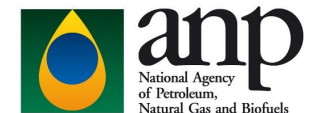







Decommissioning in Brazil – business opportunities and the new regulation

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DISCLAIMER

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-  Projections and estimated values are included without any guarantee as to their future realization.
-  Forward-looking data, information, projections and opinions expressed during the presentation are subjected to change without prior notice.



Brazil at a glance

And the importance of the O&G Industry



1.8

Trillion GDP
(Trading
Economics, 2019)



9th

Largest Economy
(Investopedia,
2019)



212

Million people
Population
(IBGE, 2020)



10th

Largest Oil
Producer
(BP Statistical,
2019)



7th

Largest oil products
consumer
(EIA, 2019)



47%

O&G in the Energy
Supply
(EPE, 2019)



250

Billion USD in
investments in the last
10 years
(IBP, 2020)



4

Billion reais in
R&D in 2018 and
2019 (ANP)



1.5


Trillion reais in taxes
and government take
between 2008 and
2018
(IBP, 2020)






THE E&P SECTOR IN BRAZIL

The E&P sector

Production & Reserves

 **3.1** Million bpd of oil (August 2020)
  **134** Million m³ of gas (August 2020)

 **15** Billion boe of proved reserves - 1P (December 2019)
  **25** Billion boe of total reserves - 3P (December 2019)

 **101** Groups / Companies

3 Environments



% of Production
Pre-Salt
71%



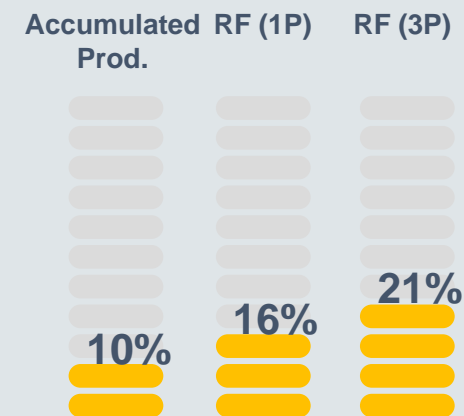
Post-salt
Offshore
24%



Onshore
5%

Recovery factor

O&G



E&P Strategic Goals

Accelerate the **pre-salt** exploration and **development**

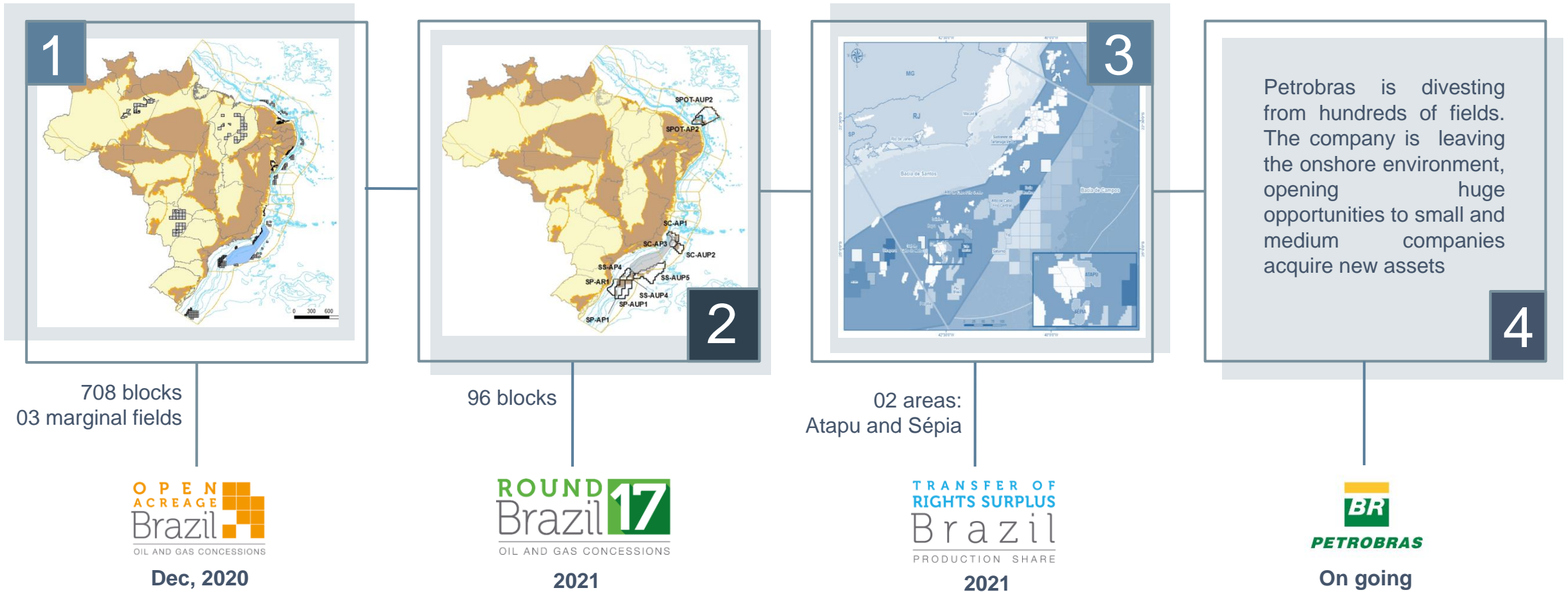
Increase the mature fields RF and accelerate exploratory activities in the **new frontier basins**

Revitalize the **onshore**, increase the mature fields RF, **promote** the **independent producers' market**, intensify **exploratory activities**, quantify the oil potential

Attract the **right players for each environment** (assets in right hands)



Brazil has many and great opportunities to acquire new assets



And much more to come...

Brazil is taking measures to emerge stronger in a post Covid-19 world



Royalties reduction for small and medium operators

Contracts extension

Simplifying regulation to marginal fields



More attractive new contracts

Many other measures to open the gas sector and the downstream, which will reflect in the E&P opportunities



We are working to restore the industry, **reduce aboveground risks** and consolidate a competitive and attractive environment for **companies of all sizes**



DECOMMISSIONING IN BRAZIL

Motivations for updating the regulation

Resolution ANP nº 817/2020



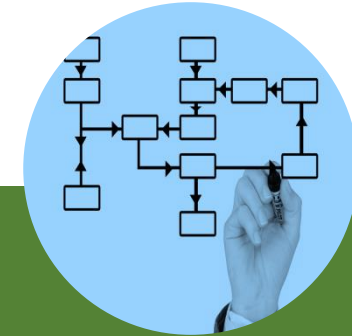
Incorporate the National Energy Policy Council guidelines (avoid premature decommissioning and increase RF)

CNPE Resolution No. 17/2017 addresses the increase in RF as an E&P policy, establishing the Permanent Offer of returned areas. Also, ANP must avoid premature decommissioning



Improvement of technical, environmental, operational safety and port state requirements in a single regulation

Modernization of the decommissioning regulation, including the joint effort of ANP, IBAMA and the Navy to update all technical requirements for offshore decommissioning, translated into a single PDI to be delivered by operators

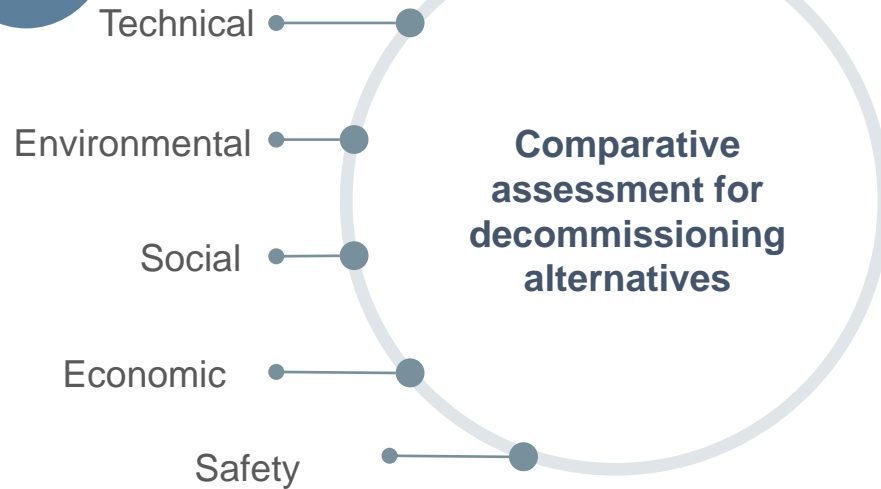


Establish well-defined procedures and deadlines, as well as the unification of other related regulations

Define deadlines and procedures for decommissioning, as well as for returning areas (including exploratory ones). Update and unify requirements for assets disposal and criteria for assigning rights (Three resolutions in one)

Main innovations

01



02

Single PDI



03

Decommissioning Justification Study



06

Sale and reversal of assets: except the reversal of some assets, prohibit wells sale;



04

Transfer of Rights: agreement, with the ANP consent, on the facilities to be decommissioned by the assignor that will be approved by the acquirer

07

Presentation of a data-sheet for the navigation aid project and the post-decommissioning monitoring plan

05

Permanent Offer (onshore):



transfer of PDI operations, review or execution

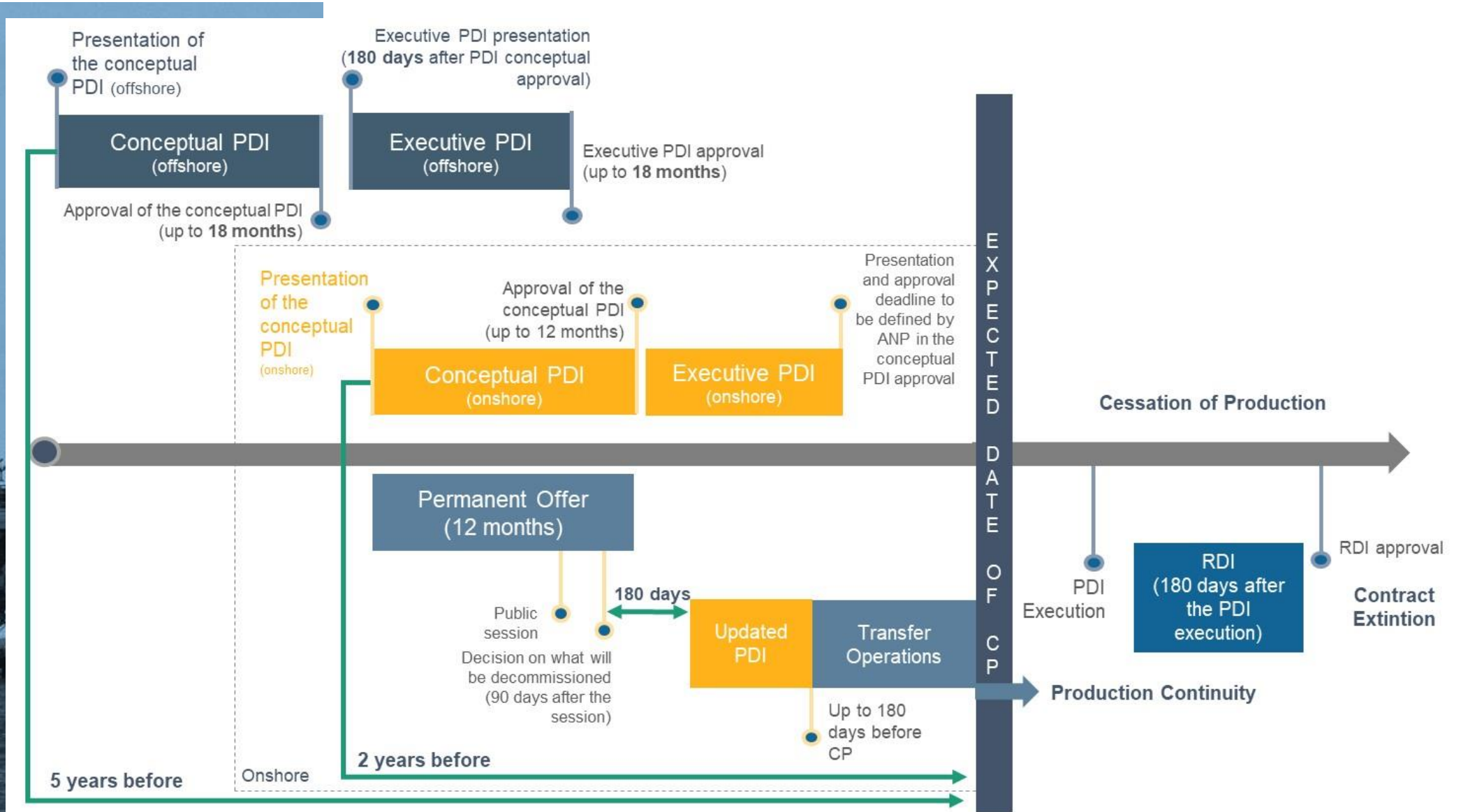
08

Social Responsibility Management System



Transparency, legal certainty and standardization of documents

Deadlines & Procedures



Decommissioning as business opportunity

Benchmarking



85 Bi USD

planned for decommissioning in the world in the next decade
(Wood Mackenzie)



11%

is the Brazil's share - 3rd in the ranking
(Wood Mackenzie)



14.5 Bi USD

to 16 Bi USD planned for offshore decommissioning in Brazil until 2029
(Wood Mackenzie)



Brazil



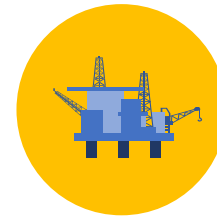
~6Bi USD

planned for decommissioning between 2020-2024
(Petrobras, 2020)



~6%

of the planned investments in D&P between 2020-2024
(PAT, 2020)





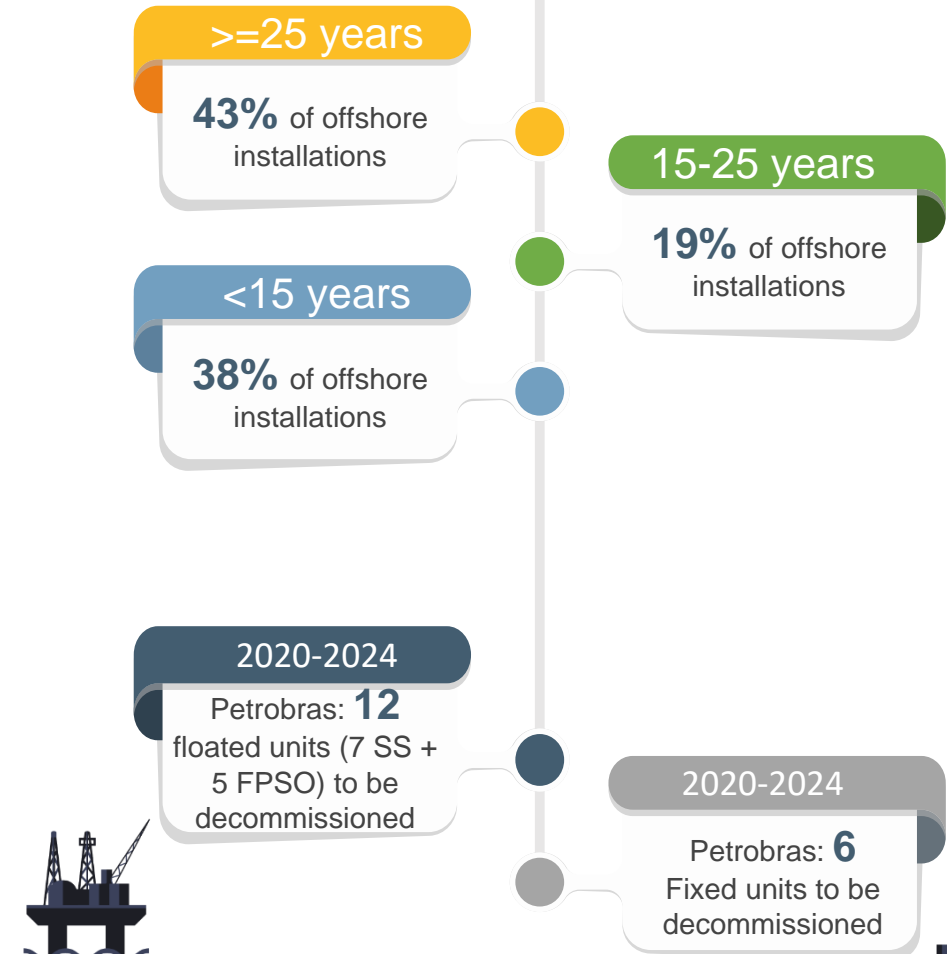
18

Offshore installations planned to be decommissioned
(Petrobras, 2020)



Overview of Offshore Installations

 Basin	Offshore Installations Age		
	>=25 years	15 - 25 years	<15 years
Campos	29	17	30
Potiguar	8	12	9
Sergipe	23	2	2
Santos	2	1	23
Ceará	11	2	0
ES	4	0	2
Camamu	0	0	1
Total 	77	34	67





Painel Dinâmico de Descomissionamento de Instalações de E&P Programa de Descomissionamento de Instalações (PDI)



Filtros:

STATUS

Todos

BACIA

Todos

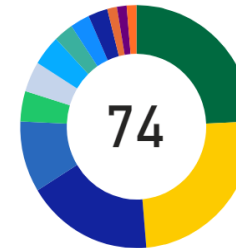
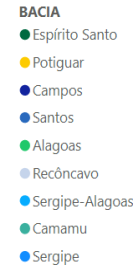
AMBIENTE

Todos

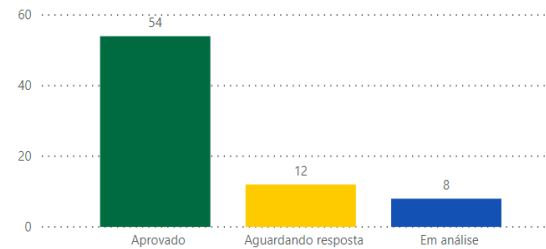


PDI	BACIA	CAMPO	AMBIENTE	EMPRESA
Acauã Leste	Potiguar	Acauã Leste	Terrestre	Petrobras
Agulha	Potiguar	Agulha	Marítimo	Petrobras
Albatroz	Espírito Santo	Albatroz	Terrestre	Petrosynergy
Arabaiana	Potiguar	Arabaiana	Marítimo	Petrobras
Aracuã	Sergipe	Aracuã	Terrestre	Sonangol
Barra do Ipiranga	Espírito Santo	Barra do Ipiranga	Terrestre	Petrobras
Bauna Sul	Santos	Bauna Sul	Marítimo	Petrobras
Bijupirá e Salema	Campos	Bijupirá e Salema	Marítimo	Shell
Biquara	Potiguar	Biquara	Marítimo	Petrobras
Caboclinho	Potiguar	Caboclinho	Terrestre	Imetame Ene
Cação	Espírito Santo	Cação	Marítimo	Petrobras
Camarão Norte	Camamu	Camarão Norte	Marítimo	Petrobras
Carapiá	Santos	Carapiá	Marítimo	Petrobras
Chauá	Potiguar	Chauá	Terrestre	Allpetro Expl
Cidade de Sebastião Ferreira	Sergipe-Alagoas	Cidade de Sebastião Ferreira	Terrestre	Petrosynergy
Colibri	Potiguar	Colibri	Terrestre	Partex Brasil
Corruira	Espírito Santo	Corruira	Terrestre	Petrobras
Dentão	Potiguar	Dentão	Marítimo	Petrobras
FPSO Brasil	Campos	Roncador	Marítimo	Petrobras
FPSO Cidade de Rio das Ostras	Campos	Tartaruga Verde	Marítimo	Petrobras
FPSO Cidade do Rio de Janeiro	Campos	Espadarte	Marítimo	Petrobras
FPSO Piranema Spirit	Sergipe-Alagoas	Piranema	Marítimo	Petrobras

PDIs por Bacia



Situação dos PDIs



20
PDIs



Under analysis

You can access the full list:

<https://app.powerbi.com/view?r=eyJrljoiNTE2Nzg5MzQtZTk4NC00OTE4LWExYjktZDI3MzVkNjc5ZGRhIiwidCI6IjQ0OTlmNGZmLTl0YTtyNGI0Mi1iN2VmLTExNGFmY2FkYzkyMyJ9>

Final Considerations

Many opportunities to create value

REGULATION



3 technical rules condensed in 1
Transparency

Standardised PDIs and RDIs
Transfer of Rights

Permanent Offer

Comparative Assessment

Post-
Decommissioning Monitoring

LOGISTICS AND INFRASTRUCTURE



Vessels (PSVs, Heavy Lifts
etc)

Waste management

NORM detection and
management

Shipyards and ports

TECHNOLOGY



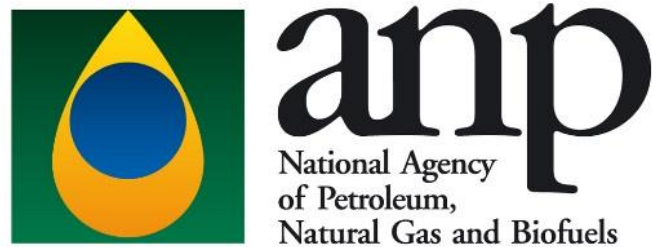
Life extension

Structural Reliability

Environmental Monitoring

Cutting Tools

RD&I



<http://rodadas.anp.gov.br/pt/>

www.anp.gov.br

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