

# INSIDE ENGIE 2022



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**RAFAEL BÓSIÓ**

Investors Relations  
Manager  
**ENGIE Brasil Energia**

**09h00 a.m. – Welcome**

**09h05 a.m. – Introduction, by Eduardo Sattamini**

**09h20 a.m. – Regulatory and Commercialization  
Panel**

**10h10 a.m. – Break**

**10h30 a.m. – TAG Panel**

**11h10 a.m. – New Businesses and Implementation  
Panel**

**12h00 p.m. – Debate Panel**

**12h20 p.m. – Closure**



## **EDUARDO SATTAMINI**

Chief Executive and  
Investors Relations Officer  
**ENGIE Brasil Energia**

- Overview 2021-2022
- Look back - 6 years
- Growth Drivers
- Challenges for the future





**MARCOS KELLER**

Chief Regulation and  
Market Officer  
**ENGIE Brasil Energia**

- **Overview 2021-2022**
- **Hydrological scenario**
- **Energy supply and long-term price context**
- **Regulatory environment and market:**
  - Progress and perspectives for the sector agenda
- **PL 414:**
  - Anticipated renewal of the concessions;
  - Complete opening of the free market



**GABRIEL MANN**

Chief Energy  
Commercialization Officer  
**ENGIE Brasil Energia**

- **Overview 2021-2022**
- **Performance and commercial strategy**
- **Market intelligence and portfolio management**
- **Go-To-Market Update**
- **Evolution of the products portfolio**
- **Challenges for the future**

# Energy Commercial Strategy

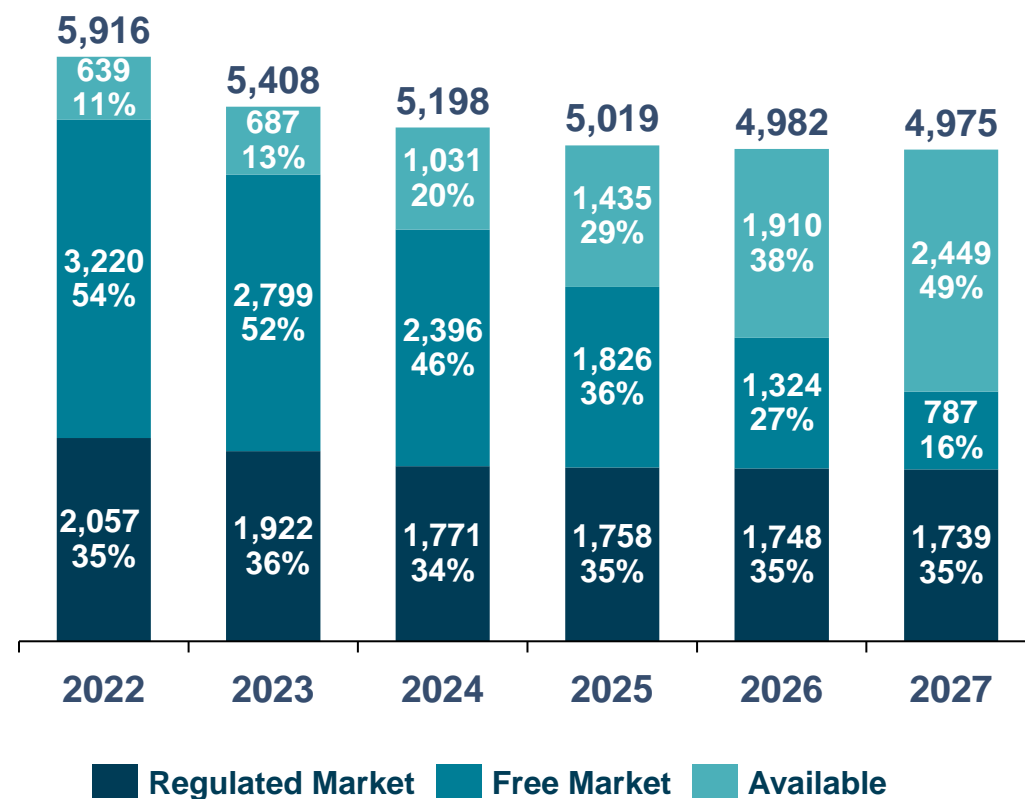
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Portfolio diversification and gradual sale of future energy availability, with reserve preservation to protect against hydrological risk



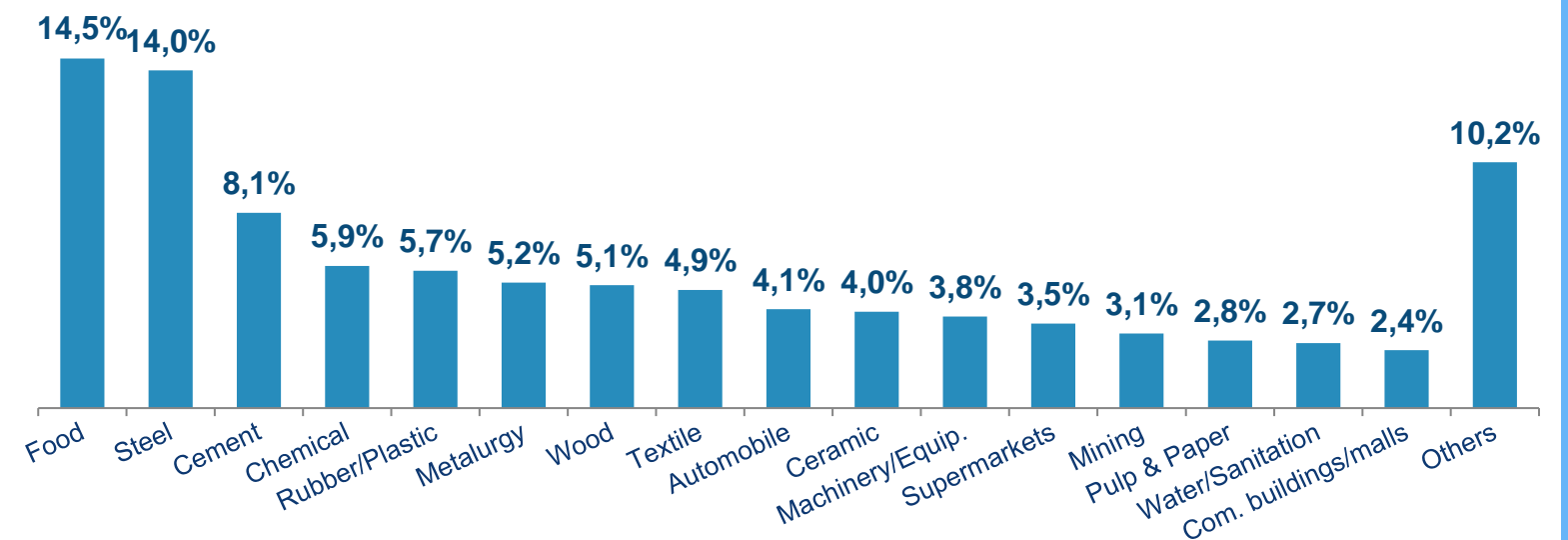
## ENERGY BALANCE (% OF TOTAL; average MW)

As of September 30, 2022

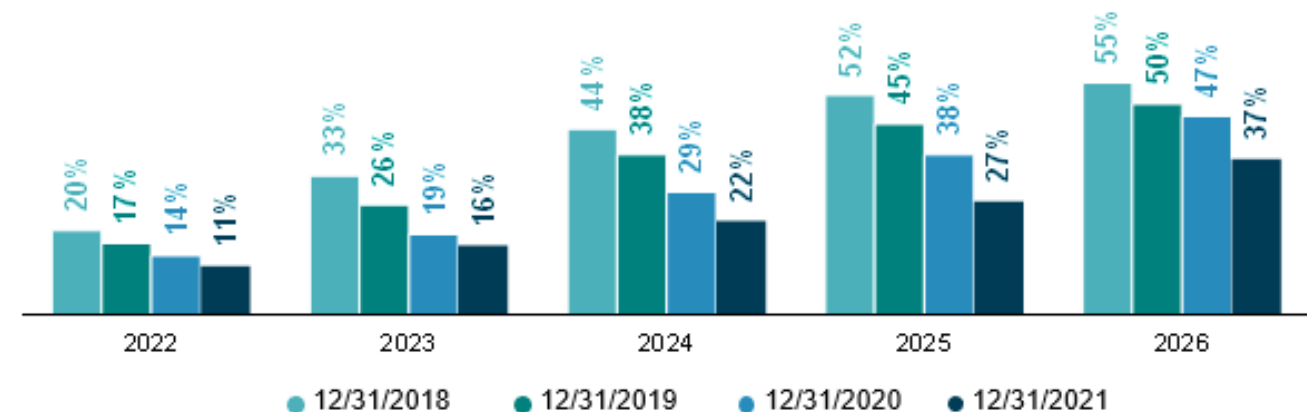


## FREE CUSTOMERS TOTAL SALES VOLUME FOR 2022: 2,339 aMW

Source: Internal study based on IBGE's classification.



## UNCONTRACTED ENERGY COMPARED TO THE AVAILABILITY OF A GIVEN YEAR



## 2022 | CONTRACT ENERGY BREAKDOWN BY MARKET



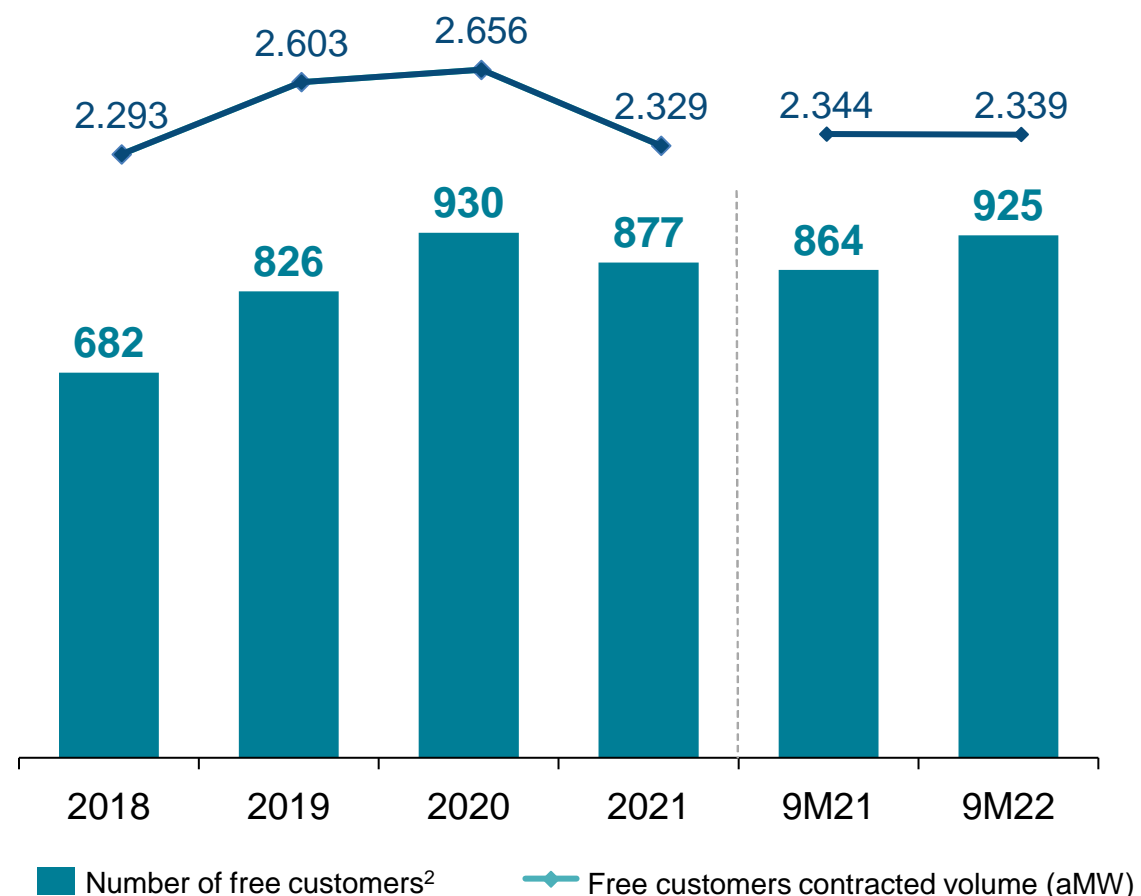


# Energy Commercial Strategy

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## EVOLUTION OF FREE CUSTOMERS<sup>1</sup>



**2,495** (+3.9% compared to 3Q21)  
Consumer Units served in 3Q22<sup>3</sup>

**9.6%** (-1.0 p.p. compared to 3Q21)  
Market share ACL in 3Q22 (of total energy in Free Market)

**35%**  
Participation of Free Clients out of total net operating revenue in 3Q22

**42%**  
Participation of Free Clients out of total physical sales in 3Q22

**191 thousand tCO<sub>2</sub>**  
**CERs sold in 9M22**  
(Certified Emission Reduction)

**1.7 thousand GWh**  
**RECs sold in 9M22**  
(Renewable Energy Certificates)

### Notes:

<sup>1</sup> Net of trading operations.

<sup>2</sup> As from 1Q22, the number of free customers takes into account the total number of companies attended, the entire historical series having been adjusted accordingly.

<sup>3</sup> Considers consumers units with exiting agreements



**LUCIANA NABARRETE**

Chief People, Processes and  
Sustainability Officer  
**ENGIE Brasil Energia**

- Sustainability Drivers
- Socio-environmental Programs
- Diversity & Inclusion



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**OVIDIO QUINTANA**

Chief Commercial and  
Regulatory Officer  
**TAG**

- TAG Assets and Operational Model
- ESG & Energy Transition
- Brazilian Gas Market Overview
- Commercial & Regulatory Outlook
- Growth & Ambition
- Final Remarks

# Main Assets Characteristics and Key Numbers

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TAG is the largest Brazilian gas transportation company in terms of length

- ~4,500 km of gas pipelines that accounts for 47% of the country's gas transport infrastructure
- 3,700 km in the coastal region of Brazil, crossing almost 200 municipalities in 9 Brazilian states (CE, RN, PB, PE, AL, SE, BA, ES e RJ)
- 800 km in Amazon region, connecting Urucu to Manaus

**11 compression stations**  
(6 owned and 5 subcontracted),  
connected to 2 LNG terminals

**14 entry points**  
(including 2 LNG terminals)

**90 delivery points**  
Connected to 10 LDCs

+ 1 new under development

+ 1 new under construction

+ 1 new under construction &  
+ 5 being expanded

High levels of reliability and safety in gas transport, attending:



10 gas distributors



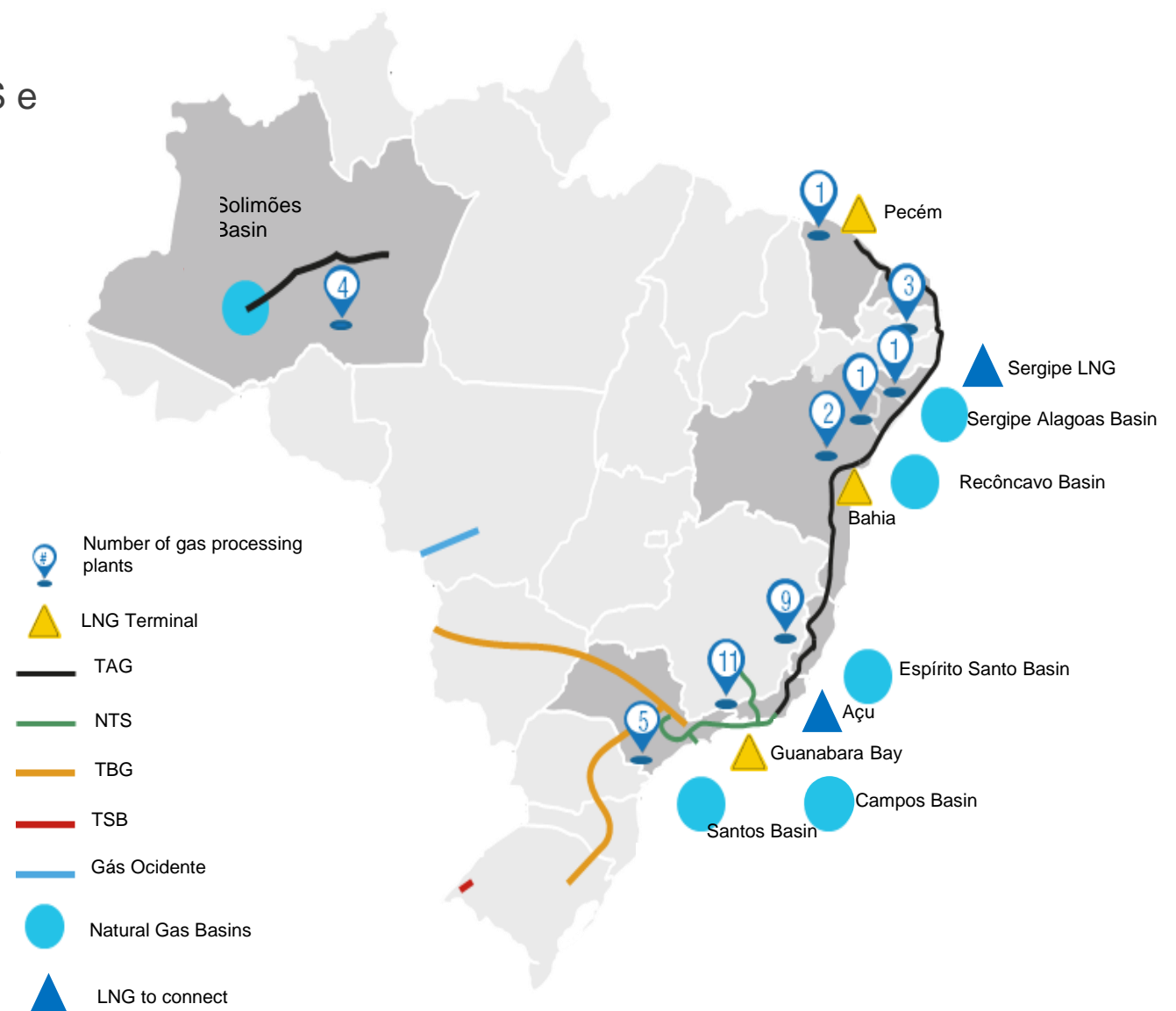
8 thermal power plants



3 refineries



2 fertilizer plants





# Taking over the Operation

What is behind Gas Transport Contracts

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**500+** operational screens

**100.000+** monitored points

**186** site connections (CLPs)

**10** regional diagnostic stations

**18** integrated bases

**80.000** points historical data register

**380+** flow computers

**1600+** controlled instruments

**16 Operational Bases**  
throughout 10 states



**Robust Operation to Ensure Efficiency, Integrity and Security of Supply**



# Mix ESG | TAG in 2022

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### We support inclusion & operational excellence

**44% Women** of the total workforce and 38% of them occupy Leadership positions.

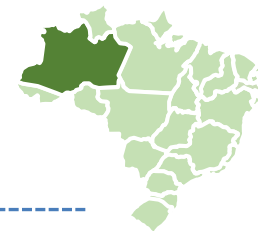
**~256KBRL** invested in training & development of our employees

**~7127 hours** dedicated to training

**98%** of our employees received training in different areas.

**0,82%** frequency rate of work accidents of employees and subcontractors on controlled access sites.

### We contribute to reduce environmental impact



**Urucu-Manaus** transports more than 90% of its capacity to supply thermal power plants and these projects replaced oil thermal power dispatch.

From 2 to 3 million of tCO2 per year of avoided emissions <sup>1</sup>

### We build stakeholders engagement

Independent whistleblowing channel in place open for all stakeholders (including suppliers & subcontractors) in relation with our asset, aiming to build a vigilant culture against corruption, fraud and noncompliant practices.

**More than 300** subcontractors' employees acknowledge our ethics principles.

### We support the communities where we operate

**~2000 community members and 21 municipalities** were contemplated by different social actions through the year.



Source:

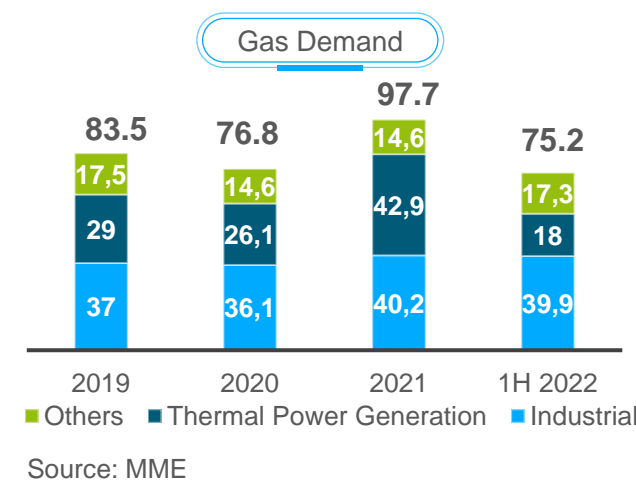
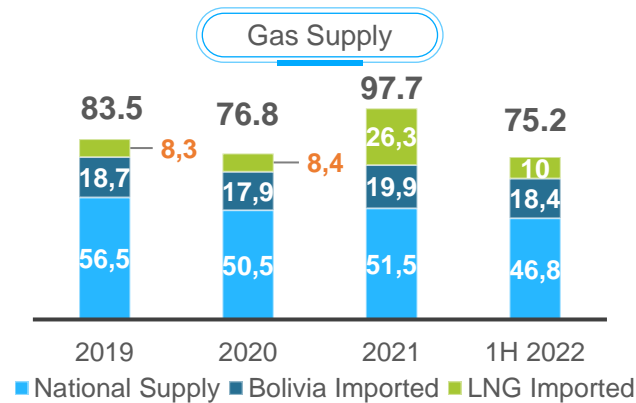
(1) Observatório do Clima. Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG), 2020

# Brazilian Gas Market | Overview

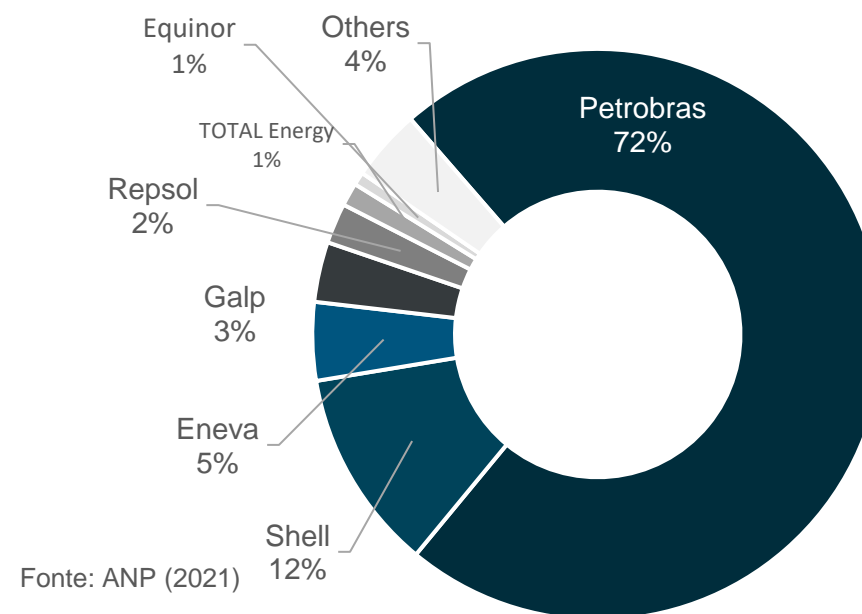
The country dependency of imported gas (Bolivia and LNG)

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## Supply and Demand- historical volumes (Mm<sup>3</sup>/d)



## National Production by Concessionaire



- Poor coordination on decision-making for new investments in infrastructure exposes the country to an uncertain international scenario bringing volatility to the gas price
- Limits the competitiveness of Brazilian economy

## 2021 Highlights

High Import of LNG due to the increase in thermoelectric dispatch

Even with the pandemic, the gas market continued to progress

Reinjection still high in Brazil ~60 MM m<sup>3</sup>/d

## 2022 Highlights

Lower participation matrix of the LNG due to the high reservoirs level ( -47% 1H21 vs 1H22)

LNG cargoes average price 1H122 ~70% higher 2021

LNG exposure: **potential extra costs in 2022**

~12 BUSD (2021 demand at max 2022 LNG cargo imported price)

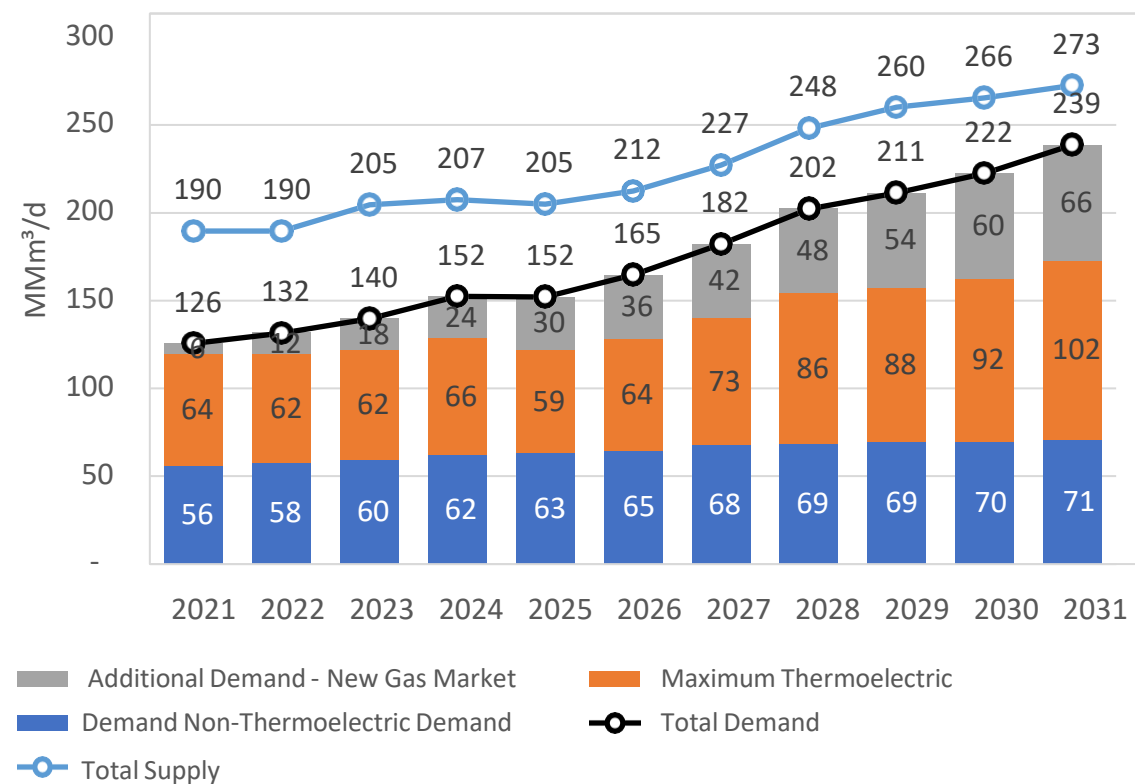
~21 BUSD (2021 demand at max 2022 JKM price)

# Brazilian Gas Market | Potential Growth

Gas plays an important role in the development of the Brazilian energy matrix as the fuel for energy transition since it is a replacement of other fossil fuels consumption on industry and electrical sector (reducing CO2 emissions)

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Projection made by the Planning Agency (EPE) of the Brazilian natural gas balance for the next 10 years



- EPE Planning Agency estimates a 90% growth for the gas demand in the next 10 years (2022-2031), a relevant part coming from the new gas market
- Pre-salt gas already represents ~75% of the national supply and tends to grow over the next 10 years along the new production fields
- Despite Natural Gas indigenous reservoirs potentiality, huge investments on infrastructure are required to support its monetization: gathering, treatment, transport & demand incentives
- It is challenging to coordinate such FID trigger between different players along the gas value chain, keeping a national integrated view (without bypass initiatives)
- The electricity sector is a strategic anchor to carry out investments on network infrastructure with economic rationale

Having gas reservoirs is not enough

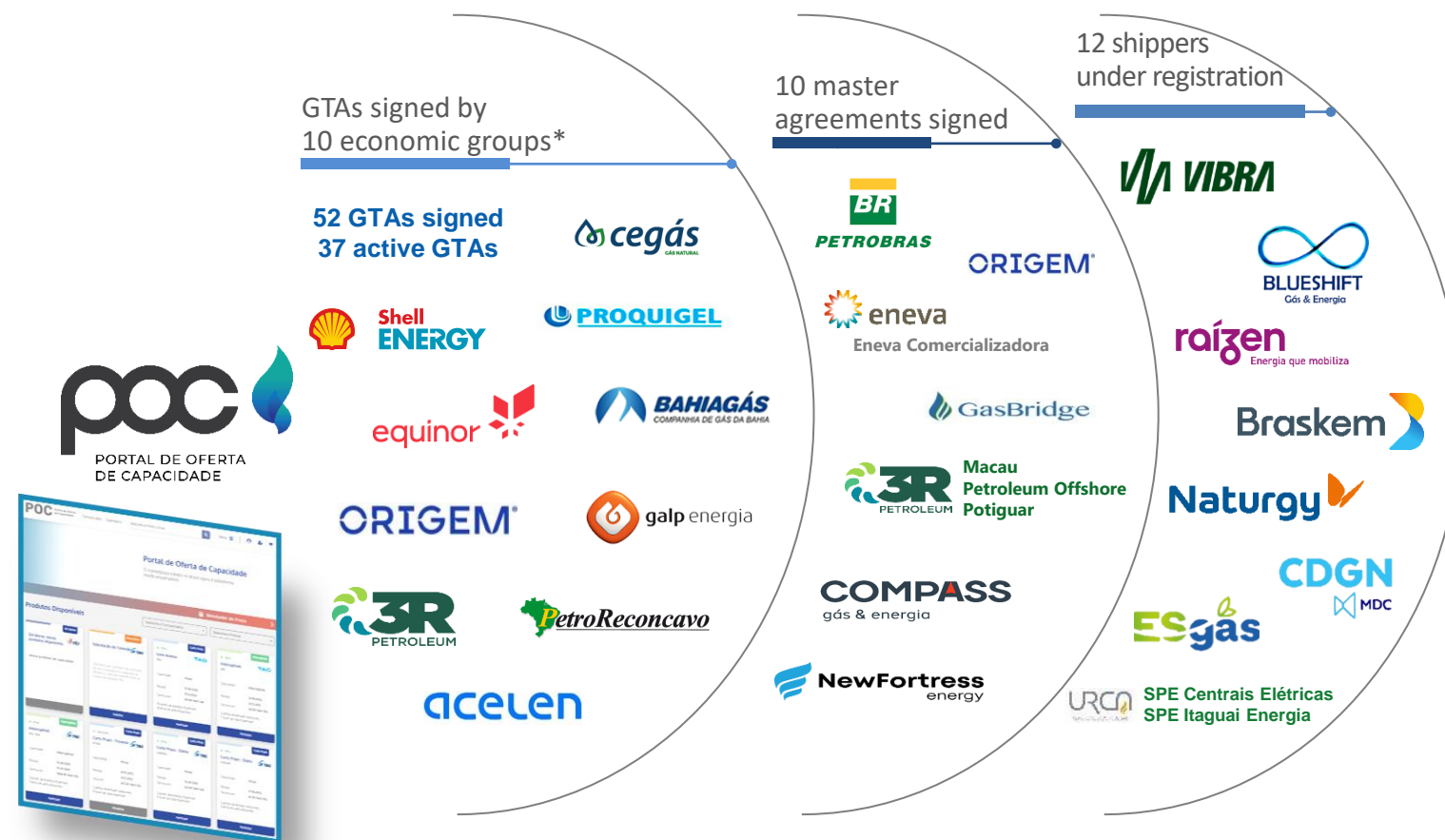
Investment on infrastructure is required to make it available & affordable

# Commercial Pipeline

Market opening achievements and evolution in addition to our legacy contracts

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Status November 30th



\* The 10 economic groups represent 14 companies with GTAs signed.

## Highlights

- **Protagonist in the market opening:** first free consumer access in Jan/21
- **Capacity Offer Platform (POC)** as a transparent and practical tool used and maintained by the 3 main TSOs, supporting competition for shipper's gas transactions
- **Entry/Exit model implemented** and operational
- **Leading role and record time in the market opening:** in one year TAG built a portfolio of 35 extraordinary contracts with new agents, moving from originally 5 GTAs with Petrobras to 40
- **GTA signed with 2 LDC:** Bahiagás and Cegás
- **New shippers represent 17% of the Integrated Network Revenue or 12% of TAG's total revenue**



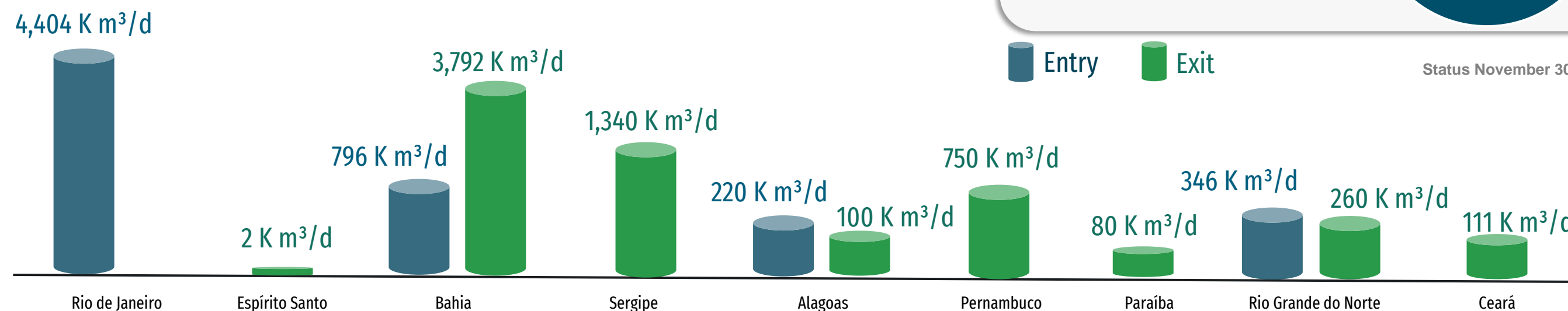
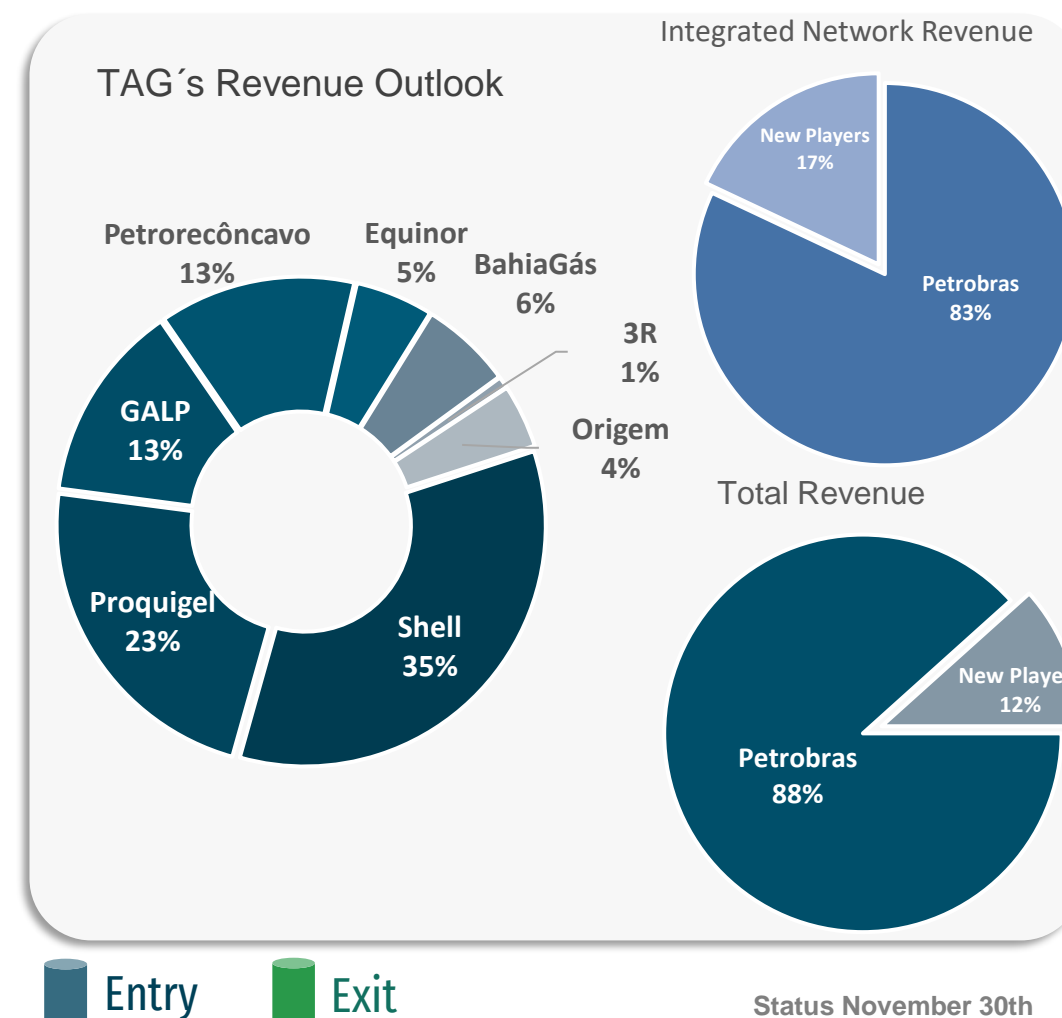
<https://www.ofertadecapacidade.com.br/home>

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# 2022 Extraordinary Hired Capacity

Market opening achievements through important players entrance into the network and its evolution

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# Natural Gas Competitiveness Fundamentals

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01

## Logistic: Cooperation along network industry

- ✓ Regulated sectors
- ✓ Coordination of expansion planning: cooperation brings more benefits than isolated decisions
- ✓ Optimization of infrastructures use with national vision results on Tariff Affordability
- ✓ Free Consumers are allies



02

## Molecule: National Hub Reinforcement

- ✓ Access
- ✓ Multiple Offers
- ✓ Alternative to choose
- ✓ Competition between multiple gas sources



03

## Taxes

- ✓ Continuous journey of improvement
- ✓ “Ajuste Sinief” was an important step
- ✓ Practical measures to promote transaction liquidity between multiple players

## Integrated System



**LOWER**

Tariffs: transport & distribution



**HIGHER**

Security of Supply



**HIGHER**

Flexibility



**HIGHER**

Liquidity



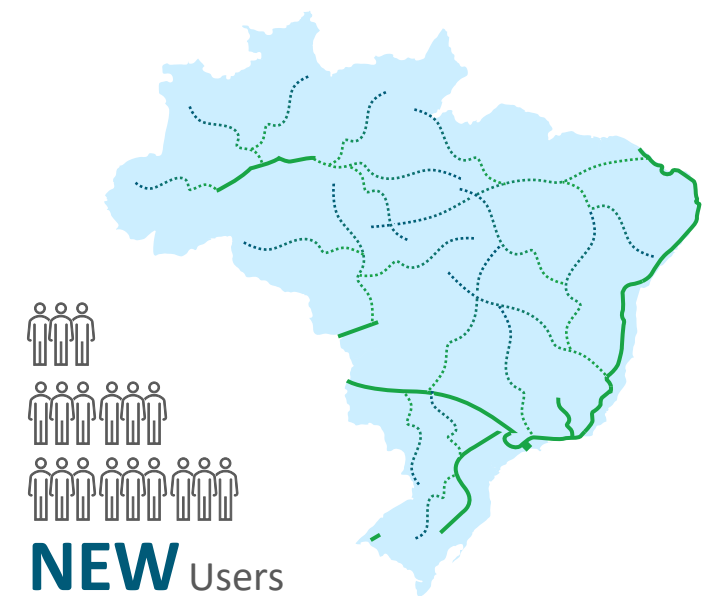
**NEW**

Suppliers



Scale Gains to Promote

**GEOGRAPHIC INTERIORIZATION**



Coordinate efficient expansion of  
**INTEGRATED INFRASTRUCTURE**  
to better serve the market

# Growth & Ambition

TAG's long term view to support a sustainable market growth is related to the proactivity in developing new pipes & connections to the existing network. Ensuring the connection of all gas sources to the integrated transport system as a national hub is essential to promote competitiveness, liquidity and security of supply.



# TAG – Investment Plan 2023 – 2027

Growth based on greater investments in Industrial Safety, Integrity and in projects related to the gas market opening

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~R\$ 3,3 billion in investments for the next 5 years

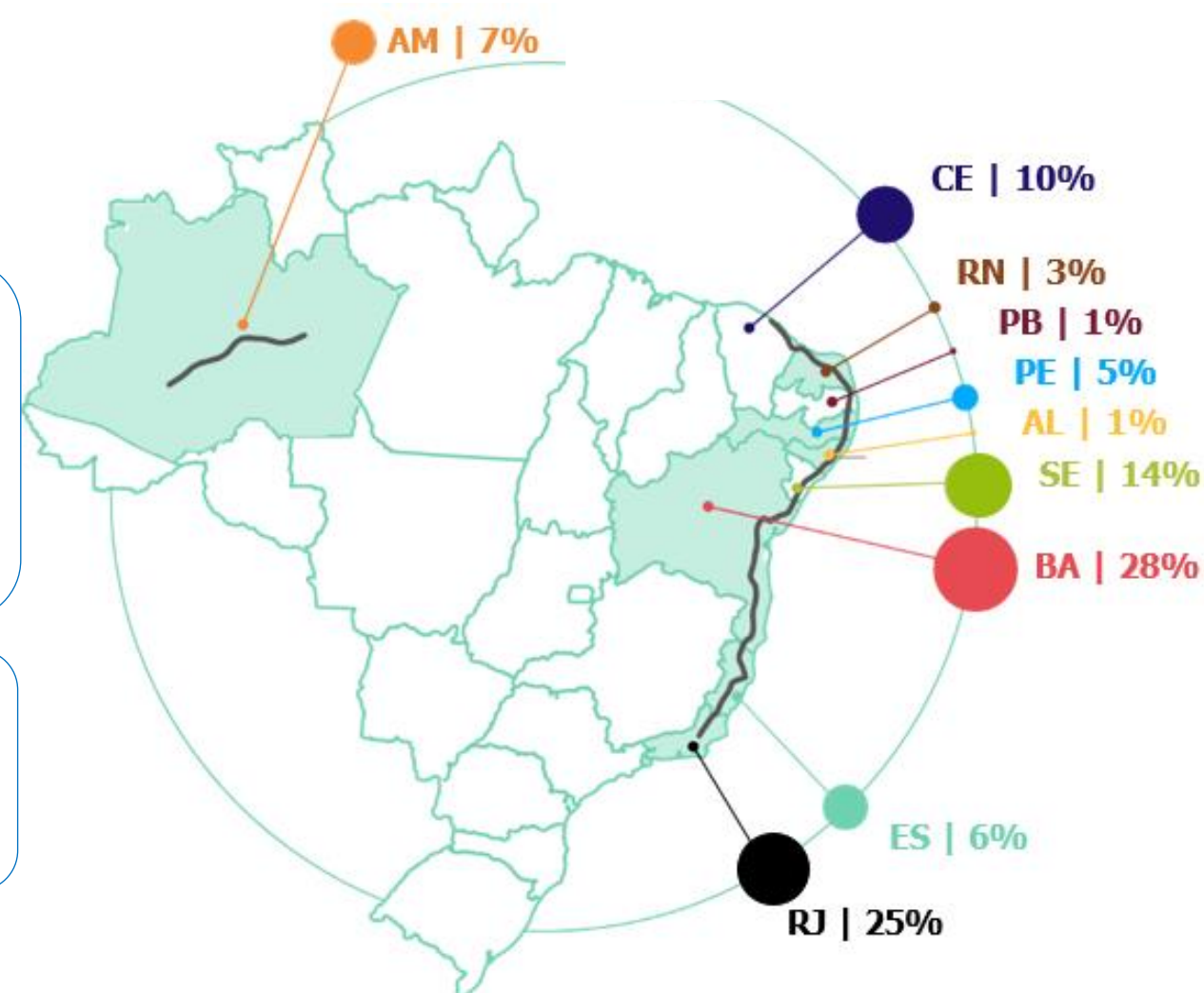
~70% in the Northeast and North of the country

CAPEX 2023-27

## ~ 50% Market Expansion Projects

- Access connection points
- Entry (receiving) points
- New pipelines
- Compression stations

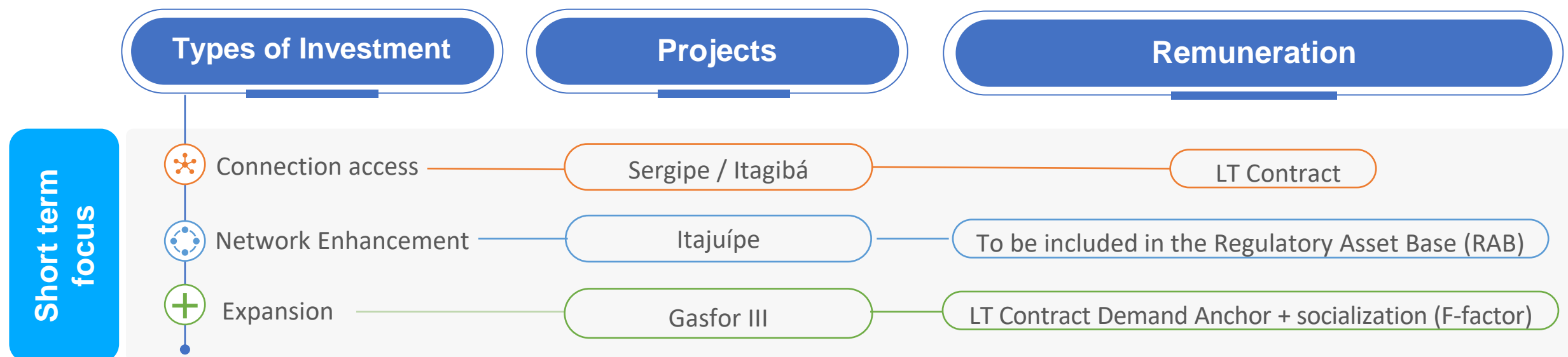
~ 50% to enhance industrial security, compliance, availability, reliability and asset integrity



Investments focused on security of supply and economic efficiency, promoting competition in the molecule and cost reduction in the natural gas chain

# TAG Ambition and Growth | Types of Investment and Remuneration

- Short term focus on new connections and network enhancement (pipeline optimization and bottlenecks removal)
- At the same time, TAG has a role to study the development of all projects for the network expansion guaranteeing isonomic access to the gas pipeline



**TAG projects can boost market opening. Remuneration by Regulated WACC.**

# Moving Forward I Market Opening Milestones

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TAG's pioneering on Brazilian Market



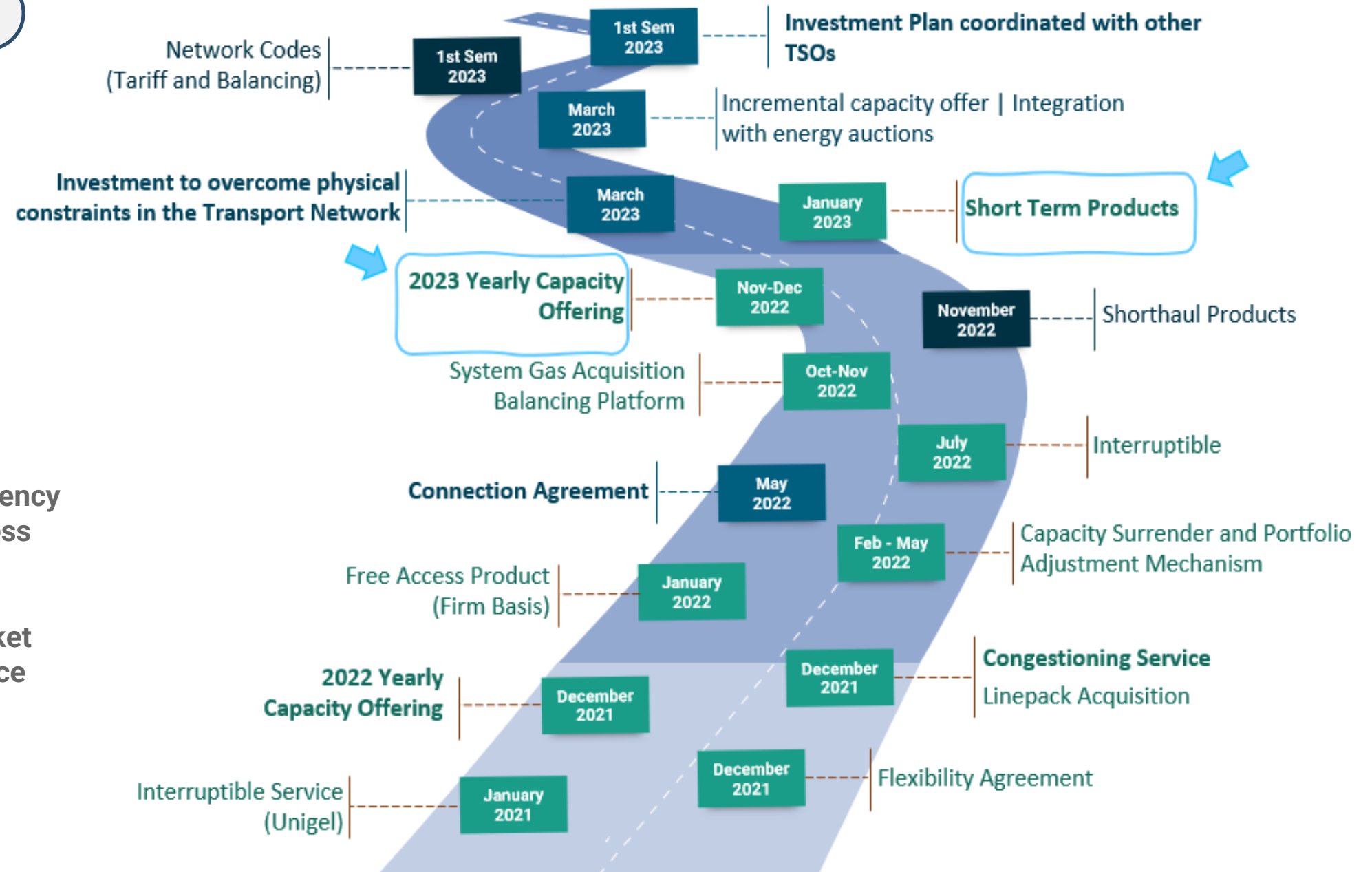
Solutions within the Regulatory framework:

- ✓ Access to Existing Infrastructure
- ✓ New Investment
- ✓ Sustainable Market Design



2022 - 2023

- ❑ Enhance operational efficiency with digital tools and process improvement
- ❑ Advocacy of the New Market Model and bypass avoidance





# Final Remarks

Challenges & Opportunities to promote a sustainable Gas Value Chain Growth

## Market Design

- Cooperate to capture the **opportunity to monetize national gas reservoirs**
- **Expedite Infra Legal Agenda** (New Regulation & Network Codes)
- **Coordination of network infrastructure development plans** (transport & distribution) with a national integrated view, ensuring liquidity, security of supply & molecule competition
- **Avoid “island” projects formation:** defend the role of transport network connecting all gas supply sources to create a national trading hub
- Celerity on regulatory process on the **approval of new investments to boost gas market competitiveness & expansion**
- **Harmonization between electrical & gas sectors** sustaining an **integrated view** of Energy sector
- Promote policies to **stimulate natural gas demand growth on strategic sectors** aligned to the energy transition agenda
- **Harmonization of good practices between federal & state levels**

## TAG

- **Promote Access / connection of new players**
- **Operational efficiency: ensure network availability & reliability**
- **Focus on cyber security (IT & OT)**
- **Emissions Reduction**
- **Reinforce the role of Natural Gas on Energy Transition**
- **Prepare infrastructure for green gases (Biomethane, H2 blend)**

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# APPENDIX



# A- Projects Under Implementation: GASFOR II

New pipeline 84km and 20" in Ceará to avoid Fortaleza urbanized area

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**CAPEX**  
~276 MBRL\*

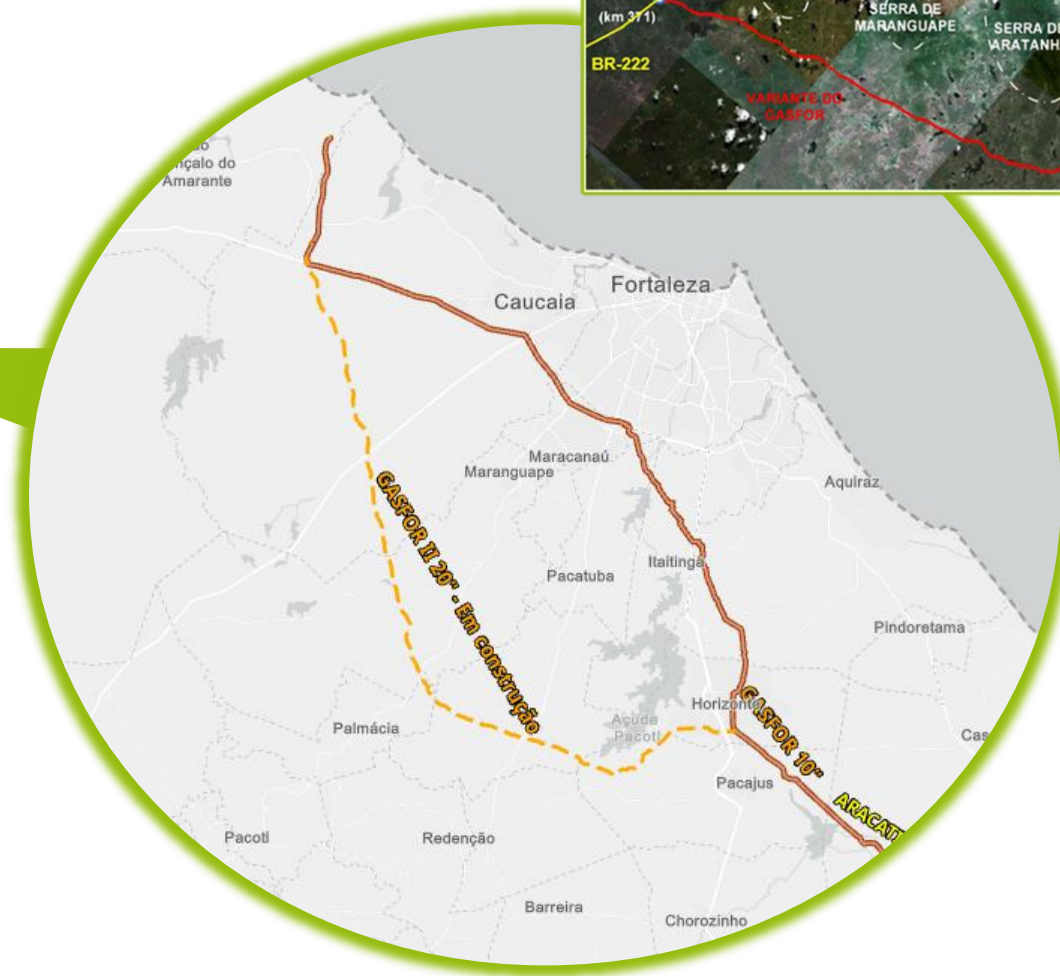
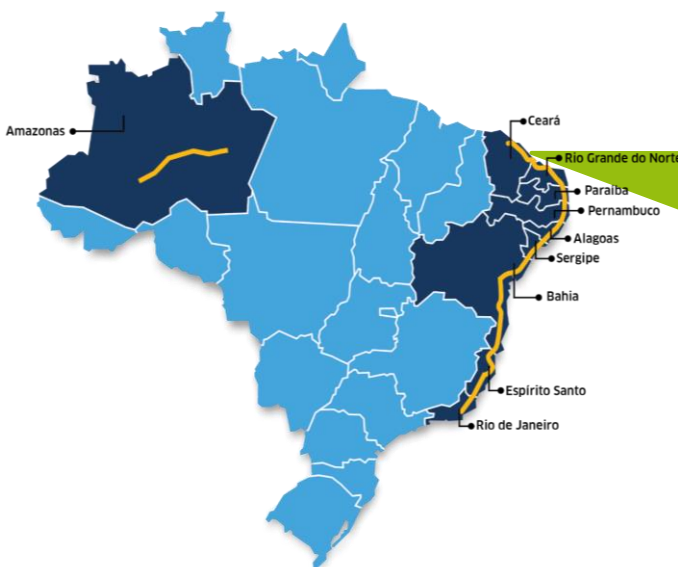


**COD**  
Jul/23



**OVERALL  
PROGRES**  
44%

\*Amount refers to the balance required to resume the project.





# B - Projects Under Implementation: PE/PR SERGIPE

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New Entry & Exit Point with a pipeline 25km and 24" in SERGIPE to connect an LNG terminal & Power plant



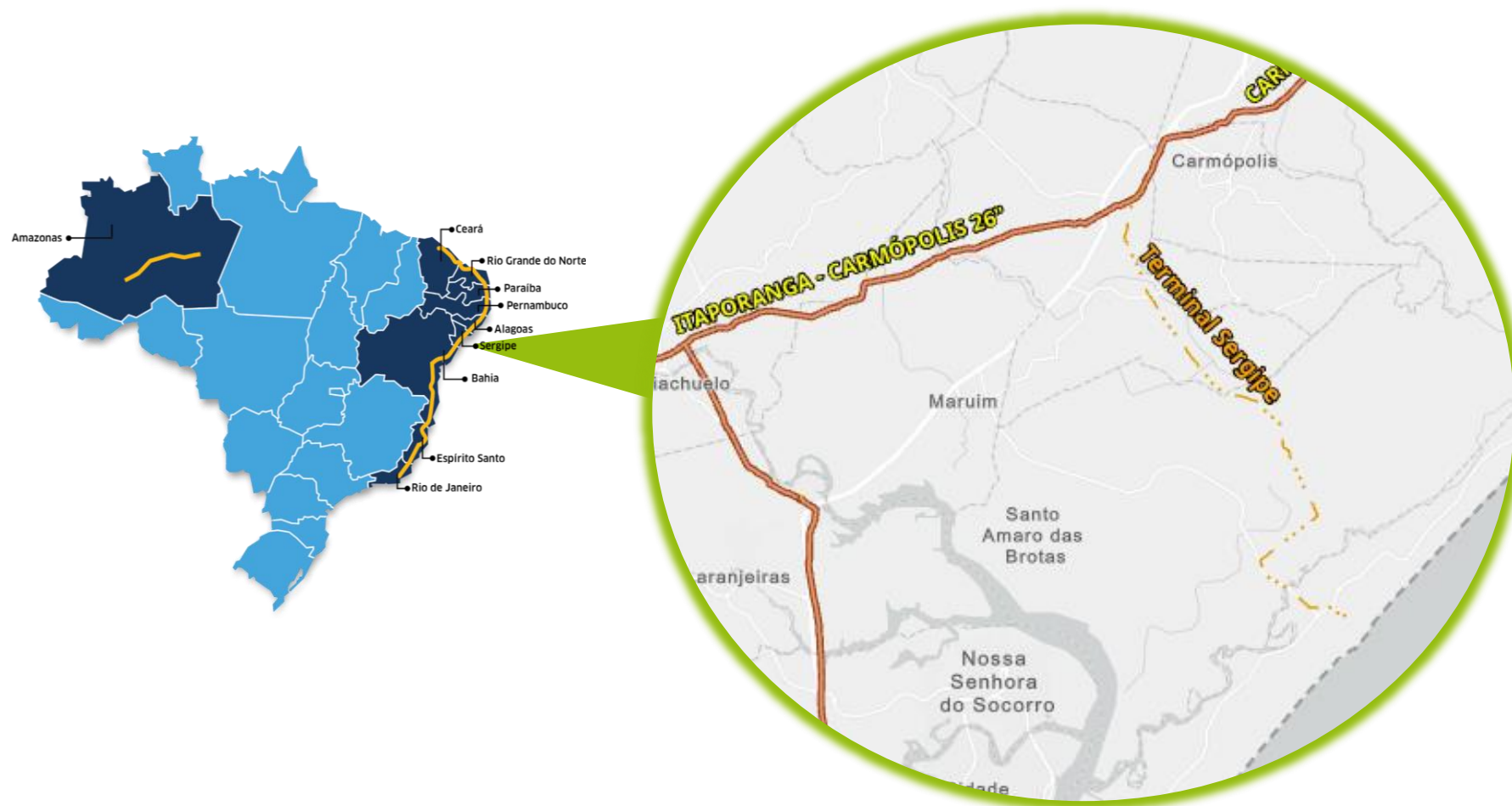
**CAPEX**  
~300 MBRL\*



**COD**  
Apr/24



**OVERALL  
PROGRES**  
23%



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# C - Projects Under Implementation: Itagibá Exit Point

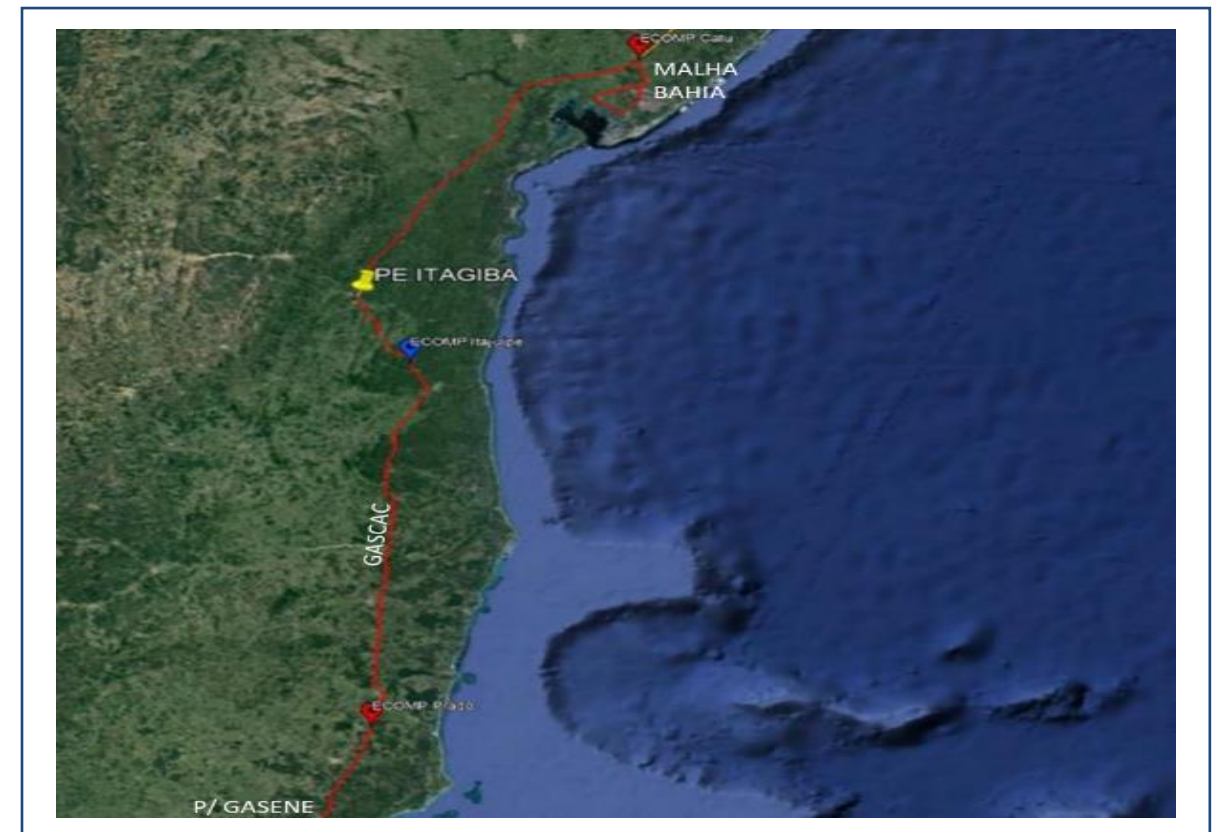
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**Project Description:** build a new exit point to deliver natural gas to LDC Bahiagás with max. capacity of 700.000 m<sup>3</sup>/d. Capex ~23 MBRL.

**Location:** city of Itagibá/BA, at the Gasene Norte pipeline, part of Bahiagás LDC city-gates

**Status:** execution phase - In April TAG signed with Bahiagás a Capex anticipation agreement. The offsite construction/main equipment acquisition already ongoing. Environmental license released in July/22

**Key Dates:** COD: Jul/23





# D - Development Stage: Itajuípe Compression Station

Capacity expansion of TAG's Transport Network in Bahia (BA)

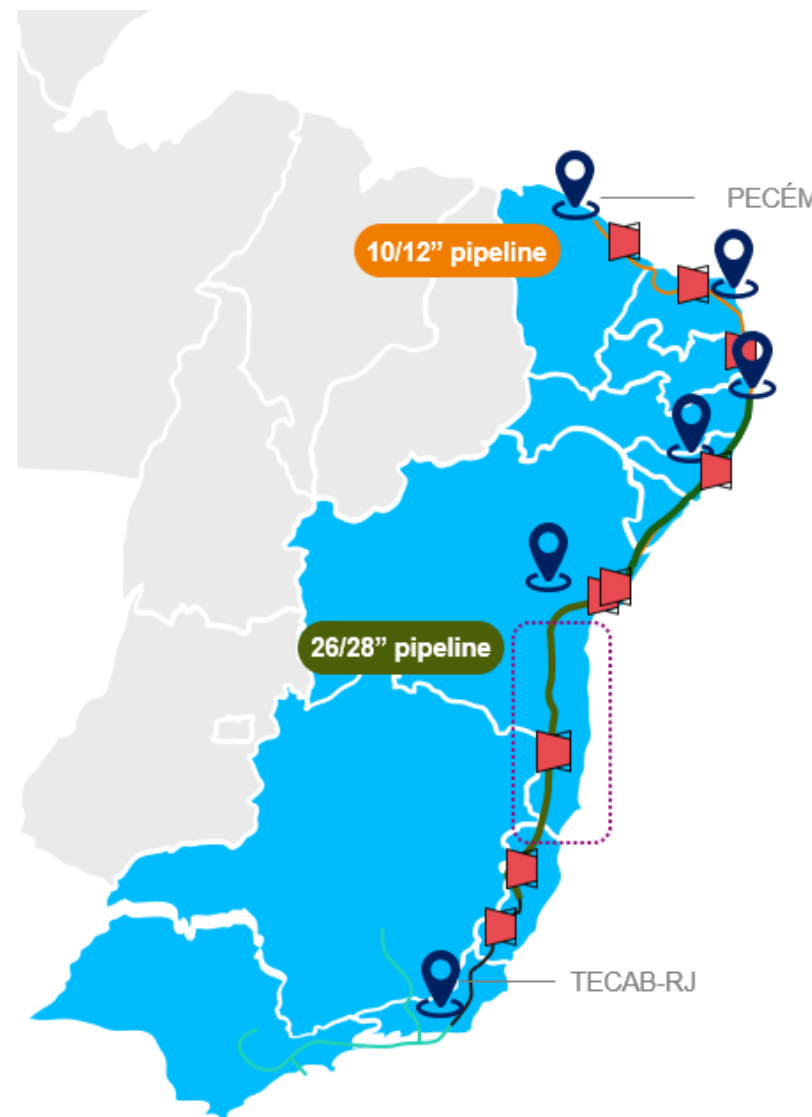
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## Description

- Develop a new compression station on the northern section of GASENE (GASCAC). The project aims to **reduce the existing bottleneck in the GASCAC pipeline**, seeking to maximize the gas transfer to the northeastern network pipeline
- Incremental volume of 3 M m<sup>3</sup>/d

## Status

- Status: **development** – Engineering studies under development
- Design review scheduled for Dec.5th
- Procurement strategy under discussion.
- Discussions with the regulator ongoing – official presentation to take place during Dec.



~420 MBRL  
CAPEX



Dec/2025  
COD



10.4 MBRL  
Development  
Costs



Feb/2023  
Final Investment  
Decision Date

# E - Pre-Development Projects

## Gasfor III Expansion

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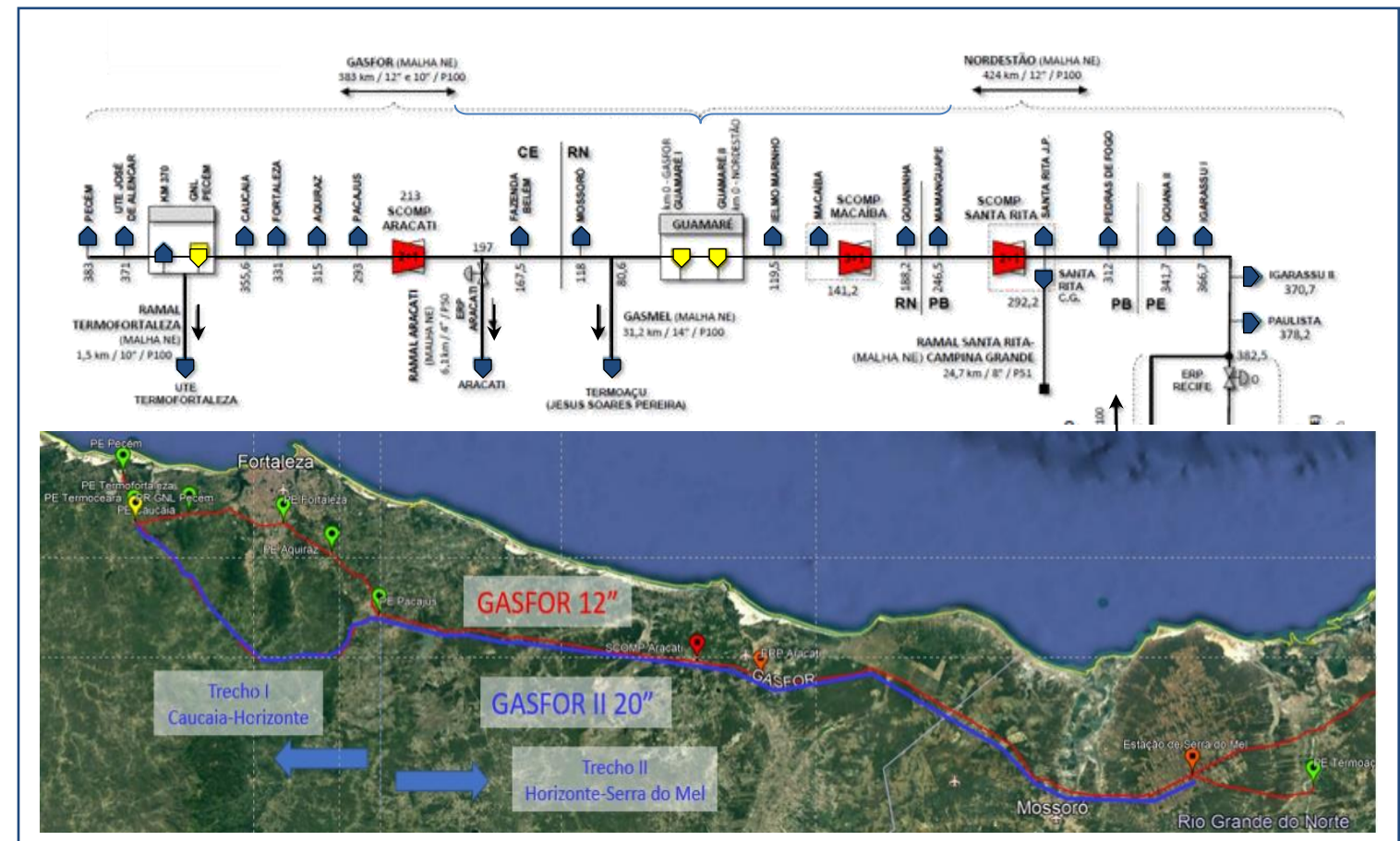
### Description

**Project Description:** Gasfor / Nordesteão is a bottlenecked pipeline with ~1.000 km. Up to 300km of loop can be performed depending on the incremental open season results. Preliminary CAPEX estimative ~3 BBRL (\*)

**Contract Type:** incremental open season

**Location:** Ceará / Rio Grande do Norte

**Status:** demand mapping on going





**GUILHERME FERRARI**

Chief New  
Businesses Officer  
**ENGIE Brasil Energia**

- **Overview 2021-2022**
- **Expansion of the Project Pipeline**
- **Strategy for growth in generation**
- **Development of the energy transmission segment**
- **Challenges for the future**



**MÁRCIO NEVES**

Chief Implementation  
Officer  
**ENGIE Brasil Energia**

- **Health & Safety**
- **Overview 2021-2022**
- **Simultaneous implementation of major projects**
- **Operational performance post-implementation**
- **Challenges for the future**





**JOSÉ LAYDNER**

Chief Operations Officer  
**ENGIE Brasil Energia**

- **Overview 2021-2022**
- **Operating Performance**
  - Paracatu and Floresta Photovoltaic Plants
  - Wind availability improvement
- **Challenges for the future**



