



The following slides were presented as part of the



LIVE e-vents

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EIC LIVE e-vents Decommissioning in Brazil

23 June 2020



Agenda



Clarisse Rocha

Head of Americas,
EIC

- Introduction and moderation

Flávia Silva de Castro

BDM – Brazil, Oil & Gas, DIT

- Opening remarks

Raphael Moura

General Manager for Operational Safety and Environment, ANP

- Overview of the recent changes in the Decommissioning Regulation in Brazil

Nathan Biddle

Director, ABEP/IBP & Brazil Country Manager, Premier Oil

- The views from the Industry

Joel Peito

Head of Business Unit, Método Potencial Engenharia

- Supply chain gaps and opportunities

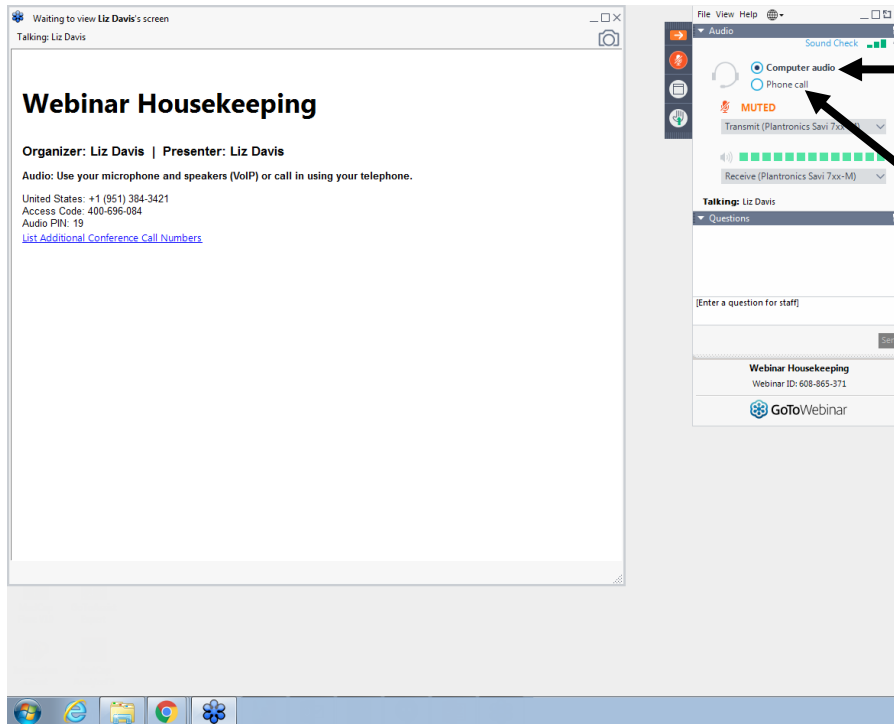


LIVE e-vents



GoToWebinar Housekeeping

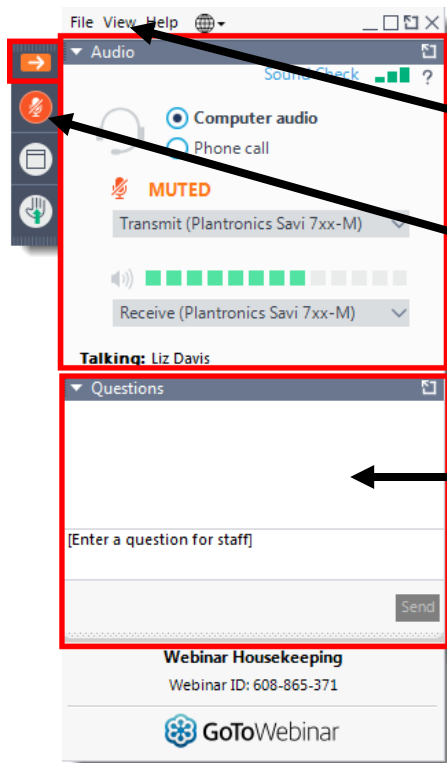
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If you would prefer to join over the phone, just select "Telephone" in the Audio pane and the dial-in information will be displayed

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Your Participation

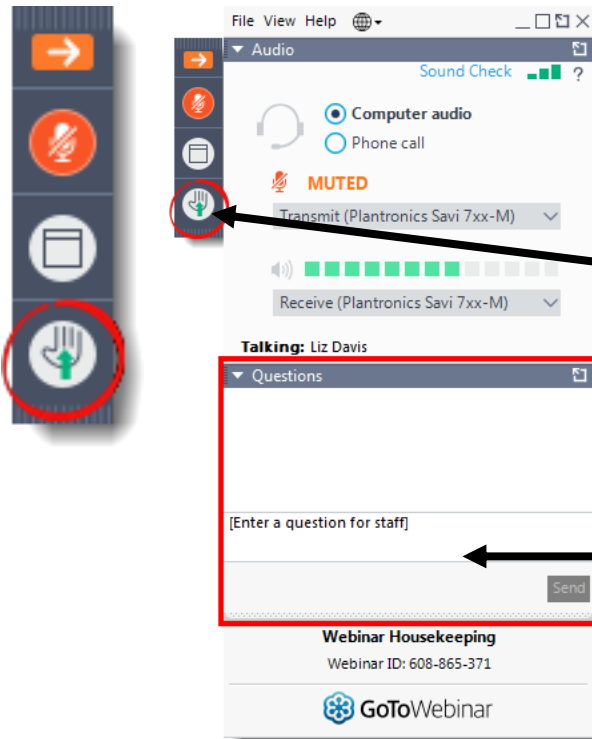
Open and close your control panel -
To keep it open, Attendees can click the “View” menu and uncheck “Auto-hide Control Panel”

Due to the number of attendees on the webinar we have muted everyone, bar speakers

Submit questions and comments via the Questions panel. We will try and answer as many questions as possible.

Note: Today’s presentation is being recorded and the slides will be provided within 48 hours

GoToWebinar Housekeeping



Your Participation

- Please continue to submit your text questions and comments using the Questions panel
- Please raise your hand by clicking here
- We will have a series of poll questions. Please select your appropriate response and click Submit
- If attendees need support, please ask here

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E-Networking



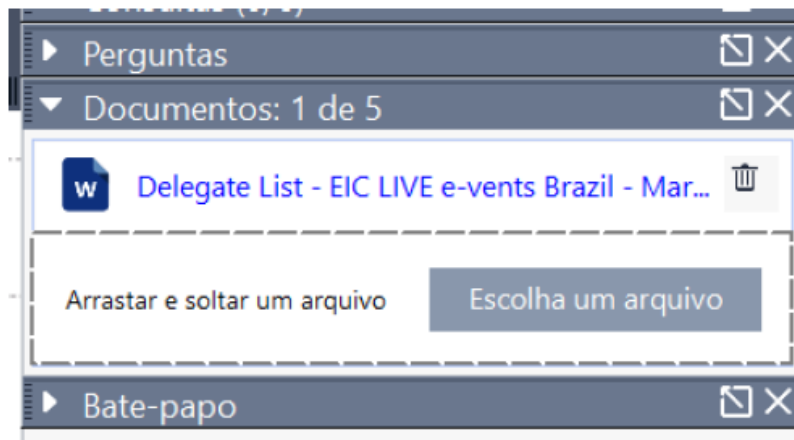
Further opportunities

The EIC aim to help you connect with new and existing business contacts.

Through our series of EIC LIVE e-vents the EIC are introducing an e-Networking Service to our webinars. This will allow delegates to be introduced to other delegates via an e-introduction service facilitated by EIC staff.

Note: In the handouts section will find the delegate list, if there is anyone listed that you would like to be introduced to, please email us at:

Rio@the-eic.com



Training Workshops & Events



LIVE e-events

Upcoming events:

- 01 July – South America EICDataStream & EICAssetMap Training
- 09 July – Opportunities with Radix (TBC)
- 16 July – South America EICDataStream & EICAssetMap Training
- 23 July – Opportunities with Saipem



Thank You

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DIT Brazil Energy Team

Flavia Silva de Castro
BDM Oil & Gas

DIT / EIC Webinar
Decommissioning in Brazil
23 June 2020



Department for
International Trade

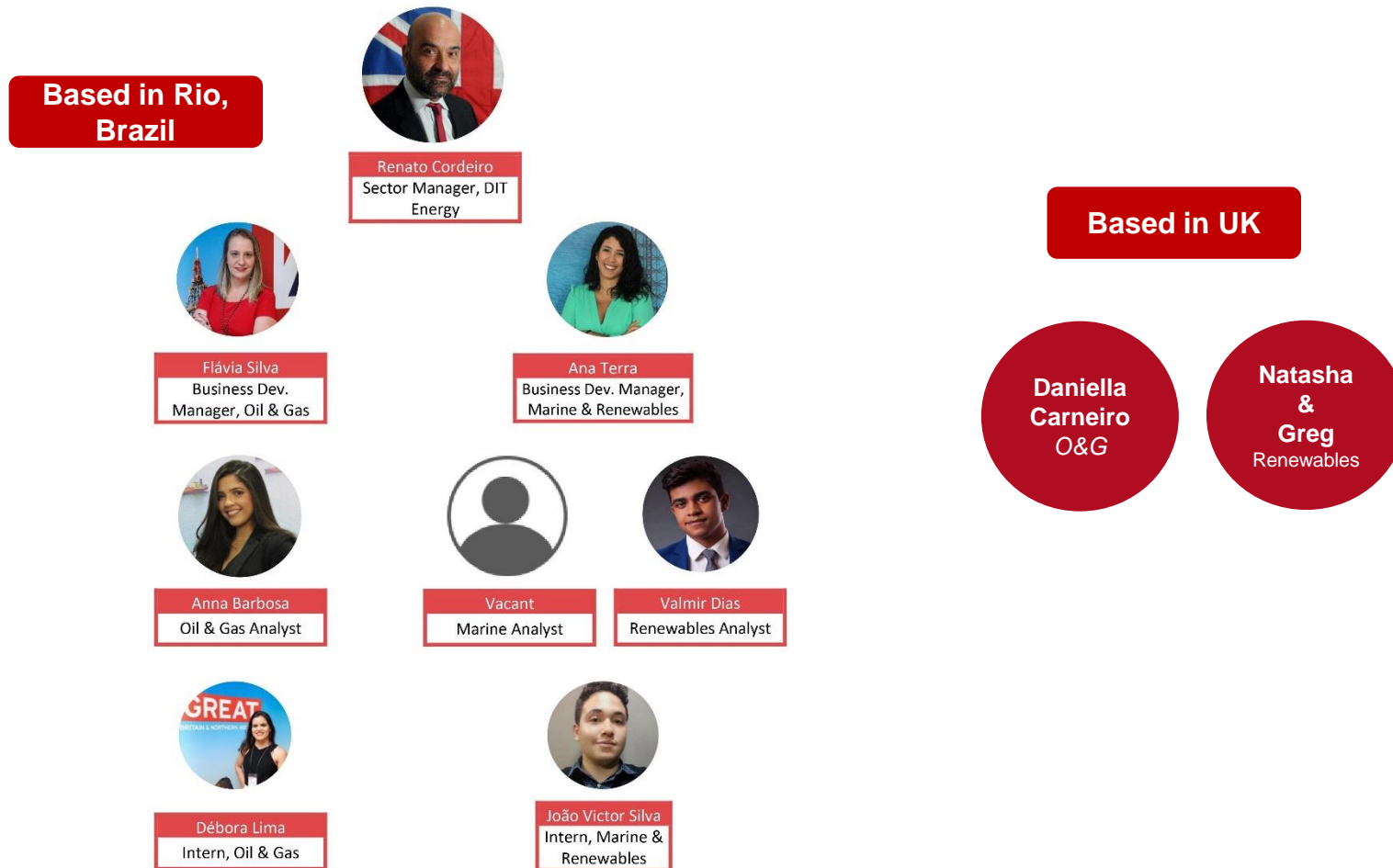




Who we are

The Department for International Trade (DIT) helps UK businesses export and grow into global markets. We also help overseas companies locate and grow in the UK. We are present in over 100 countries throughout the world.

DIT Brazil Energy Team



What we do

- **Help businesses sell overseas** – contact a [Trade Adviser](#) in your area
- **Assist with [Export Finance](#)**
- **Foster business and partnership opportunities**
- **Improve market access**
- **Provide Government-to-Government collaboration**

How we can help you in Brazil *

- country and sector advice
- local market research
- assistance during a market visit
- identification of possible business partners
- preparation for exhibitions and events
- access to activities such as market visit opportunities/Trade Missions, meet-the-buyer events and networking receptions.

*Depending on the level of assistance required it may consist on a chargeable service

Upcoming Activities

- **Webinar – UK Energy Opportunities in the Americas**
 - 25th June 2020 - MS Teams
 - Energy specialists from the DIT LATAC will present opportunities in **Brazil, Colombia, Guyana, Mexico, Trinidad & Tobago and Venezuela**. **Eurasia Group** and **Aggreko** will present an overview of the socio economic panorama in Latin America and the Caribbean and share energy solutions respectively.
 - Registration: email to debora.lima@mobile.trade.gov.uk by 24th June

- **Webinar – Brazil Subsea Industry Overview and future Opportunities**
 - 2nd July 2020 – MS Teams
 - Event organised by Subsea UK
 - Registration: <https://www.subseauk.com/11291/dit-webinar-brazil-subsea-industry-overview-and-future-opportunities>



Department for
International Trade

Thank You!

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Mobile: +55 21 99765 8954



Decommissioning in Brazil

An Overview

Raphael Moura, Ph.D.

General Manager for Operational Safety and Environment

Webinar,
23 June 2020



anp
Agência Nacional
do Petróleo,
Gás Natural e Biocombustíveis



Brazil at a Glance

The Importance of the Oil and Gas Industry



~1.8 USD
Trillion

GDP (2019)

11 % Oil and Gas Industry



9th

Largest Oil Producer
Largest in Latin America



7th

Largest Oil Products
Consumer

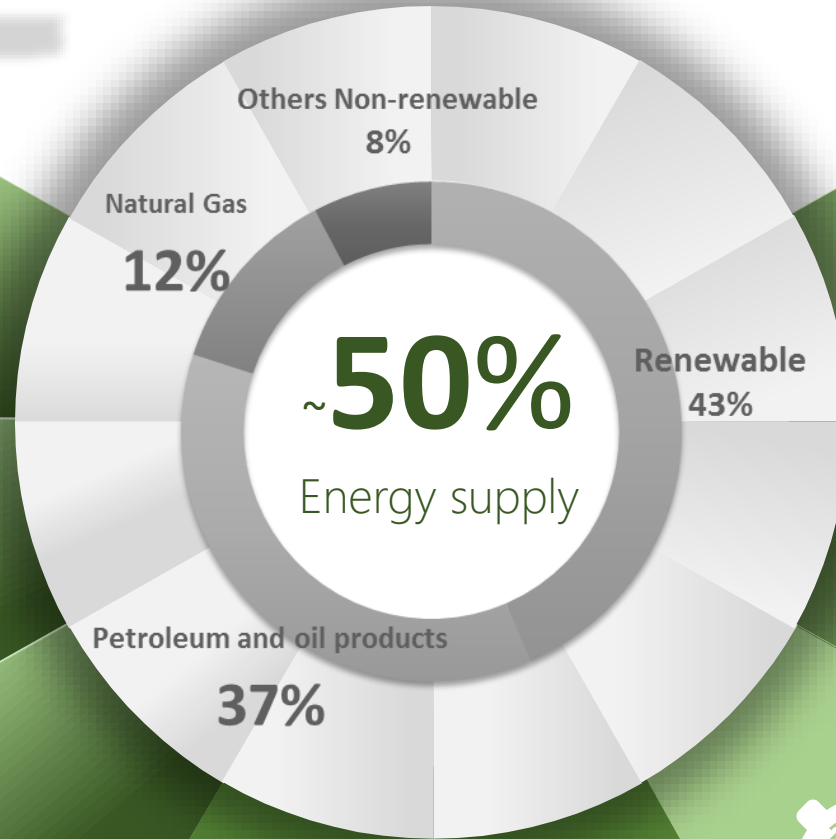


7th

Largest FDI Destination

9th

Largest Economy \$



~ 212

million

Population (2020)

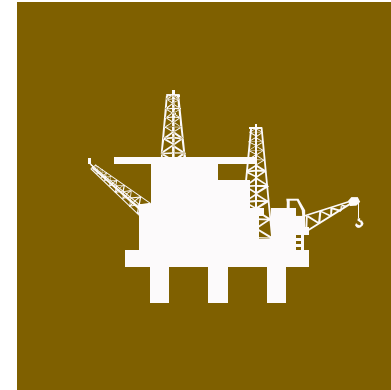


E&P Strategic Initiatives



**Accelerate the Pre-Salt
development**

Pre-Salt



**Improve Recovery Factor in
Mature Fields & Advance to
New Frontiers
(*transfer of rights*)**

***Conventional
Offshore***



**Attract suitable Players to
compatible E&P environments**

Offshore/Onshore

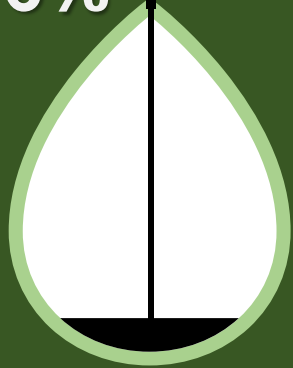


**Revitalize Onshore
Exploration and Production
(*transfer of rights &
permanent offer*)**

REATE

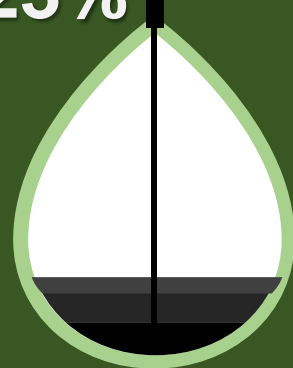
Life Extension & Decom: Maximizing the Recovery Factor

16%



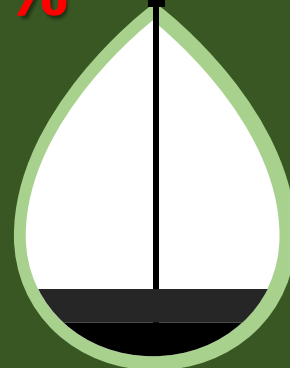
Campos Basin
Current O&G Recovery
Factor

23%



Campos Basin
Final O&G Recovery
Factor

21%



Brazil
Final O&G Recovery
Factor

35%



World
Average Final O&G
Recovery Factor

1% addition in
Campos Basin:

985Mboe

New Reserves

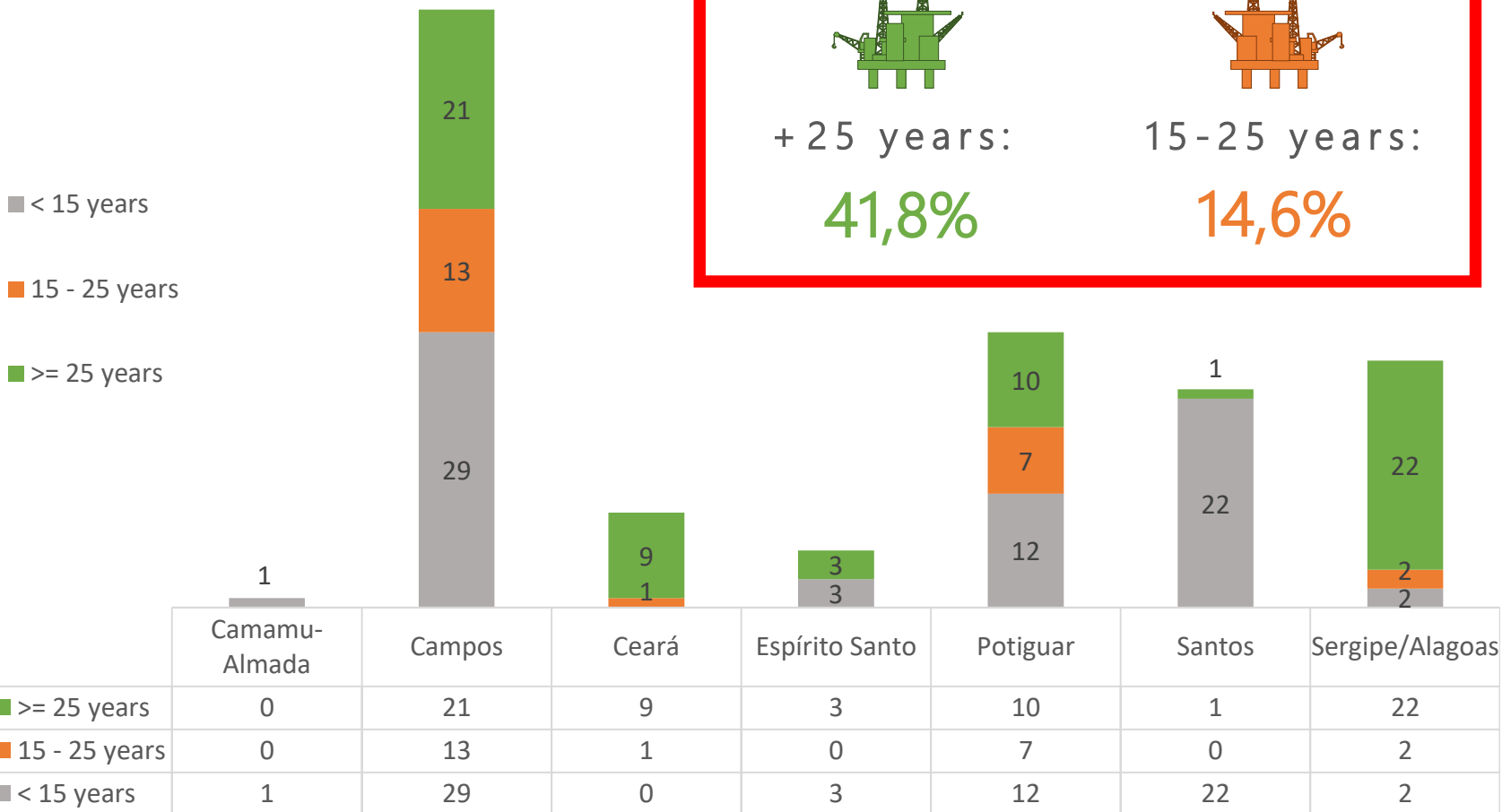
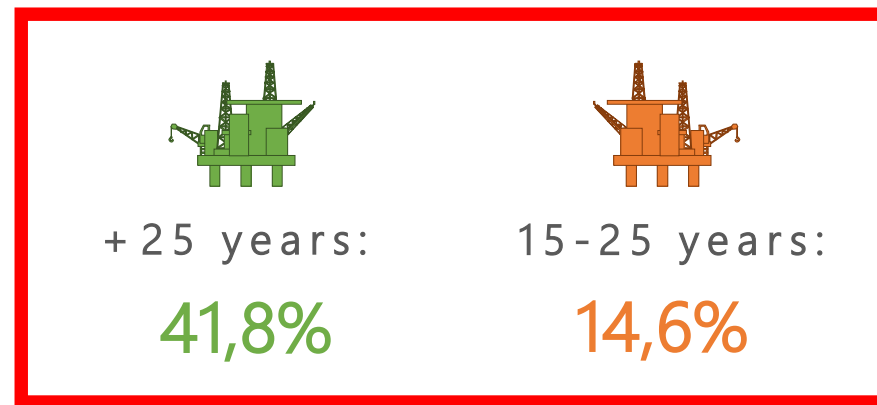
1% addition in
Onshore:

200Mboe

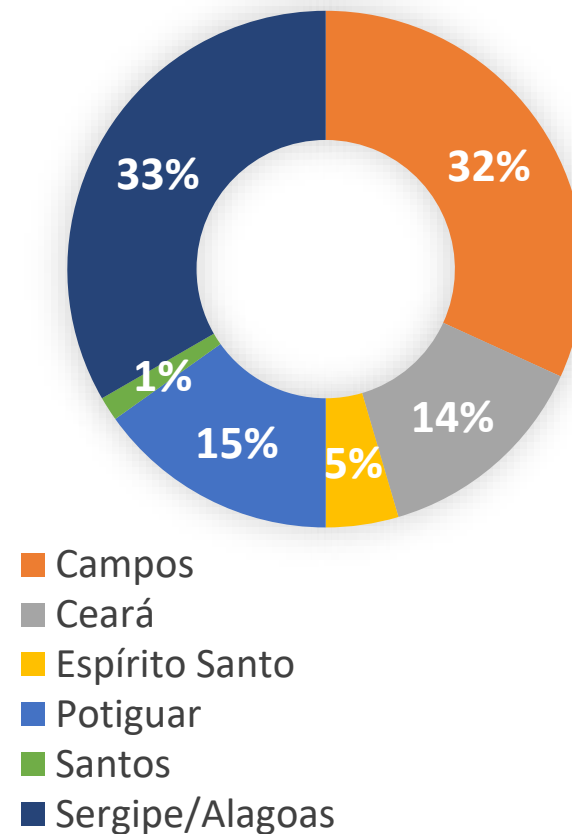
New Reserves

Decommissioning Outlook

Many ageing facilities in Brazil...



25+ years old installations x Basin



Decommissioning Outlook





20 approved PDIs - Offshore

Field	Main installations	Basin
Voador	P-27	Campos
Carapiá	Poços	Santos
Roncador	FPSO Brasil	Campos
Marlim Sul	FPSO Marlim Sul	Campos
Bauna Sul	Poços	Santos
Tubarão Azul	FPSO OSX-1	Campos
Pirapitanga	Poços	Santos
Mexilhão	Poços	Santos
Caçã	PCA-01, PCA-02, PCA-03	Espírito Santo
Guaiúba	Poços	Potiguar
Tambuata	Poços	Santos
Salema Branca	Poços	Potiguar
Tartaruga Verde	FPSO Cidade de Rio das Ostras	Campos
Piranema	FPSO Piranema Spirit	Sergipe-Alagoas
Guajá	Poços	Potiguar
Linguado	P-12	Campos
Camarão Norte	Poços	Camamu
Espadarte	FPSO Cidade do Rio de Janeiro; FPSO Espadarte	Campos
Piraúna	P-15	Campos

96 Expected PDIs (2020 – 2030)



Investment forecast* (2020 – 2024)

 Well P&A	US\$ 3,259,562.00
 Equipment withdrawal	US\$ 1,742,150.00
 Area Recovery	US\$ 99,428.00
 Others	US\$ 113,412.00

* US\$ 1 = R\$ 5

Total: US\$ 5.2 Billion



Decommissioning Programme – A single PDI



Documents Standardisation

Predictability and Stability of Rules

Process Celerity

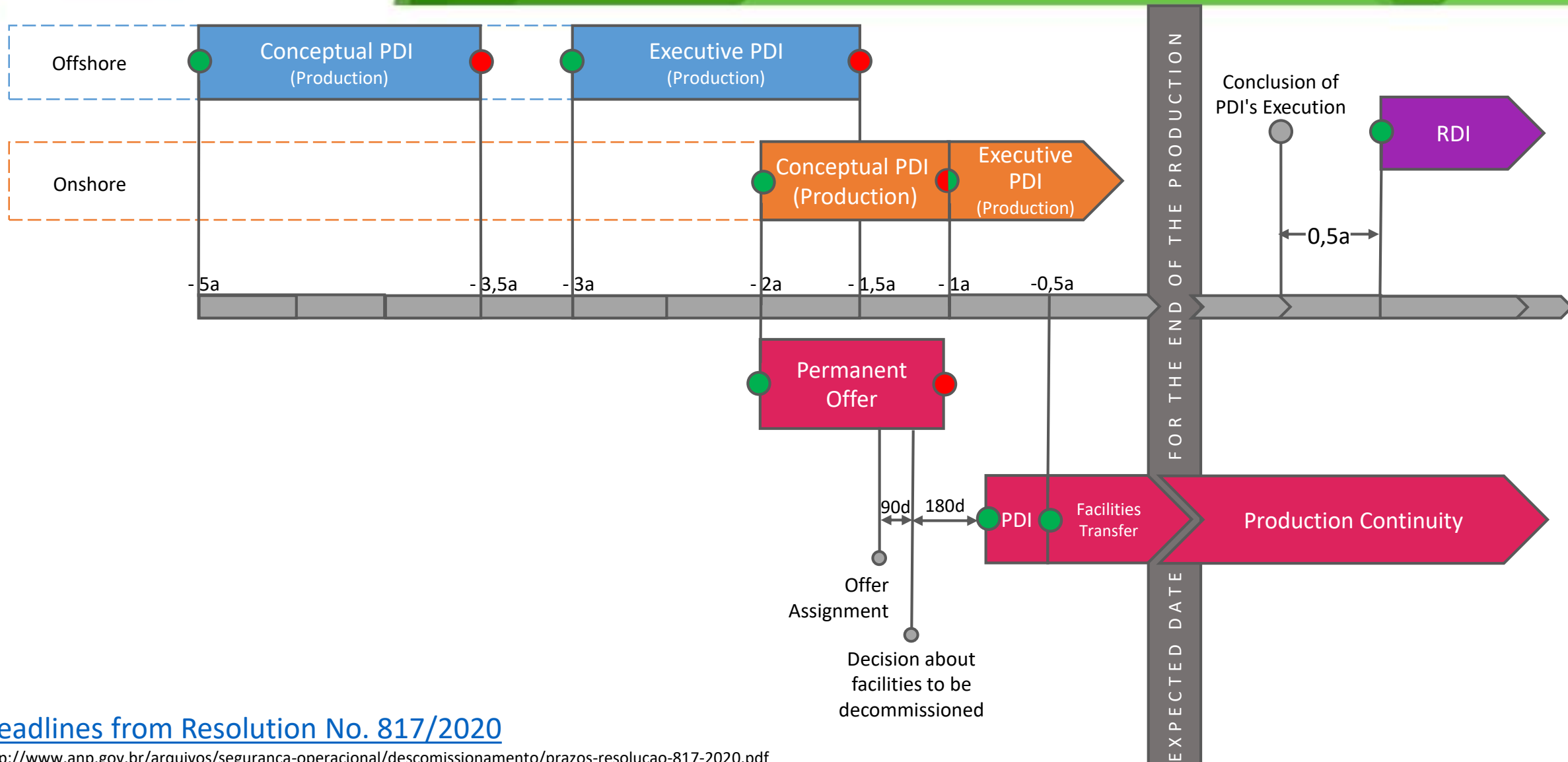
Main Features

ANP Resolution 817/2020

- ❖ **Decommissioning Justification Study:** feasibility & economic viability;
- ❖ Present the **comparative assessment** of decommissioning options: **technical, environmental, societal, economic and safety**;
- ❖ **Transparency**;
- ❖ **Transfer of Rights: agreement** (*with the ANP consent*) between former and new licensee;
- ❖ **Permanent Offer** (onshore): operations transfer: review or execution of the Decom plan;
- ❖ **Corporate Social Responsibility Management System**;
- ❖ Information regarding the **marine aids to navigation** project (*for the Maritime Authority*)
- ❖ **Post-decommissioning monitoring plan** (*for the environmental regulator - IBAMA*)

Deadlines

ANP Resolution 817/2020



Regulation

- 3 technical rules condensed in 1
- Transparency
- Standardised PDIs and RDIs
- Transfer of Rights
- Permanent Offer
- Comparative Assessment
- Post-Decommissioning Monitoring

***Many
opportunities
to create
value!***

Technology

- Life extension
- Structural Reliability
- Environmental Monitoring
- Cutting Tools
- RD&I

Logistics and Infrastructure

- Vessels (PSVs, Heavy Lifts etc)
- Waste management
- NORM detection and management
- Shipyards and ports

National Agency for Petroleum, Natural Gas and Biofuels

Superintendence of Operational Safety and Environment

Av. Rio Branco, 65, 18th floor - Rio de Janeiro, Brazil
+55 (21) 2112-8100

General Information:

<http://www.anp.gov.br/wwwanp/exploracao-e-producao-de-oleo-e-gas/seguranca-operacional-e-meio-ambiente>

About Decommissioning:

<http://www.anp.gov.br/exploracao-e-producao-de-oleo-e-gas/seguranca-operacional-e-meio-ambiente/descomissionamento-de-instalacoes>



anp
Agência Nacional
do Petróleo,
Gás Natural e Biocombustíveis

Decommissioning in Brazil – Res. 817

The Industries View &
Path Forward
June 23rd, 2020



Agenda

Decommissioning

- **Why is decom a critical factor for all offshore players**
- **Where Brazil was**
- **Where Brazil is**
- **Where we must focus now to improve**



Decom – A Critical Factor for All Players

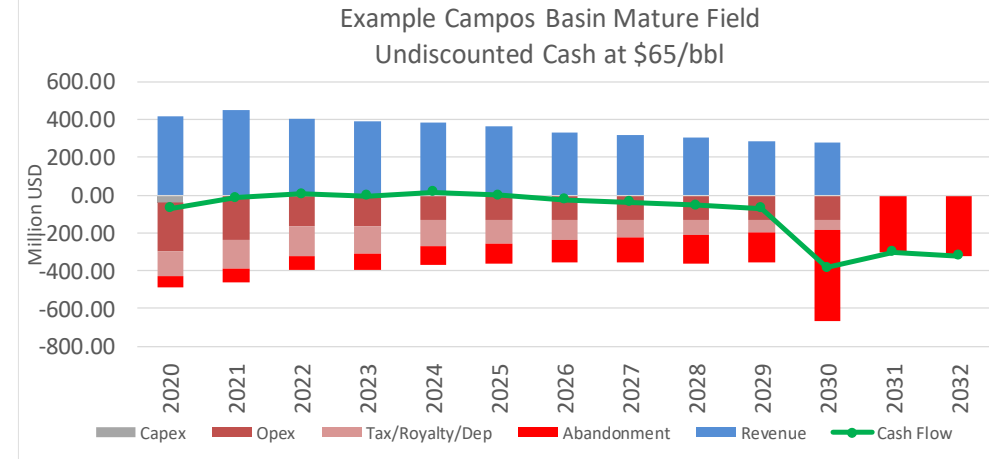
Buyer

- Ability to forecast ABEX
- Understanding of ABEX guarantee structure and impacts on future cash flows.
- Regulator authorization to extend life of field infrastructure and concession contract
- Assurance that Regulator will accept conceptual plans for decom of field

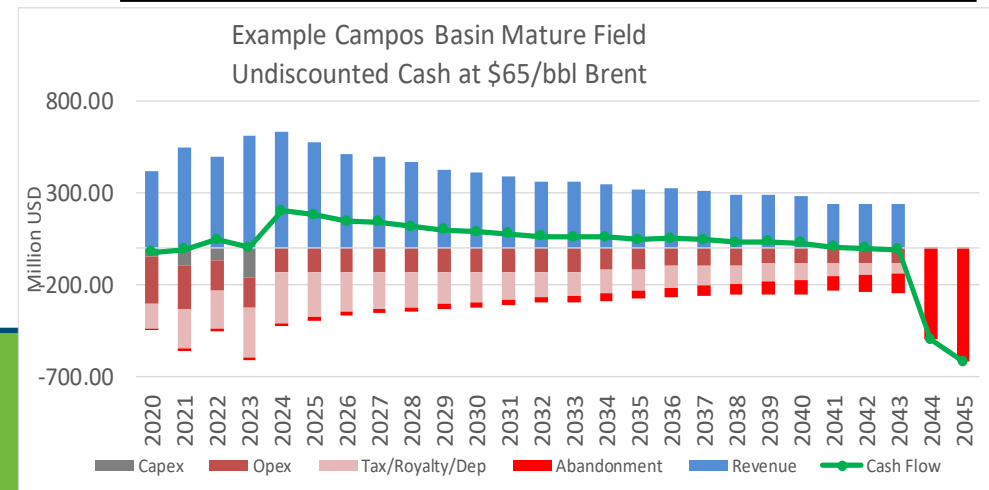
Seller

- Regulatory justification of ABEX estimates in sales process.
- Firm figures for potential negotiation of funding of portion of Decom.
- Increased assurance in future costs decreases risk and increases offer price for assets.
- Ability to weigh risks and cost of decom vs potential value obtained through sales process negotiations.

No Production Increase – Field Life Not Extended



With Production Increase – Field Life Extended



Decom – What the Industry Needs

Previsibility

- The “Rules of the Game” must be known and clear
- Numerous Government regulators need alignment in what will be required
- Consistent implementation across projects and administration changes

Viability

- Local Regulations must be aligned with global industry standards.
- Approvals and analysis must be risk based and not ideological.
- Government must support an open and competitive services market for competitive pricing.
- Cost prohibitive requirements will harm competitiveness of country.

Flexibility

- The industry and market conditions are dynamic; time and options must be available to adjust plans as needed.
- Timelines and responses from regulators should not impede key project decision points.
- Regulations must take into account the distinct nature of each project, while also driving standardization for cost reductions.

Two Critical Components –

- Technical - What is required to be removed and how.
- Financial - How must ABEX be accounted for and funded

Where Brazil Was

Technical Regulations

- No Unified Technical regulations.
- Numerous go-by documents, many non-specific to decom.
- Uncertainty on technical basis for many requirements or acceptance of risk based reviews.
- Various agencies for reviewing and approving decom plans

Financial Regulations

- Financial guarantees not in place or enforced for any offshore fields
- Near monopoly of offshore oil production and facilities by state oil company, limited exposure for government.
- No regulatory framework for calculation or accepted financial instruments for guarantees.

Service Availability

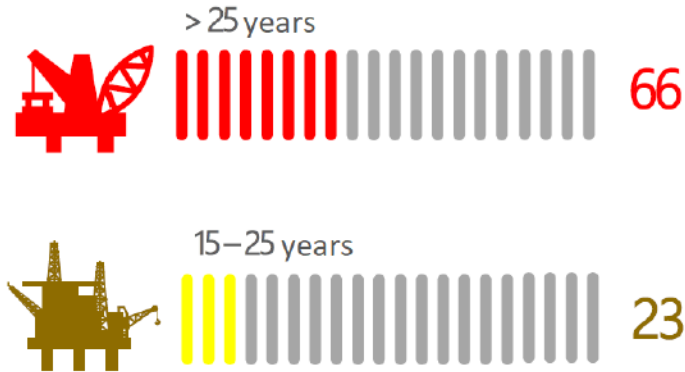
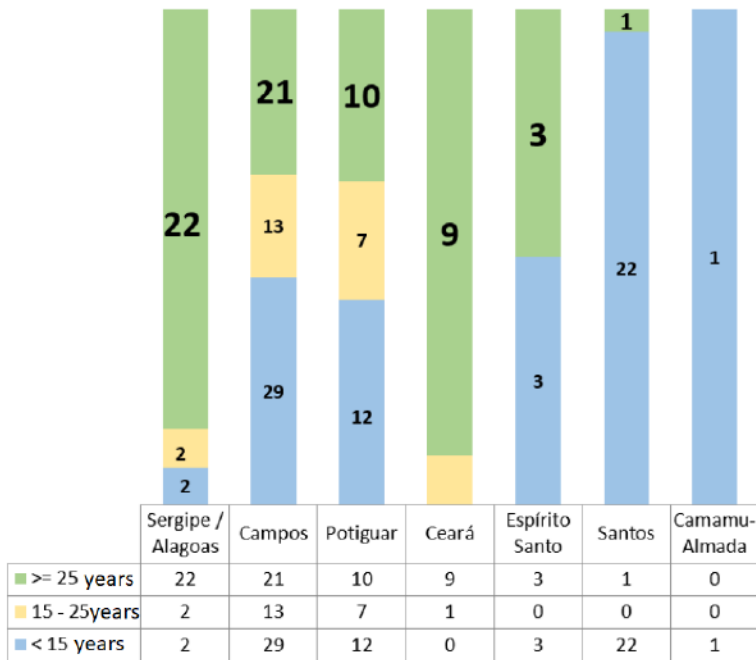
- Limited service providers available in country.
- Strong support among government administration for increasing Local Content rules.
- Major providers all in and aware of Brazil market, but with limited equipment/personnel.
- Only work for NOC and more complex bidding and approval process, no room for global agreements.

Experience in Country

- No decommissioning ever implemented in Brazil.
- Limited offshore operators and decom not yet being considered.

CURRENT SCENARIO - DECOMMISSIONING

Production Units - Years in Operation



160 Production Units

Source: Adapted from ANP

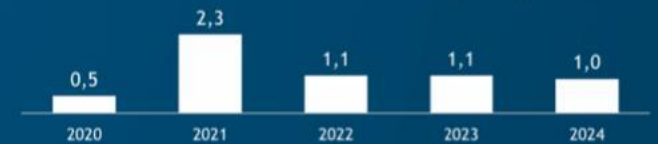
Descomissionamento dos sistemas offshore do E&P

PETROBRAS
DAY 29

US\$ 6 bilhões

É o custo estimado dos projetos de descomissionamento em andamento: 18 plataformas & dutos submarinos e poços offshore

Custos de descomissionamento planejados



	2020	2021	2022	2023	2024
07	P-12 P-07	P-33 P-26	FPSO Capixaba	Oeste de Ubarana	P-18 P-19
06	P-15	P-32			P-20
05	Cação 1 2 3 FPSO Piranema	P-37			P-35 Biquara

Where Brazil is - ~3 Years ANP-IBP Collaboration

Technical Regulations

- Resolution 817 has unified a number of technical issues under one document.
- More clarity now available on what regulatory standards must be met.
- Other standards and regulators still remain involved in approval process and uncertain how this will work in practice.

Financial Regulations

- New regulation now drafted in conjunction with the industry and currently on ANP website for review and comments.
- Details on how what will be accepted still under review.
- ANP resolution brings significant clarity on what value will need to be guaranteed and how to calculate.

Service Availability

- Current administration support and open market and no foreseen increase in Local Content requirements for decom activities.
- Global service providers have greater Market with more players to begin working on longer term projects.
- More assets owned by IOCs allowing for simpler contracting methods and options.
- Petrobras beginning to contract for more decom projects.

Experience in Country

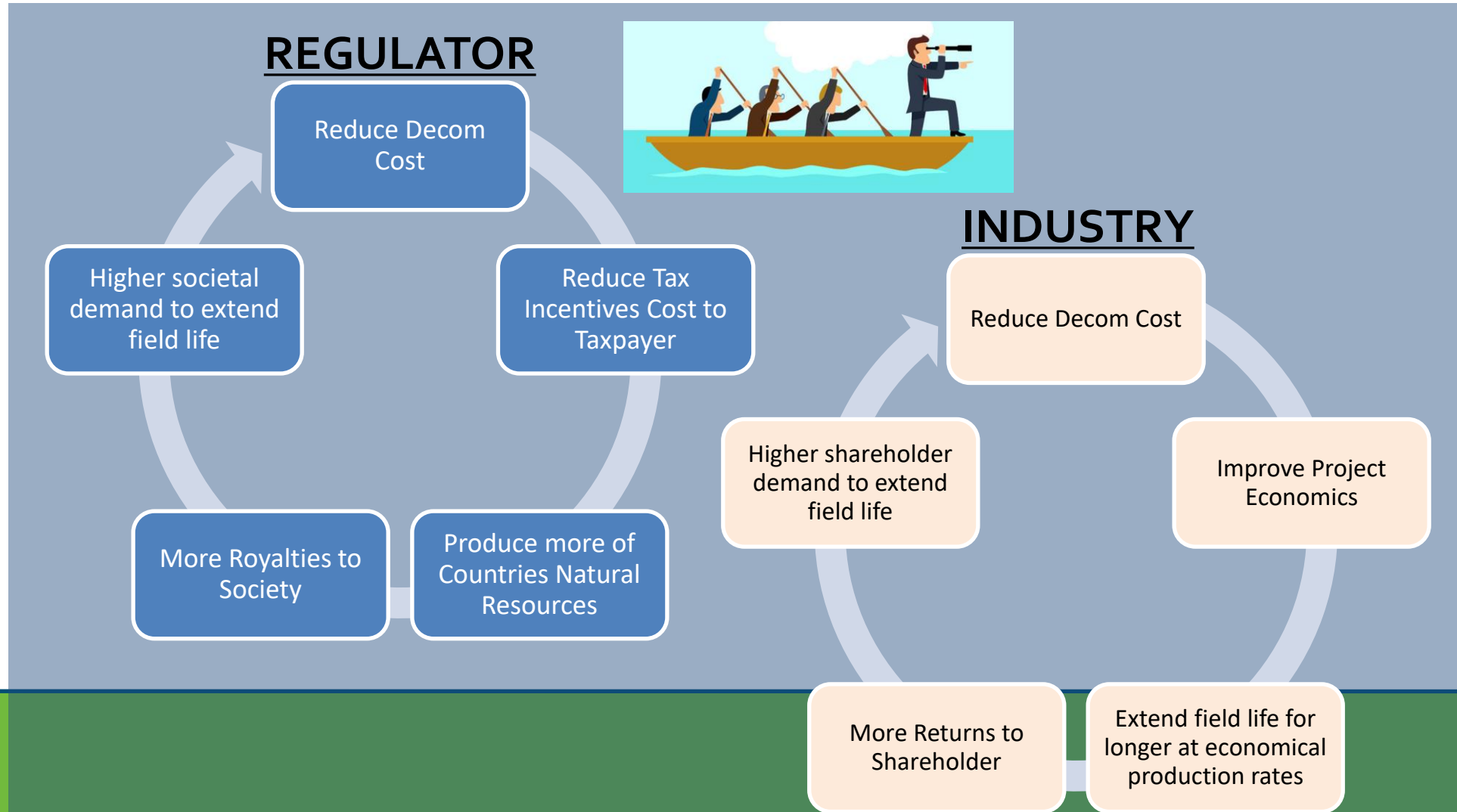
- Limited experience with Decom in country, but operations now underway.
- More diverse set of operators with future decom activities and new ideas.
- In past year with PBR Divestments, number of offshore operators has increased by ~35%

Decom – Res 817 – Potential points for progress

Review all you want, one will only truly know if the regulation is constructive after it has been implemented.

- **APPROVALS** - Clarity on how the approval process and collaboration among Government Agencies will function
 - Will IBAMA, ANP and Navy all be able to review and approve through one submission.
 - What other regulators will become involved in revisions?
- **INCREMENTAL PROJECT APPROVAL** – Critical that a staged approval process is made available to ensure that decom projects are not delayed and synergies between multiple projects can be scheduled. i.e removal of FPSO, removal of certain lines, etc.
- **WELL ABANDONMENT** - Approval process for well abandonment should be clearly governed by SGIP standards and not within Decom scope for approval.
- **BASE CASE REMOVAL** - The “Base Case” wording for removal of all infrastructure and only as “exception” can it be left in place may create legal risks for Government technical reviewers to approve risk weighted “exceptions”.
 - How will these exceptions be handled and how can the industry assist in providing expertise for review.
- **TIMELINES** - The implementation of timelines within resolution may be difficult to adhere to in some cases and will need to be discussed on case-by-case basis for delivery or alteration of documents. Critical for service providers planning.
- **REVERSÃO DE BENS** - The removal of government licensing of offshore fields prior to decommissioning is positive for industry and in line with international standards, it must be assured that this interpretation remains with changes in ANP leadership.

Decom – Where to Improve – Industry and Regulatory Incentive Alignment



Implement Decom Safely and Minimize Environmental Impact

Decom – Where to Improve – UK Vision & Learnings

How can we all be winners?



What drives value?

Operator

- Certainty on cost and timing
- Liability/obligation fulfilled
- Low risk

Supply Chain

- Predictability on work

UK Plc

- Reduced risk to government and obligations fulfilled
- Lowest possible cost to taxpayer
- Capability developed to support lowest cost and export potential

Decom – Where to Improve – UK Vision & Learnings

How can we all be winners?



What drives value?

Operator

- Certainty on cost and timing
- Liability/obligation fulfilled
- Low risk

Supply Chain

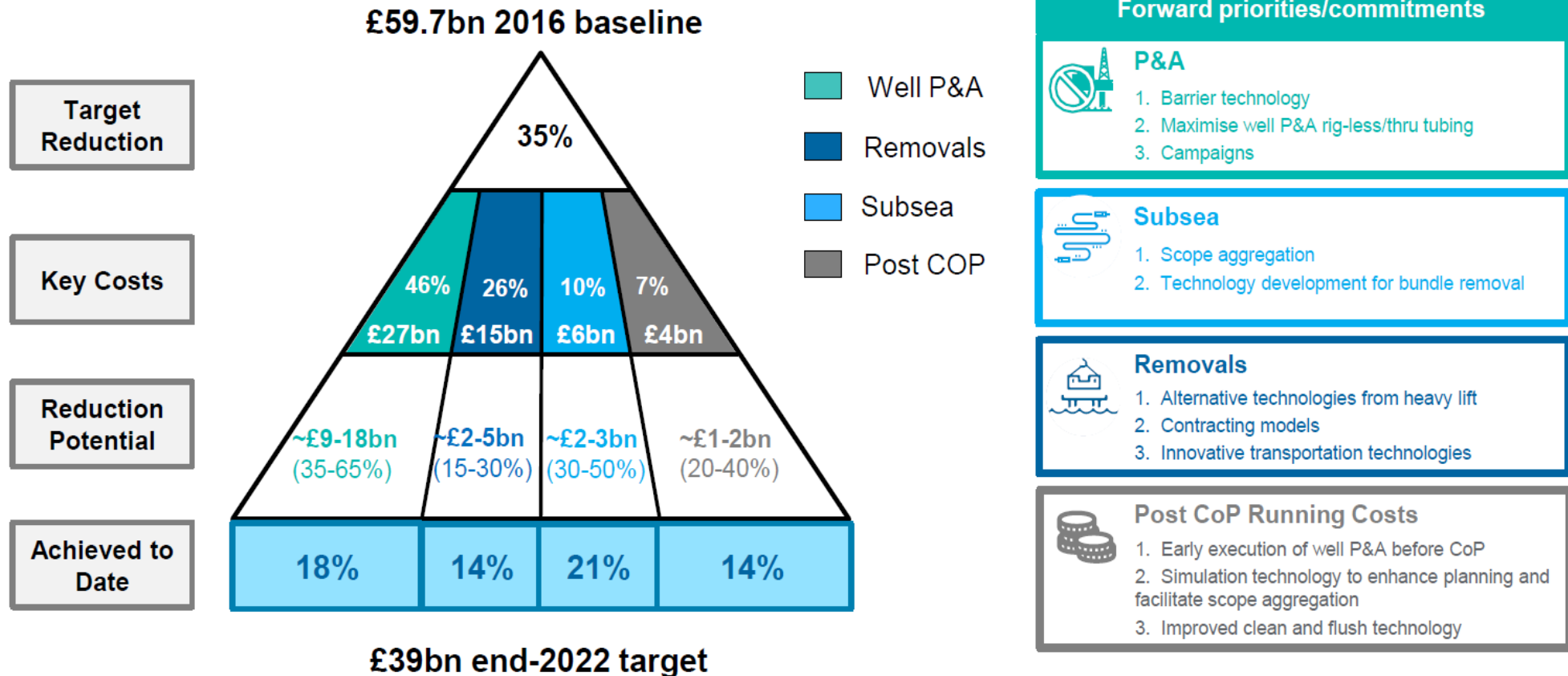
- Predictability on work

UK Plc

- Reduced risk to government and obligations fulfilled
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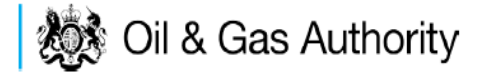
Decom – Where to Improve – UK Vision & Learnings

Decommissioning cost reduction target



Technology, scope aggregation & campaigning are key focus areas

Decom – Where to Improve – UK Vision & Learnings

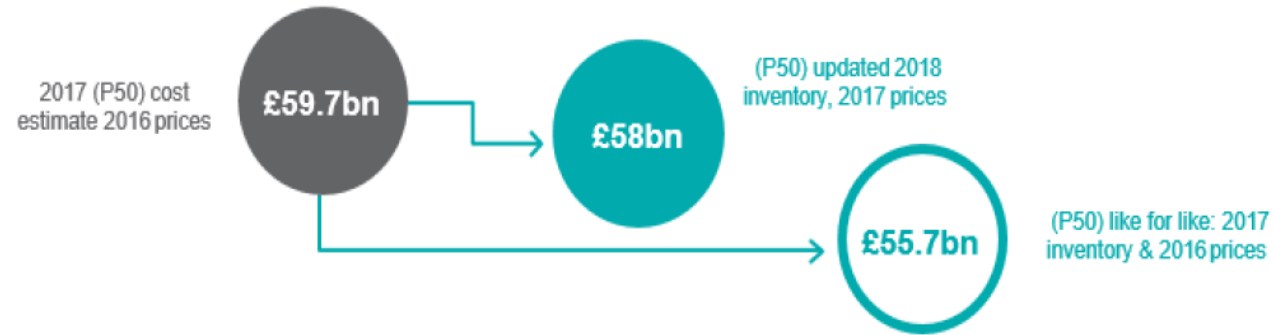


Reducing decom costs

On track for major cost reductions

Opportunities for innovation, cost reduction & development of UK skills and capability

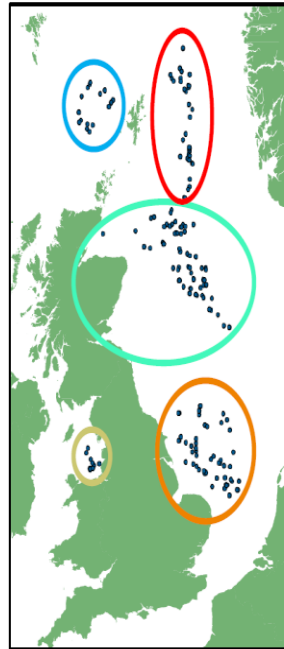
Potential to deliver competitive market advantage to UK on global stage



Decom – Where to Improve – UK Vision & Learnings

Campaigns

- Campaigns under review
 - Suspended E&A well portfolio (>200 wells)
 - East of Shetland Area Plan (>10 large platforms, ~500 wells)
- All WBS categories and geographic areas to be followed-up
- Critical for Supply Chain & Operators to align to deliver campaign benefits



UKCS Suspended E&A Well campaign opportunities

Abandonment Complexity Category	Total well number
0	1
1	5
2	1
3	8
4	0
Blank/Null Response	2

Abandonment Complexity Category	Total well number
0	0
1	28
2	3
3	31
4	12
Blank/Null Response	1

Abandonment Complexity Category	Total well number
0	1
1	2
2	0
3	7
4	3
Blank/Null Response	0

Abandonment Complexity Category	Total well number
0	1
1	17
2	1
3	12
4	9
Blank/Null Response	1

Abandonment Complexity Category	Total well number
0	2
1	21
2	6
3	15
4	4
Blank/Null Response	12

- 206 Suspended E&A Wells
- 5 Campaign opportunities identified, by area
- **Average suspension 24 years**

Decom – Efficient end of life brings new beginnings!

Active M&A market

OIL & GAS / NORTH SEA

RockRose completes acquisition of Marathon Oil's UK business

by Allister Thomas

02/07/2019, 7:31 am



OIL & GAS / NORTH SEA

Updated: Chrysaor to buy ConocoPhillips' North Sea assets in £2bn deal

by Allister Thomas

18/04/2019, 1:09 p



Total closes Maersk Oil deal

French oil company Total announced the Maersk Oil acquisition on August 21, 2017.

Total CEO Patrick Pouyanné announced earlier this week during CERAWEEK conference that the acquisition would be completed on Thursday.

The acquisition brings to Total around 1 billion barrels of oil equivalent of 2P/2C reserves and resources, mainly in the OECD countries, and a production of about 160,000 barrels of oil equivalent per day (boe/d) in 2018, ramping up to

more than 200,000 boe/d by the early 2020s, Total said on Thursday.

ExxonMobil set for UK North Sea exit

Aug 13th, 2019



In January 2018, Shell took the final

North Sea portfolio could be cash cow



By Mark Williamson
Group Business Correspondent



The North Sea portfolio Ithaca Energy is buying from Chevron includes a stake in the Captain field

0 comment

A ratings agency has highlighted the amount of cash that Israeli-owned Ithaca Energy will generate in the North Sea after it





The IBP and ANP Collaboration on Decommissioning has brought great results, we look forward to building more results together.

Thank You



INSTITUTO
BRASILEIRO DE
PETRÓLEO, GÁS E
BIOCOMBUSTÍVEIS

A casa
da nossa
indústria.

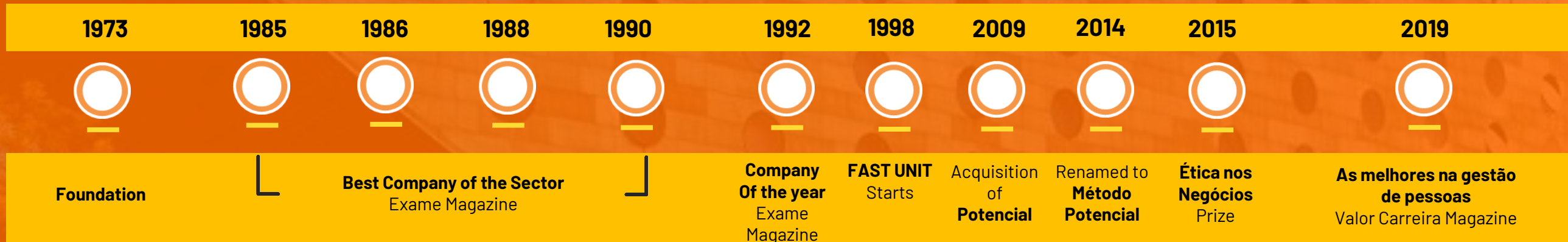
A large industrial facility, possibly a refinery or chemical plant, is shown at night. The scene is dominated by a complex network of steel structures, pipes, and towers. The lighting is a deep blue, with several bright spots from industrial lights. The overall atmosphere is one of industrial scale and modern technology.

 **MÉTODO**

Building the future

47 years

a successful legacy



+5000

Employees, including 200
PMP's and 150 engineers

+1000

Completed projects

Industrial

technology

and processes

TECHNOLOGY, PROCESSES AND SUSTAINABILITY



20
projects



1st Brazilian participant of
UNITED STATES GREEN
BUILDING COUNCIL



Founder of the Brazilian
Council of Sustainable
Construction



Founding Member of GREEN
BUILDING COUNCIL BRAZIL

Industrial Unit

Highly Specialized

+30
years
of experience

More than **400** Successfully executed projects

170 Shutdown maintenance

176 EPC
C&M

34 Long term maintenance



Energy



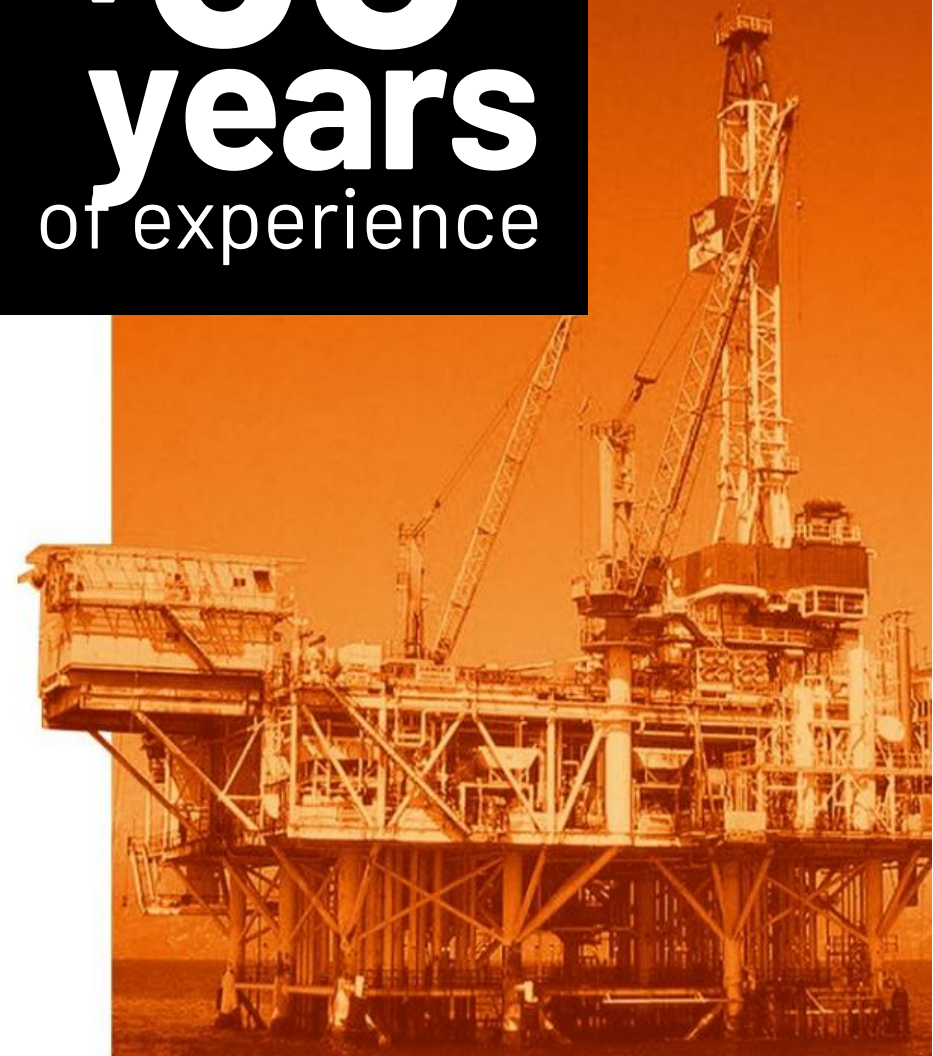
Oil & Gas



Logistic &
Infrastructure



Manufacturing
Plants



DECOMMISSIONING OFFSHORE PLATFORMS

Método Strategy

- Be an important player since the beginning
- Building strategic partnerships
- Identifying key suppliers
- Keeping an active behavior in this market





Decommissioning

Program



DECOMMISSIONING SUPPLY CHAIN

- Logistic and Environmental challenge – Waste Management
- Strategic partnership – Technical Capabilities



DECOMMISSIONING BRAZILIAN CHALLENGE



A photograph of a large industrial facility, possibly a refinery or chemical plant, at night. The scene is illuminated by blue and white lights, highlighting the complex network of pipes, scaffolding, and tall distillation columns. The overall atmosphere is industrial and futuristic.

MÉTODO

Building the future

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