

Agência Nacional do Petróleo, Gás Natural e Biocombustíveis

Resolution ANP nº 27/2006 Revision

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do Petróleo,
Gás Natural e Biocombustíveis

Brazilian Offshore Sector

***Offshore Production Systems
Decommissioning***

Resolution ANP nº 27/2006 Revision

Final Considerations

Brazilian Offshore Sector



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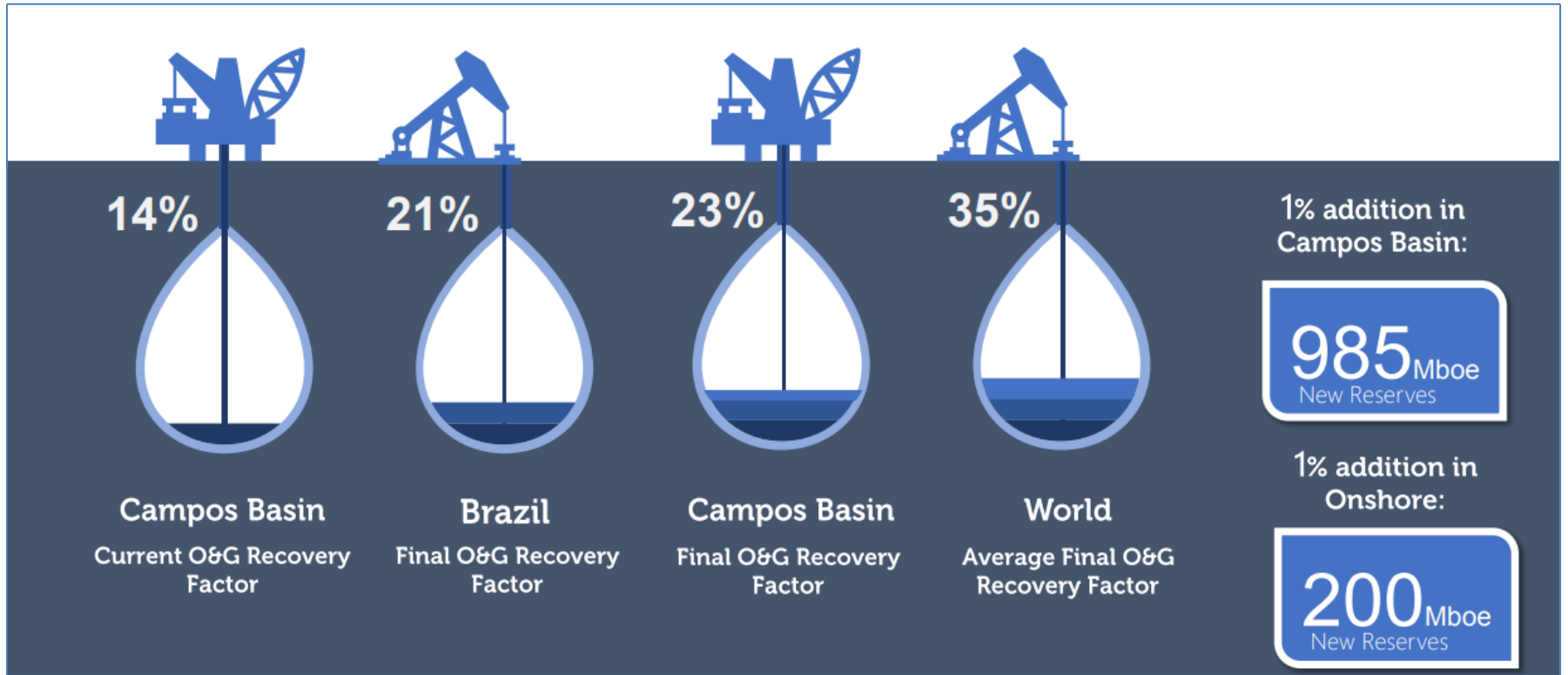


- **Proven reserves - Almost 14 billion barrels of oil and 430 billion m3 of NG**
- **Billions of oil barrels already discovered waiting to be produced**
- **3,3 millions bbl/day of oil (~52% from pre-salt fields)**
- **5 bidding rounds between 2017 – 2018**
- **5th Production Sharing Bidding Round will occur in September 28th, 2018**

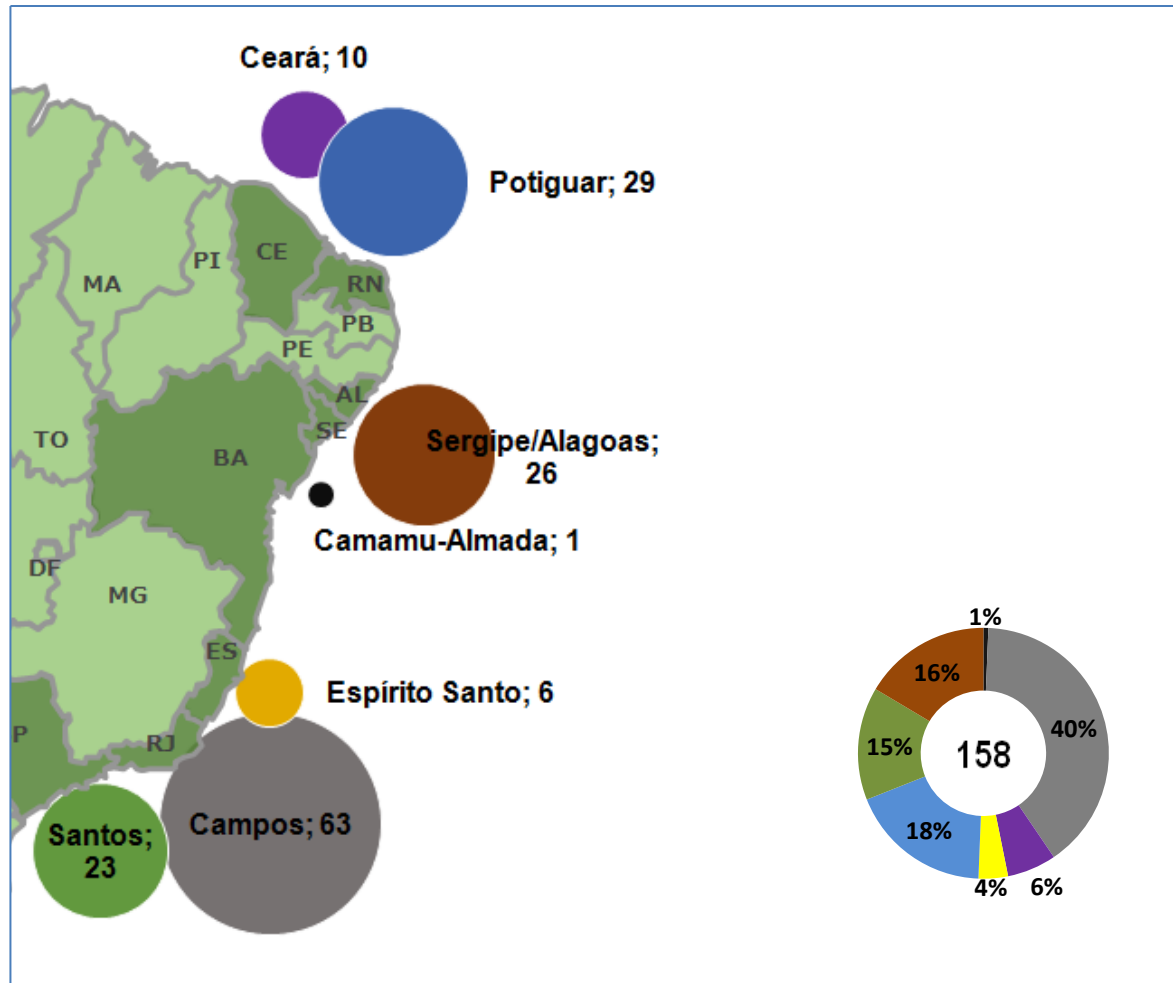


- **At least four bidding rounds (concession and sharing) planned for the next three years**
- **158 offshore production units, 24 drilling rigs, almost 18 new production units up to 2022**
- **41% of the offshore production units are more than 25 years of use – considerable decommissioning scenario for the next years**

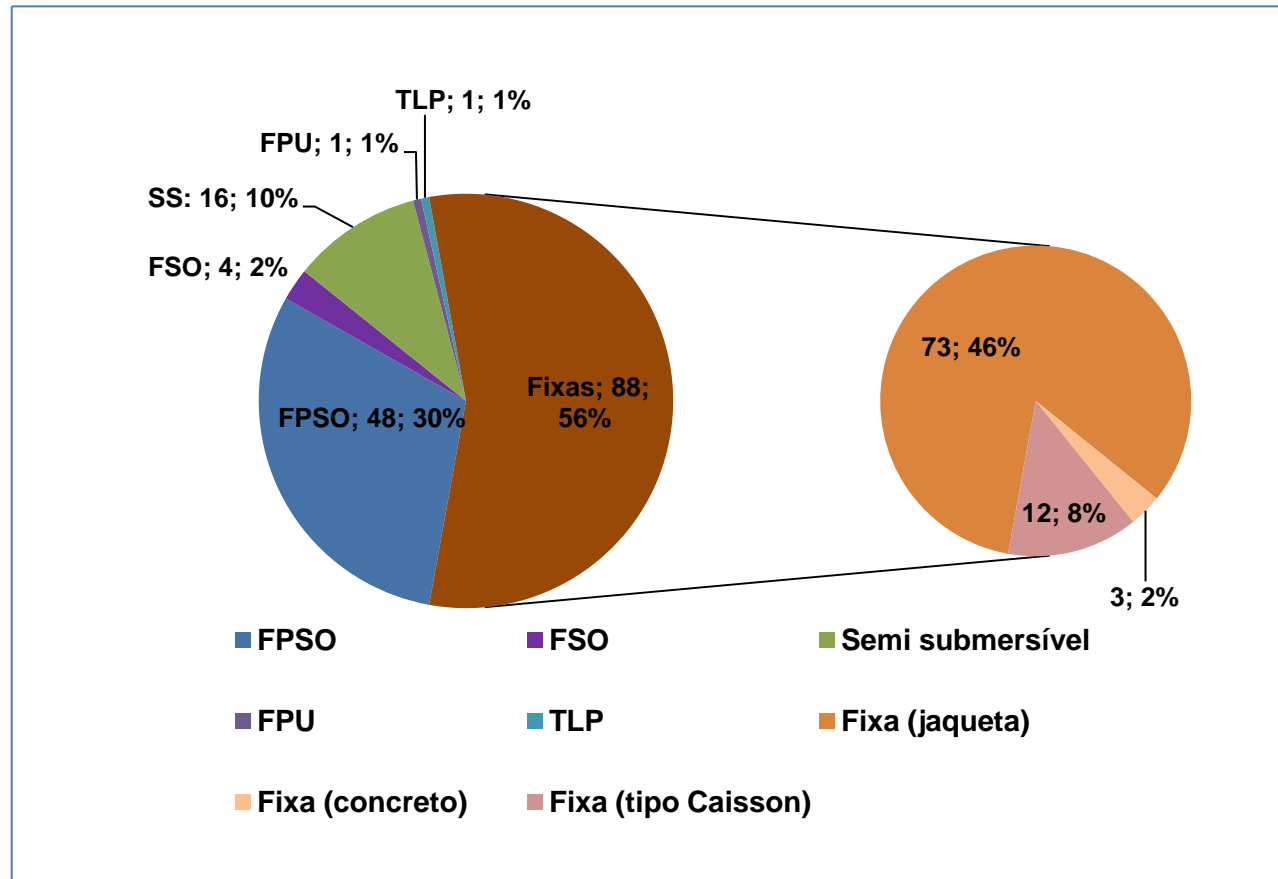
Increasing Recovery Factor



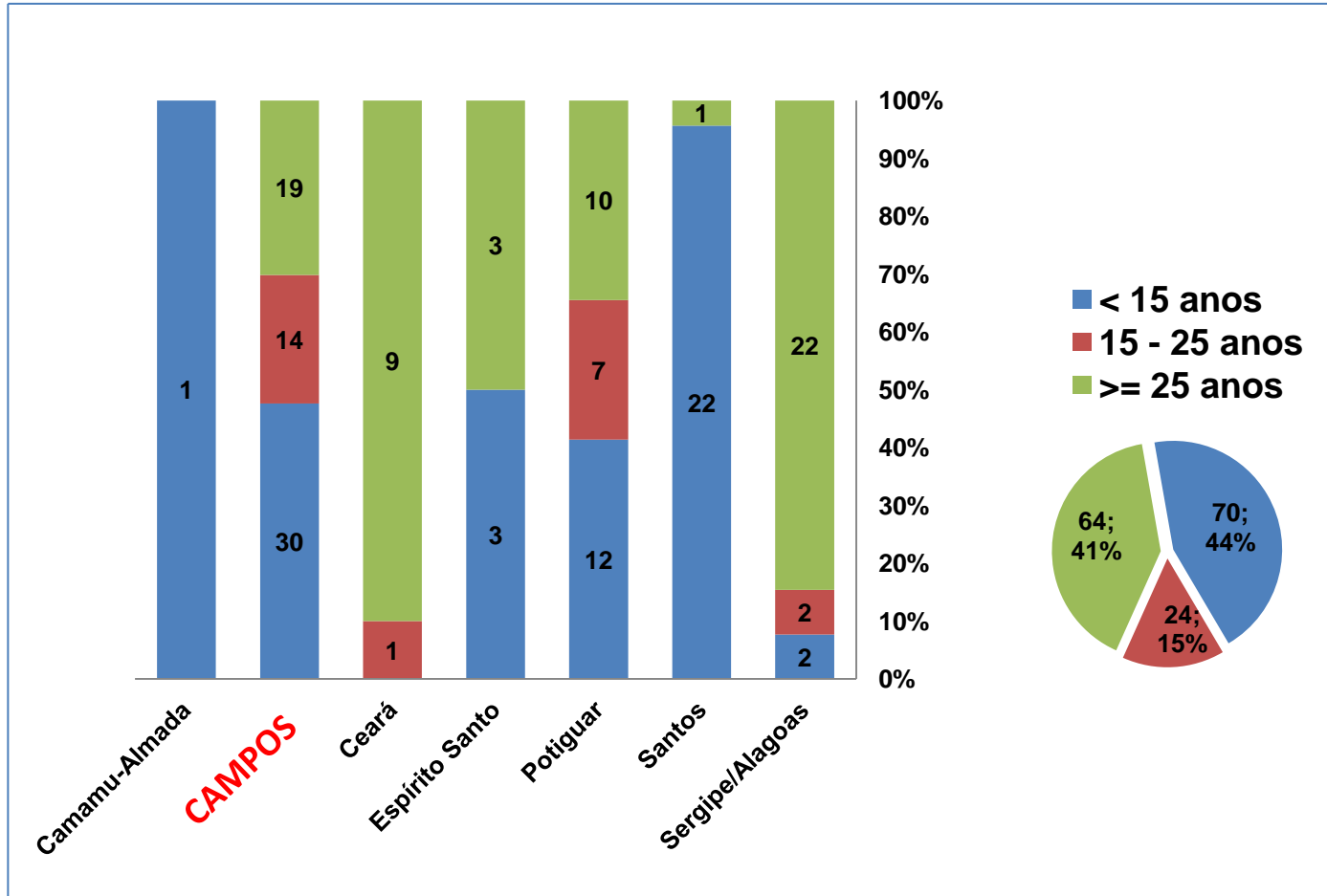
Platforms per Basin



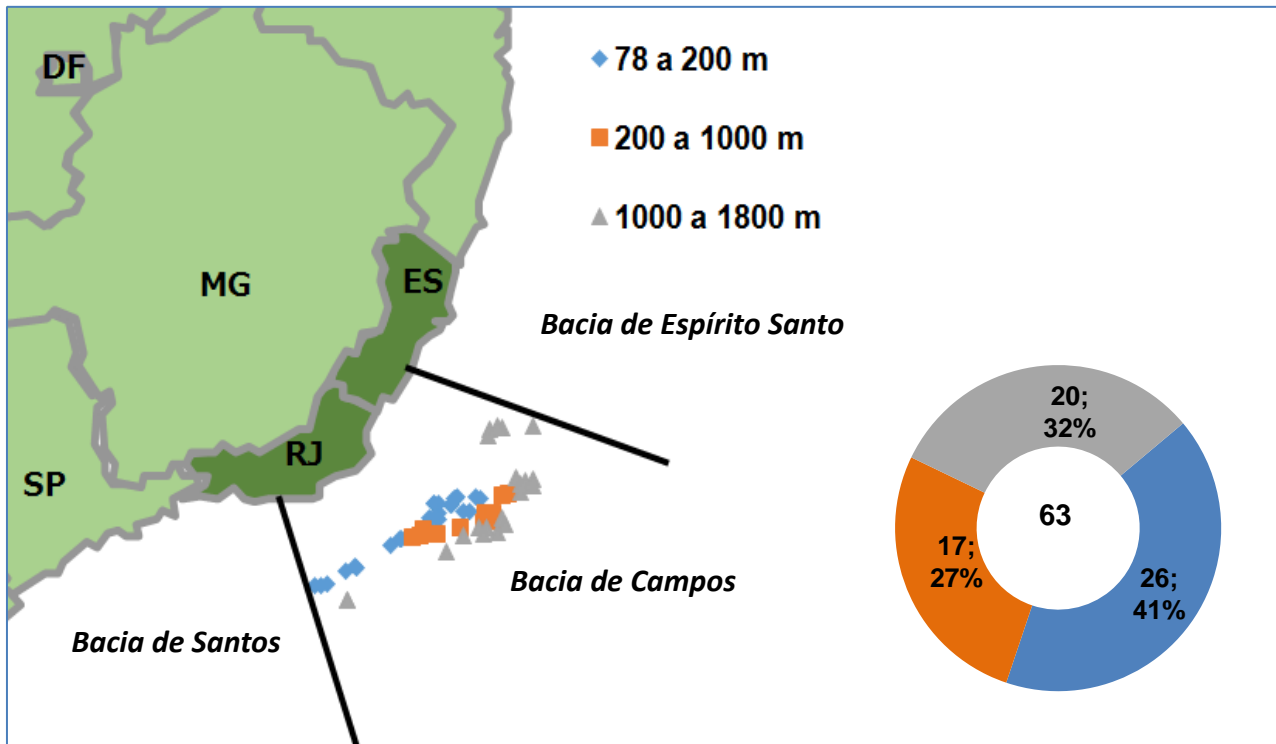
Platforms per Type



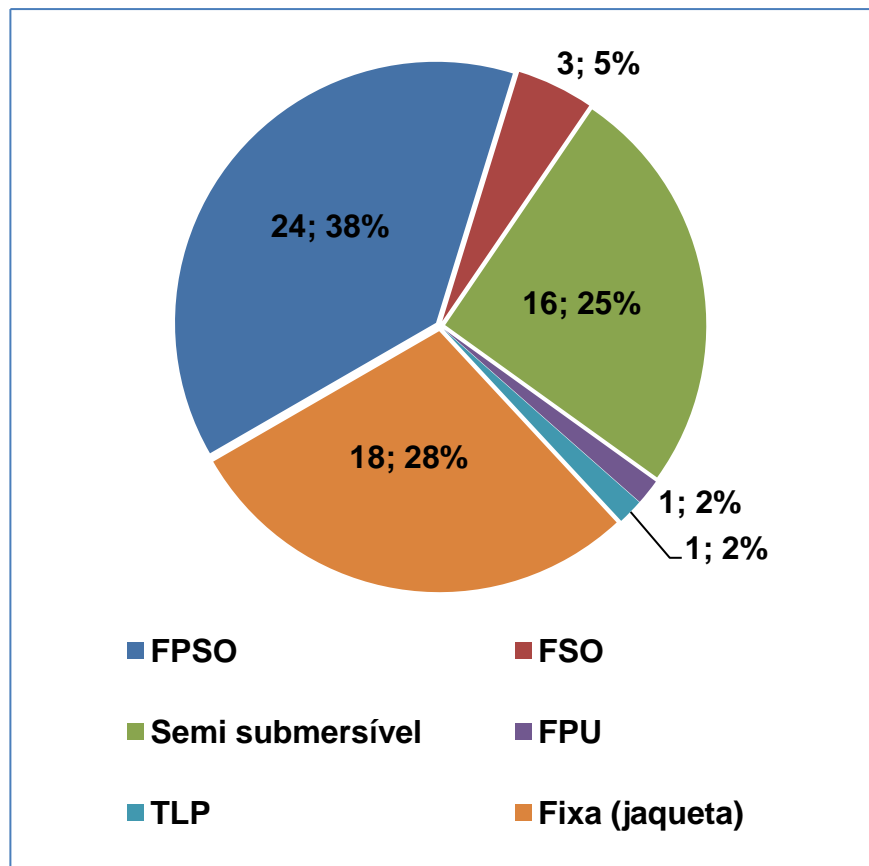
Ageing platforms in Brazil



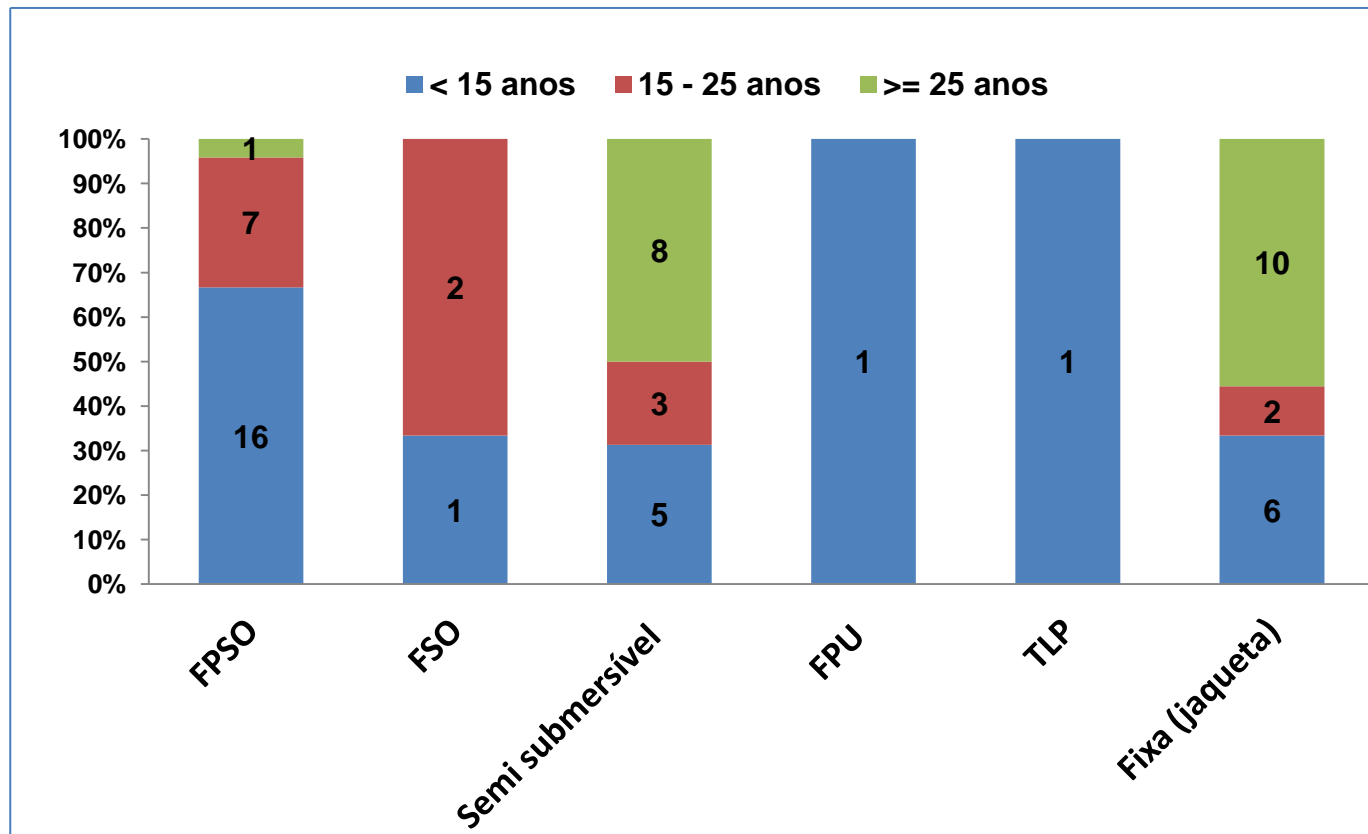
Platforms per depth in Campos Basin



Platforms per Types in Campos Basin



Ageing platforms in Campos Basin



OFFSHORE PRODUCTION SYSTEMS DECOMMISSIONING



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Main Reasons

Oil price

End of life

Termination of contracts

Changes in the field development strategy

• **Exploration**

• **Development**

• **Production**

• **Decommissioning**



Some Decommissioning Programmes under analysis in the SSM

- P-07 (Bicudo – semi-submersible)
- P-12 (Linguado – semi-submersible)
- P-15 (Piraúna – semi-submersible)
- P-33 (Marlim – FPSO)
- FPSO CIDADE DO RIO DE JANEIRO (Espadarte)
- FPSO PIRANEMA SPIRIT (Piranema)



Some Decommissioning Programmes approved by ANP

- FPSO Brasil (Campo de Roncador)
- FPSO Marlim Sul (Campo Marlim Sul)
- Campo de Cação (3 fixed platforms)

Expected Decommissioning Platforms associated with Marlim Field Revitalization Project

- P-18 (Semissubmersível)
- P-19 (Semissubmersível)
- P-20 (Semissubmersível)
- P-26 (Semissubmersível)
- P-32 (FSO)
- P-35 (FPSO)
- P-47 (FPSO)

Expected for 2021+

*P-33 decommissionin is part of Marlim Field Revitalization

** 2 new plataforms will replace the decommissioned ones



RESOLUTION ANP Nº 27/2006 REVISION



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AGENDA REGULATÓRIA 2017-2018

EXPLORAÇÃO E PRODUÇÃO	6.1	Informações de Poços Perfurados	Resolução ANP nº 49/2011 e Portaria ANP nº 76/2000
	6.2	Cessão de Direitos e Obrigações	Nova regulamentação
	6.3	Procedimentos Relativos à Execução de Testes em Poço	Nova regulamentação
	6.4	Devolução de Áreas e Desativação de Instalações na Fase de Produção	Resoluções ANP nº 27/2006 e 28/2006
	6.5	Previsão e Monitoramento de Atividades e Produção	Portarias ANP nº 100/2000 e 123/2000
	6.6	Plano de Desenvolvimento	Resolução ANP nº 17/2015
	6.7	Individualização da Produção	Resolução ANP nº 25/2013
	6.8	Queimas e Perdas de Petróleo e Gás Natural	Portaria ANP nº 249/2000
	6.9	Homogeneização de Procedimentos Licitatórios	Resolução ANP nº 18/2015



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Proposal: Submission of the Decommissioning Programme

3 years in advance when it involves the decommissioning of a portion of a field production system

5 years in advance of the cessation of production (field)

Submission to ANP, Ibama and The Navy simultaneously

• **Draft Programme (concept)**

• **Discussions**

• **Submission**

• **Approval**

Proposal: Comparative Assessment

Any facility should be removed from the area under contract

The dumping of facilities is not allowed

Partial and non removal will be considered exceptional circumstances

Decision support tool

Complete removal, partial removal, leave in situ

Assessment criteria

Safety, environmental, technical, social, economic

Proposal: Other Requirements

Removed facilities in waters up to 100 meters should achieve a cut depth of 3 meters below the seabed

An unobstructed water column of at least 55 meters must be provided above the remains of any partially removed facility

Partially removed or not removed facilities should be indicated on nautical charts and remains marked with aids to navigation

Proposal: Other Requirements

Debris on the seabed must be removed after the decommissioning operations

Any facilities left in place must be inspected

Environmental monitoring must be carried out after the decommissioning operations

Proposal: Decommissioning Programme Description of the items to be decommissioned

<i>Wells</i>	Type, depth, status...
<i>Platforms</i>	Depth, topside modules, equipments, anchoring systems...
<i>Pipelines</i>	Length, rigid, flexible, buried, crossings...
<i>Other subsea equipments</i>	Type, depth, length...
<i>Marine bioincrustation</i>	Installation, area, depth, species...

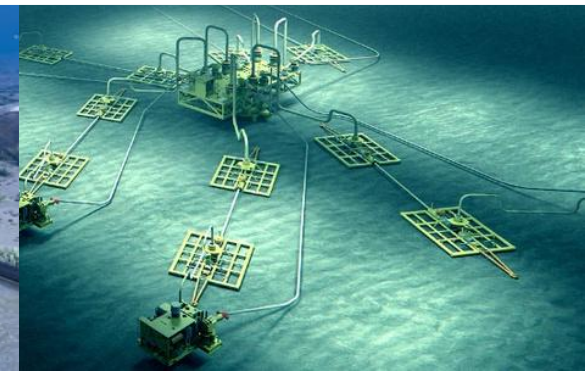
Proposal: Decommissioning Programme Materials and Wastes

***Materials and
wastes in the
facilities***

Type, composition, quantity...

***Materials and
wastes in the sea
bed***

Type, location, composition, quantity...



Proposal: Decommissioning Programme Environmental Basic Information

Physical

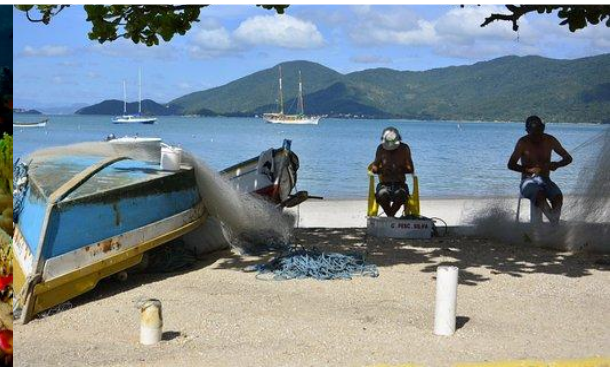
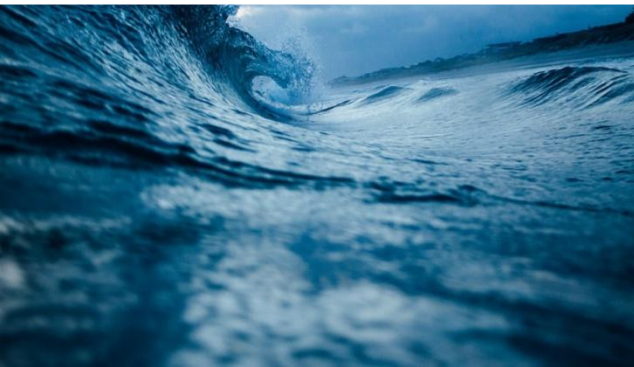
Meteorology, oceanography, water and sediment characteristics, sediment dynamics...

Biological

Marine communities, conservation areas, vulnerable species

Societal

Economic and recreational activities, pre existing infrastructure



Proposal: Decommissioning Programme Selected Removal and Disposal Options

Removal Methods

Selected removal methods (jackets, pipelines...)

Disposal Options

Selected treatment and disposal options

Wastes (including radioactive wastes)

Classification, quantities estimation, treatment and disposal options



Proposal: Decommissioning Programme Selected Removal and Disposal Options Studies and Projects

Environmental impact assessment

Environmental risk assessment

Operational risk analysis

Navigational aids project

Proposal: Decommissioning Programme Selected Removal and Disposal Options Studies and Projects

Seabed inspection

Non removed facilities inspection

Water and sediment monitoring



Proposal: Decommissioning Programme Other information

Schedule

Cost estimate

FINAL CONSIDERATIONS



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Production X Decommissioning

Revitalization and decommissioning

Decommissioning as an opportunity

Resolution ANP Nº 27/2006 revision and the new obligations

Decommissioning supply chain

Incentives to different uses

Decommissioning and cooperation

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Thank You!

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