Logistics Chain

## New Models of Work and Agility

- Agile at scale (growing 250 agile teams per year)
- Lean and Agile mindset in engineering projects
- Apps and IoT for Smart Office optimizing building occupancy
- Adoption of Smart Building concept, with a focus on sustainability

Migration to the cloud with a reduction, by 2024, of more than 40% of the applications portfolio

*PETROBRAS DAY 2021*

# *INVESTING RESPONSIBLY*

*VALUE CREATION • ENVIRONMENT • SOCIAL • GOVERNANCE*