

A wide banner image showing a coastal cityscape with a large, ornate yellow building in the foreground, a harbor with boats, and a modern city skyline in the background under a blue sky.

SECOND EAGE/HGS CONFERENCE ON LATIN AMERICA

1-3 DECEMBER 2020 • ONLINE

BRAZILIAN FUTURE LICENSING ROUNDS AND HOT AREAS

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Deputy Superintendent of Geological and Economic Assessment [ANP-SAG]

NOTICE

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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 subject to change without prior notice.



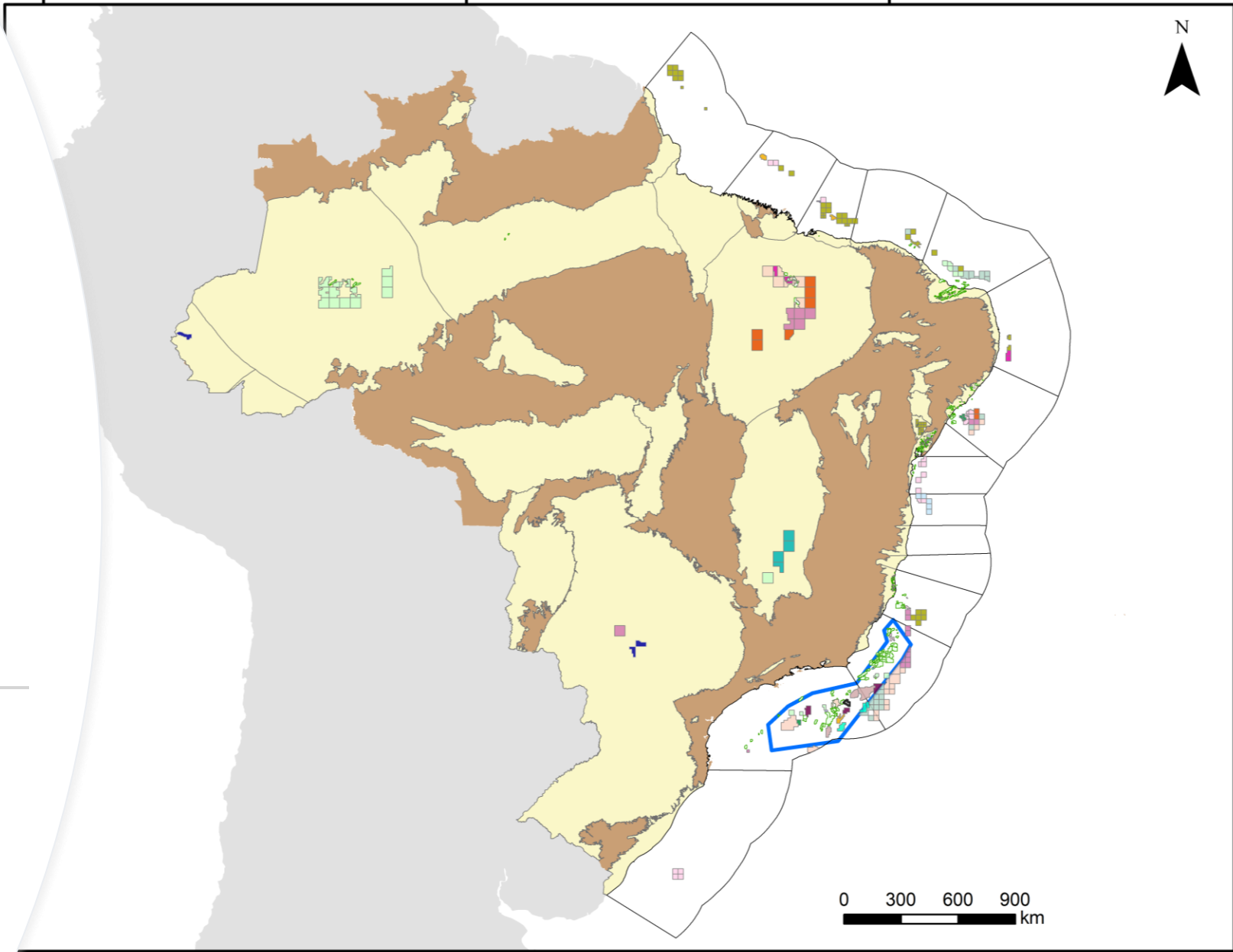


SEDIMENTARY AREA 7,5 MILLION KM²

< Less than 4% contracted

🔥 8th Largest world oil producer

OIL 3.087MMbbl/d & GAS 134 MMm³/d
TOTAL PRODUCTION 3.927 Mmboe/d



OUTLINE

Brazilian Hot Areas

Future Licensing Rounds



»» **CAMPOS AND SANTOS** SEDIMENTARY BASINS

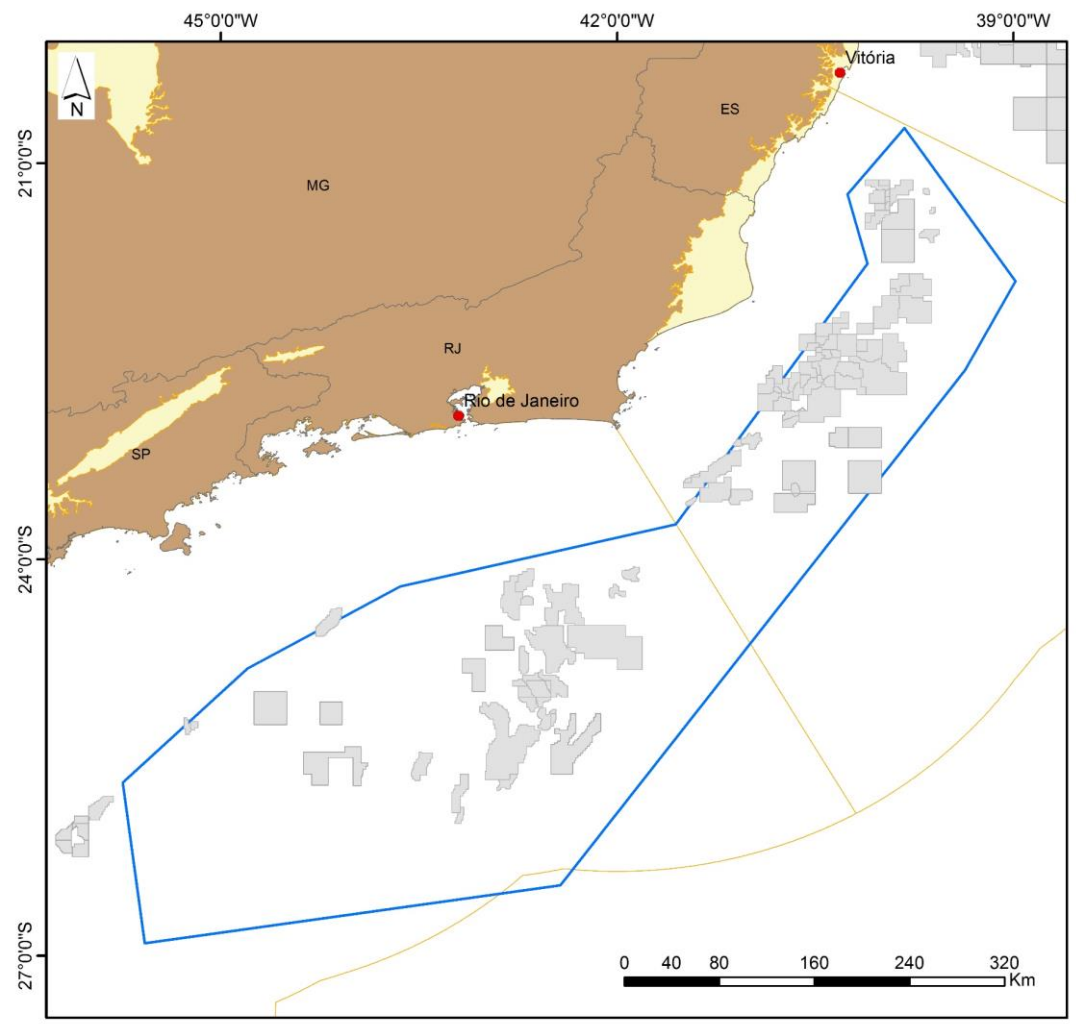
SEAL, ES ANP POTIGUAR OFFSHORE/ONSHORE

GIANT ONSHORE BASINS

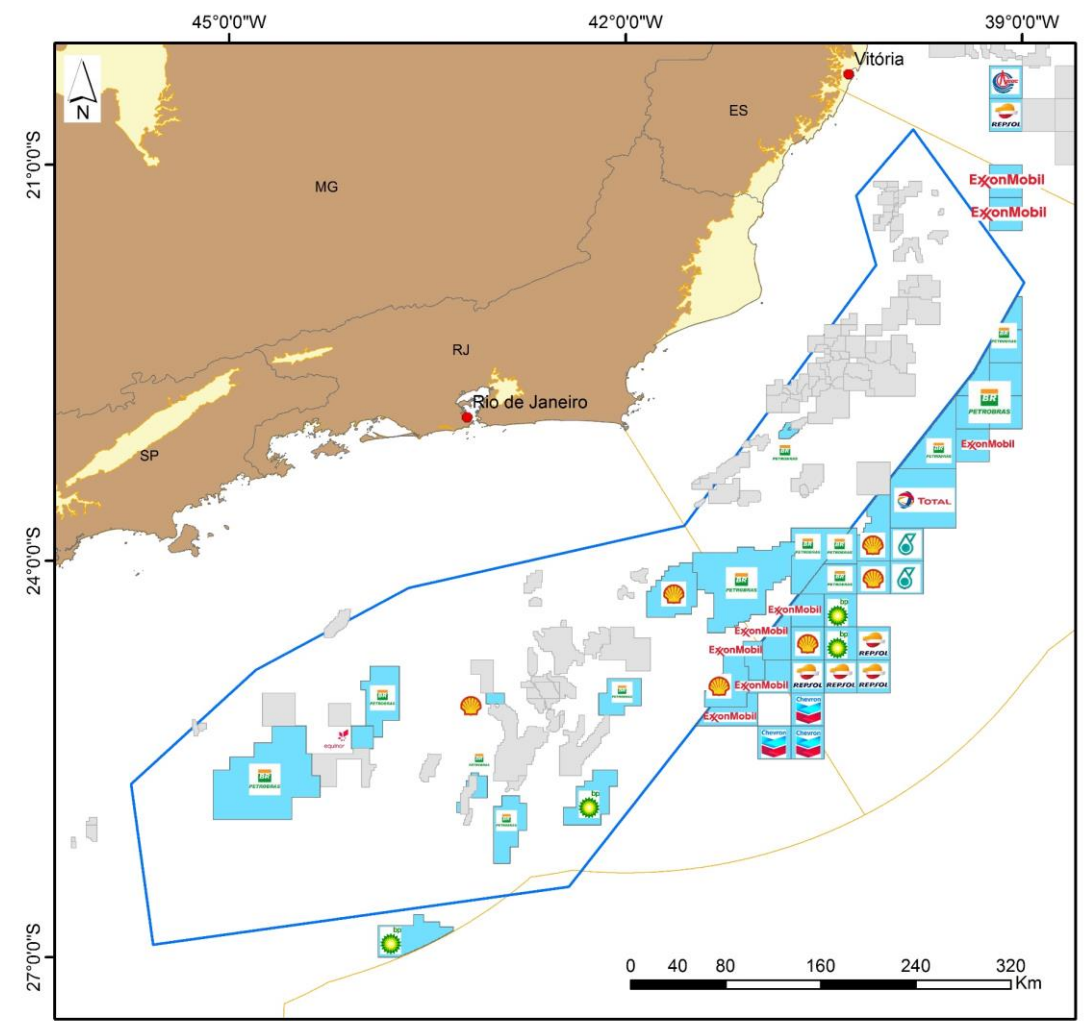


EXPLORATORY CENARIO

RECENT BIDDING ROUND RESULTS



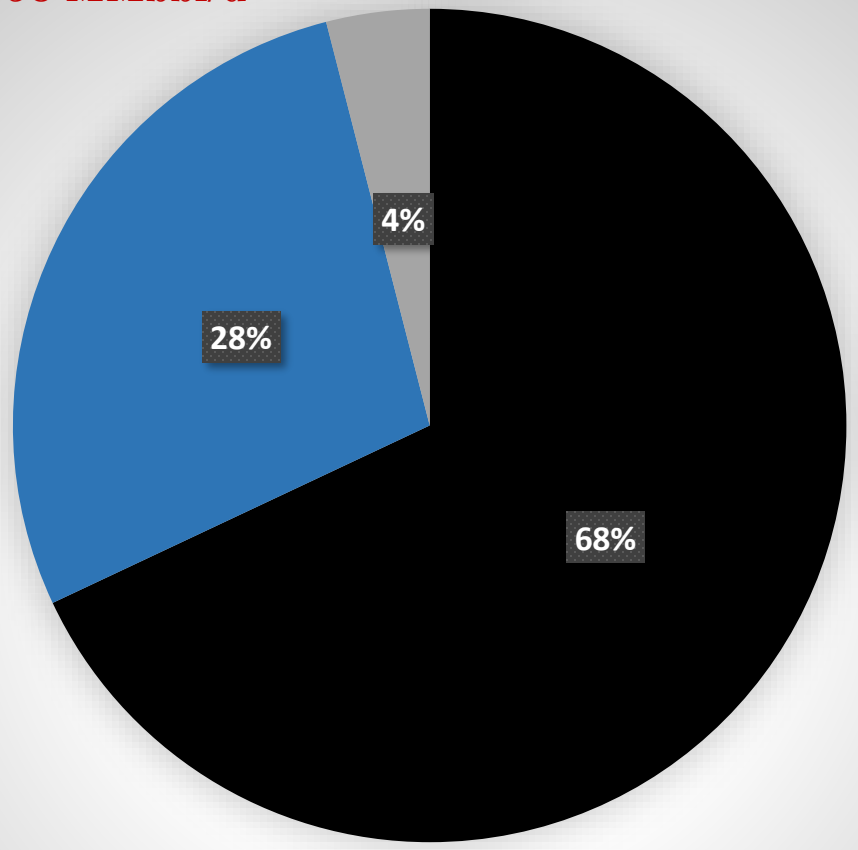
June 2016



January 2020

PRODUCTION CENARIO

OIL 2.958 MMbbl/d

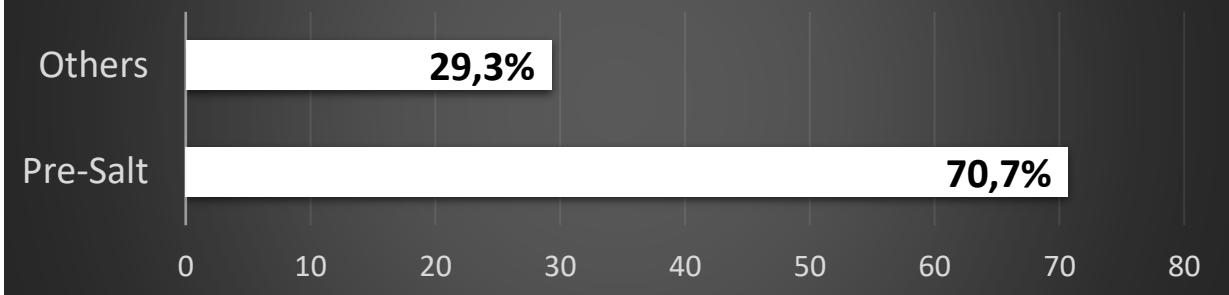


Sedimentary Basins

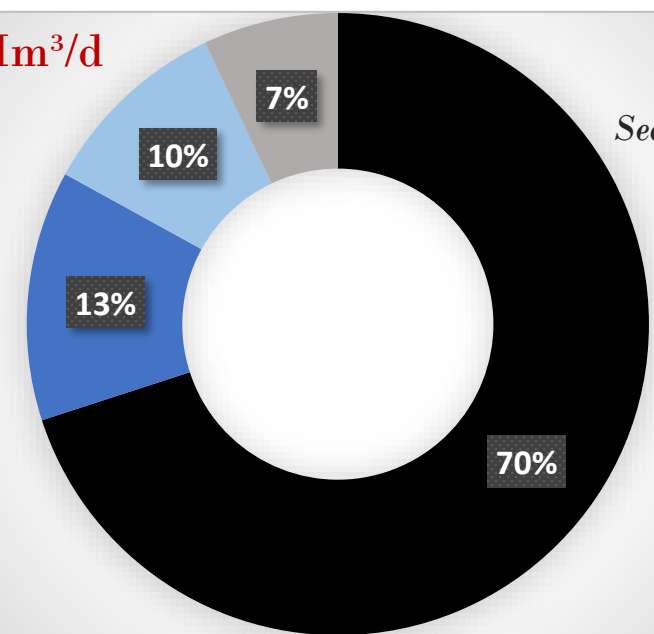
- Santos
- Campos
- Others

96% Total Production

Total Brazil Production 3.087 MMbbl/d



GAS 124 MMm³/d

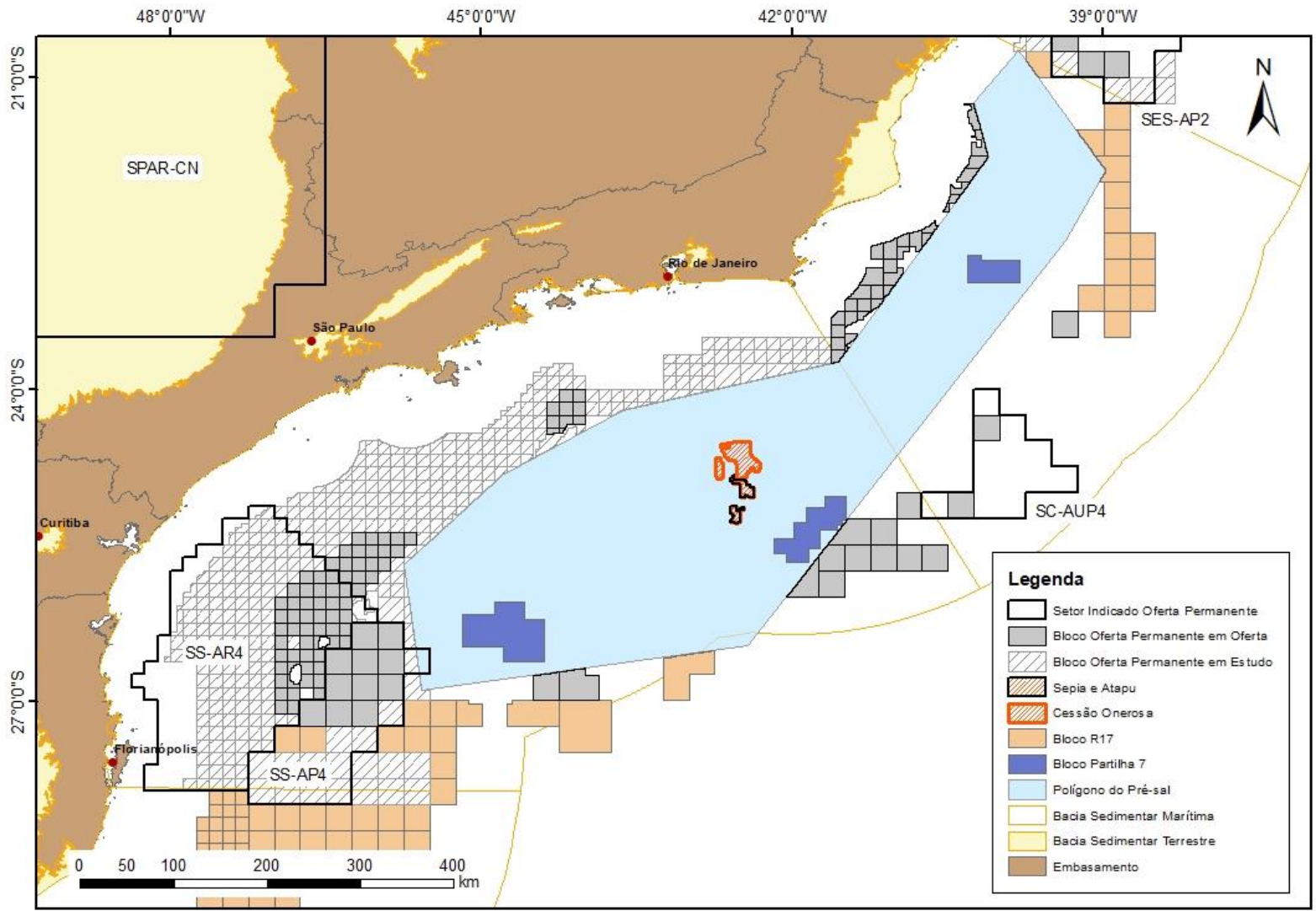


Sedimentary Basins

- Santos
 - Campos
 - Solimoes
 - Others
- 83%

EXPLORATORY CENARIO - CAMPOS AND SANTOS BASINS

WHAT'S NEXT? BLOCKS AVAILABLE AND ON STUDY



Concession
Contracts

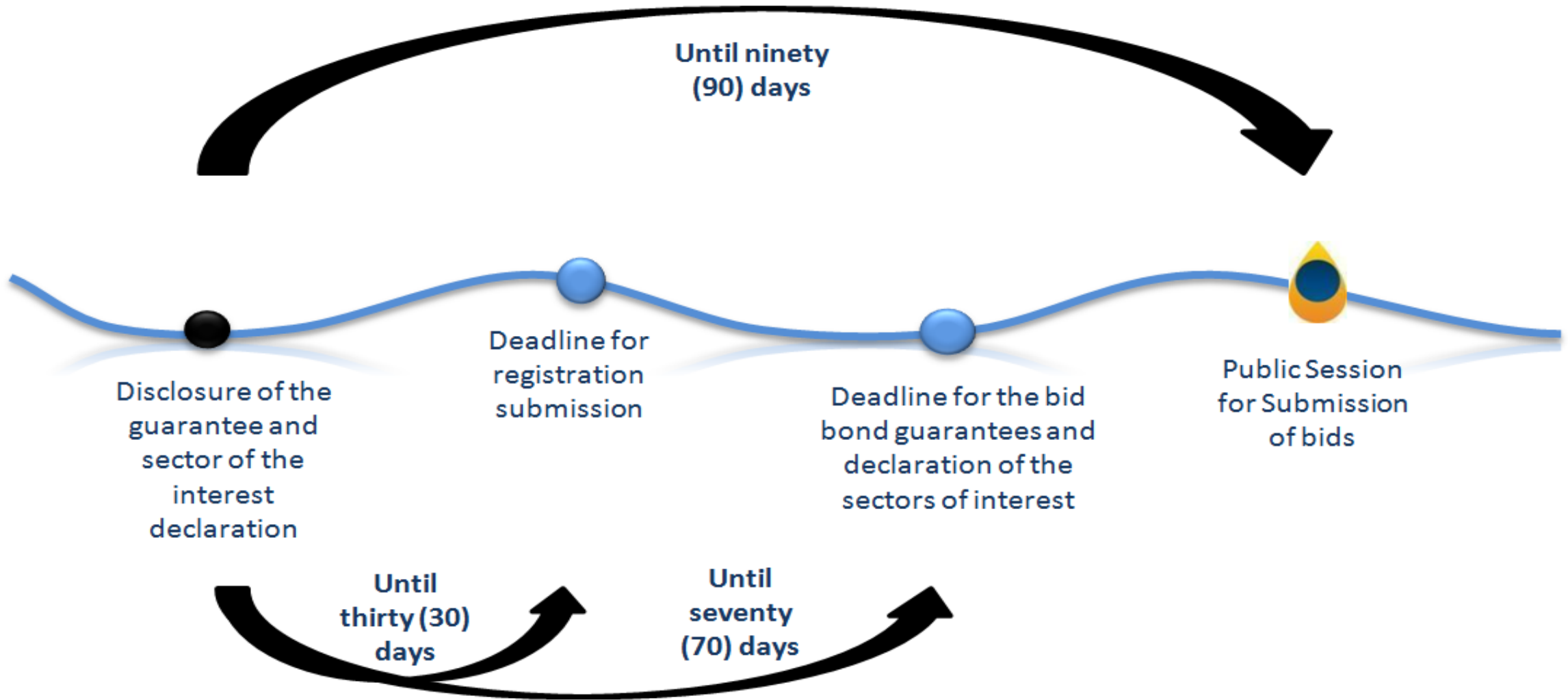
Production Share
Contracts



> 1,400 EXPLORATORY BLOCKS



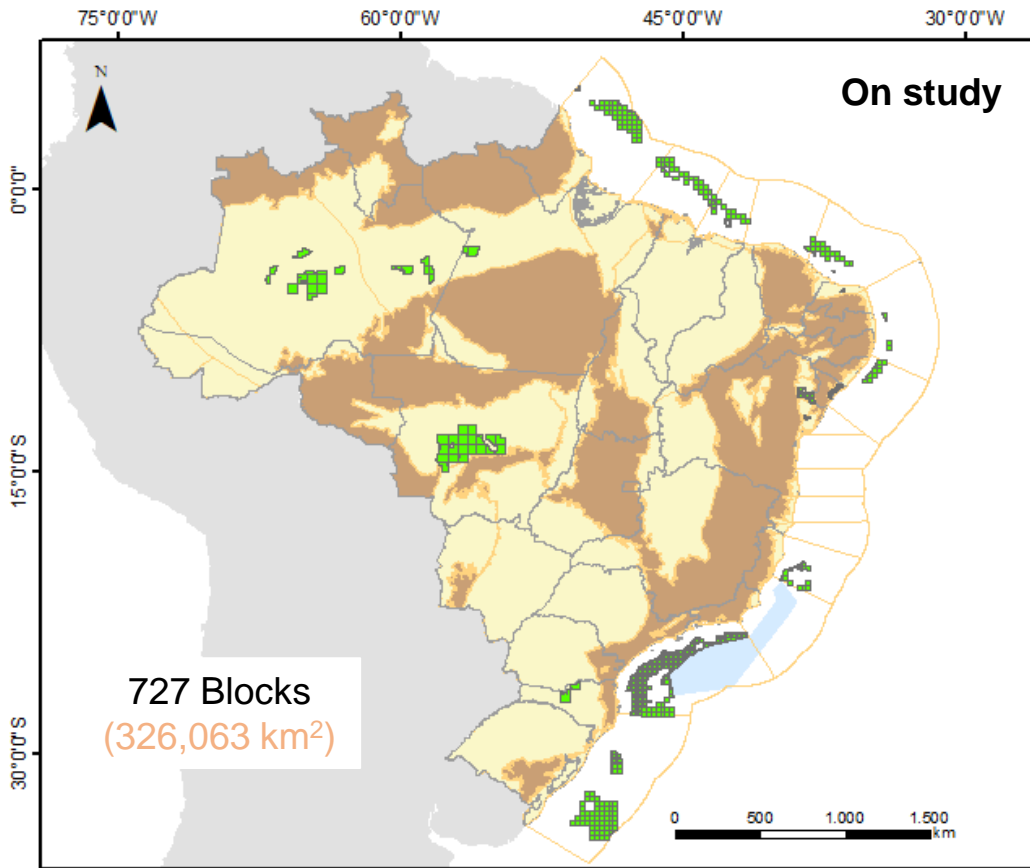
The Permanent Offer allows the market to decide what its hot areas and when to apply



> 1,400 EXPLORATORY BLOCKS

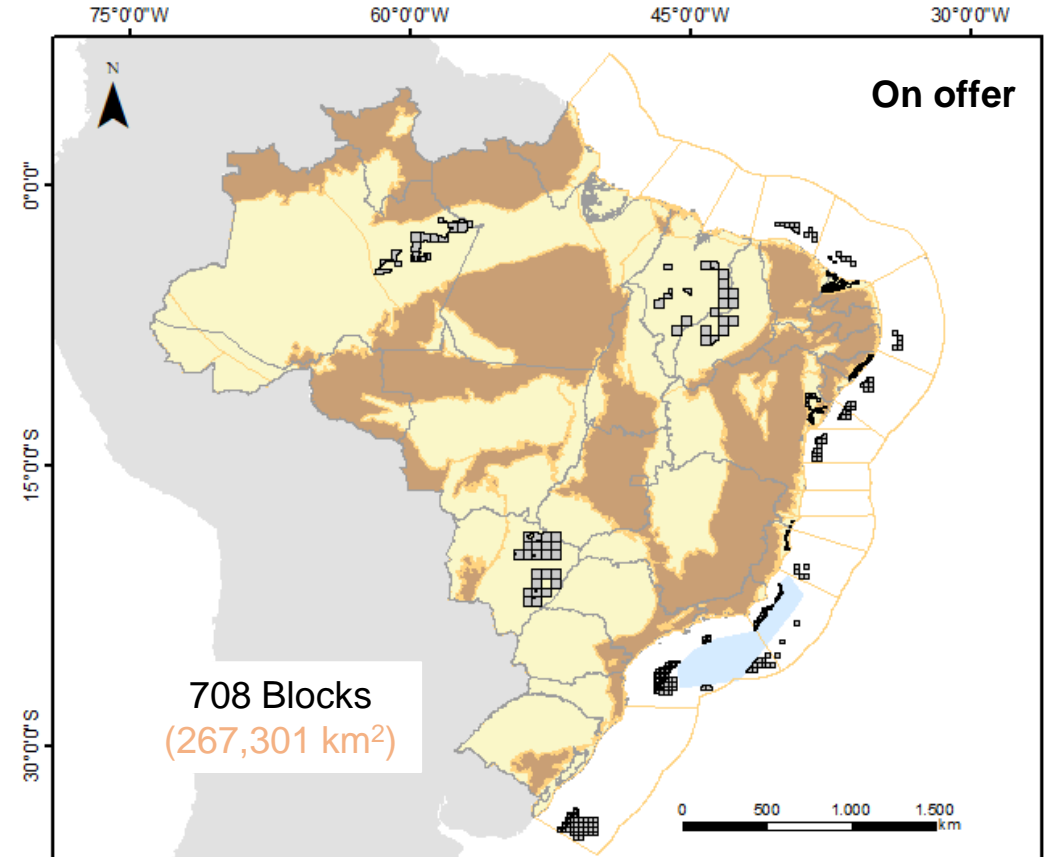


The Permanent Offer allows the market to decide what its hot areas and when to apply



Nomination

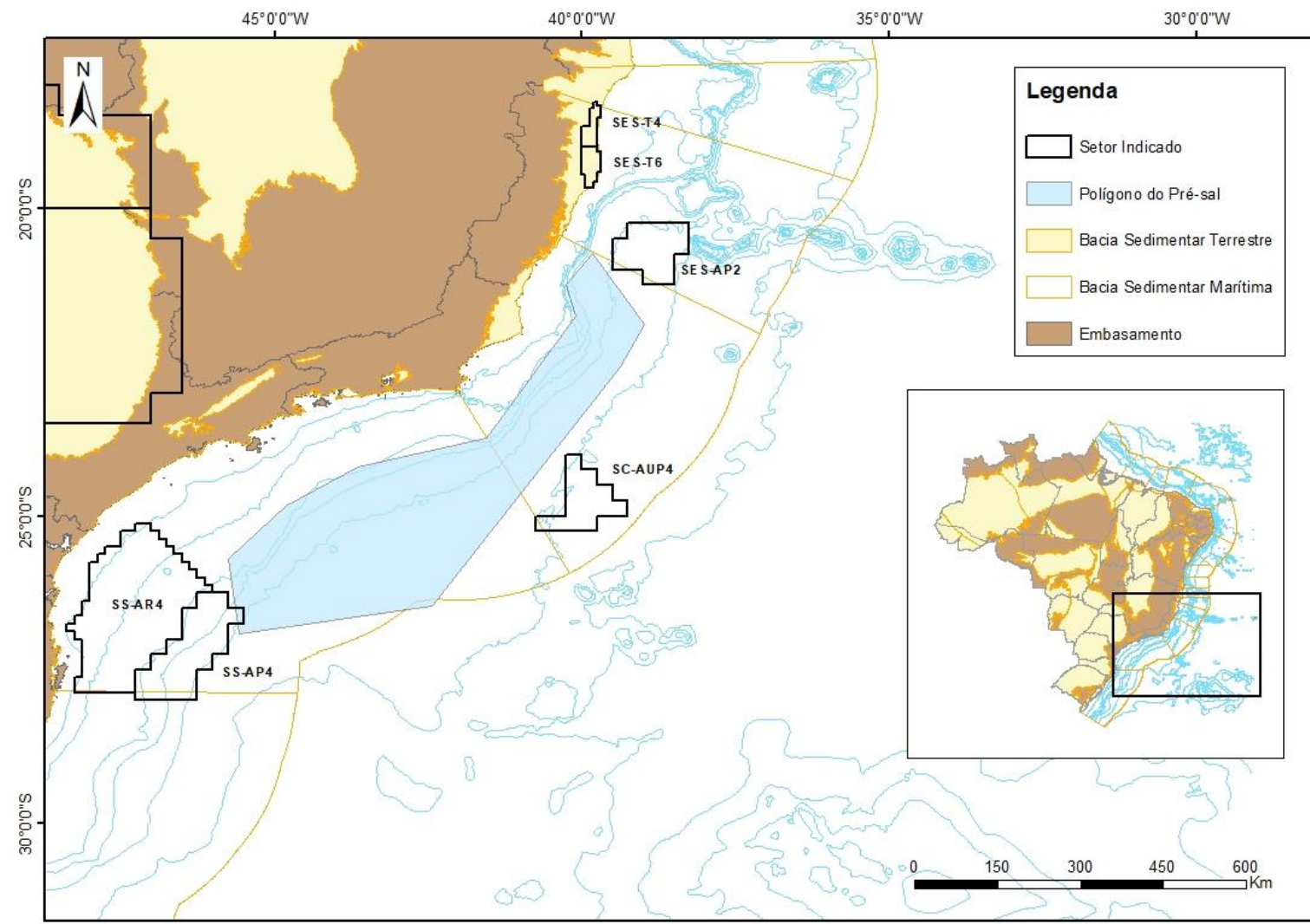
<http://rodadas.anp.gov.br/pt/nominacao-de-areas>



Declaration of Interested

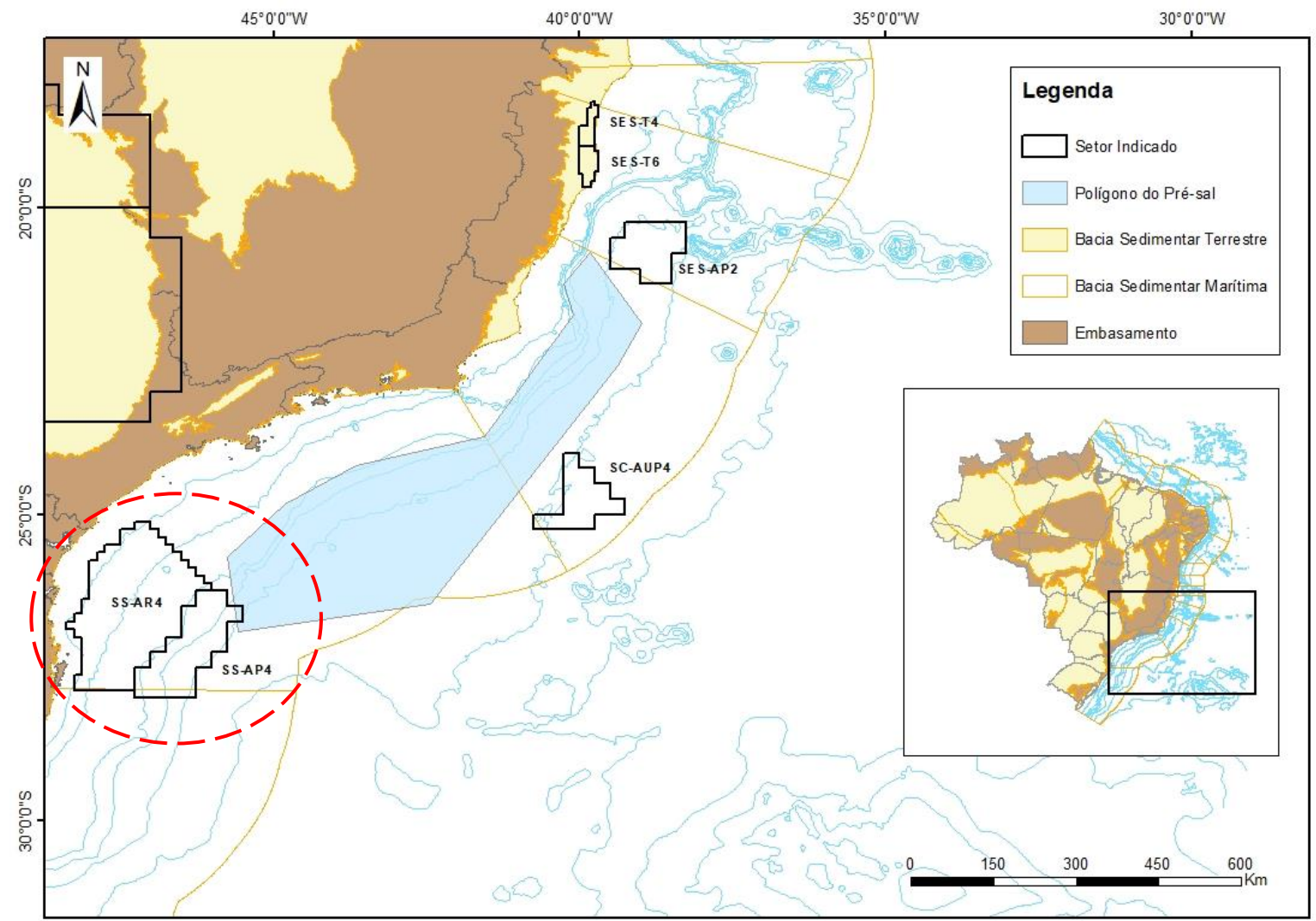
<http://rodadas.anp.gov.br/pt/oferta-permanente/inscricao-de-licitantes>

Indicated Sectors



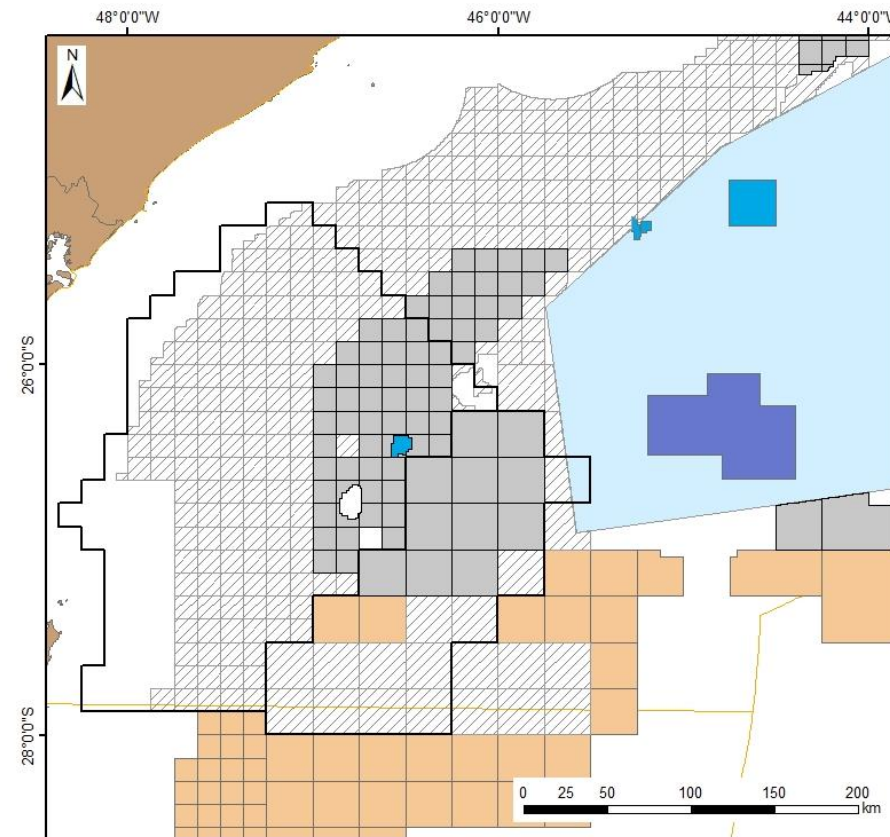
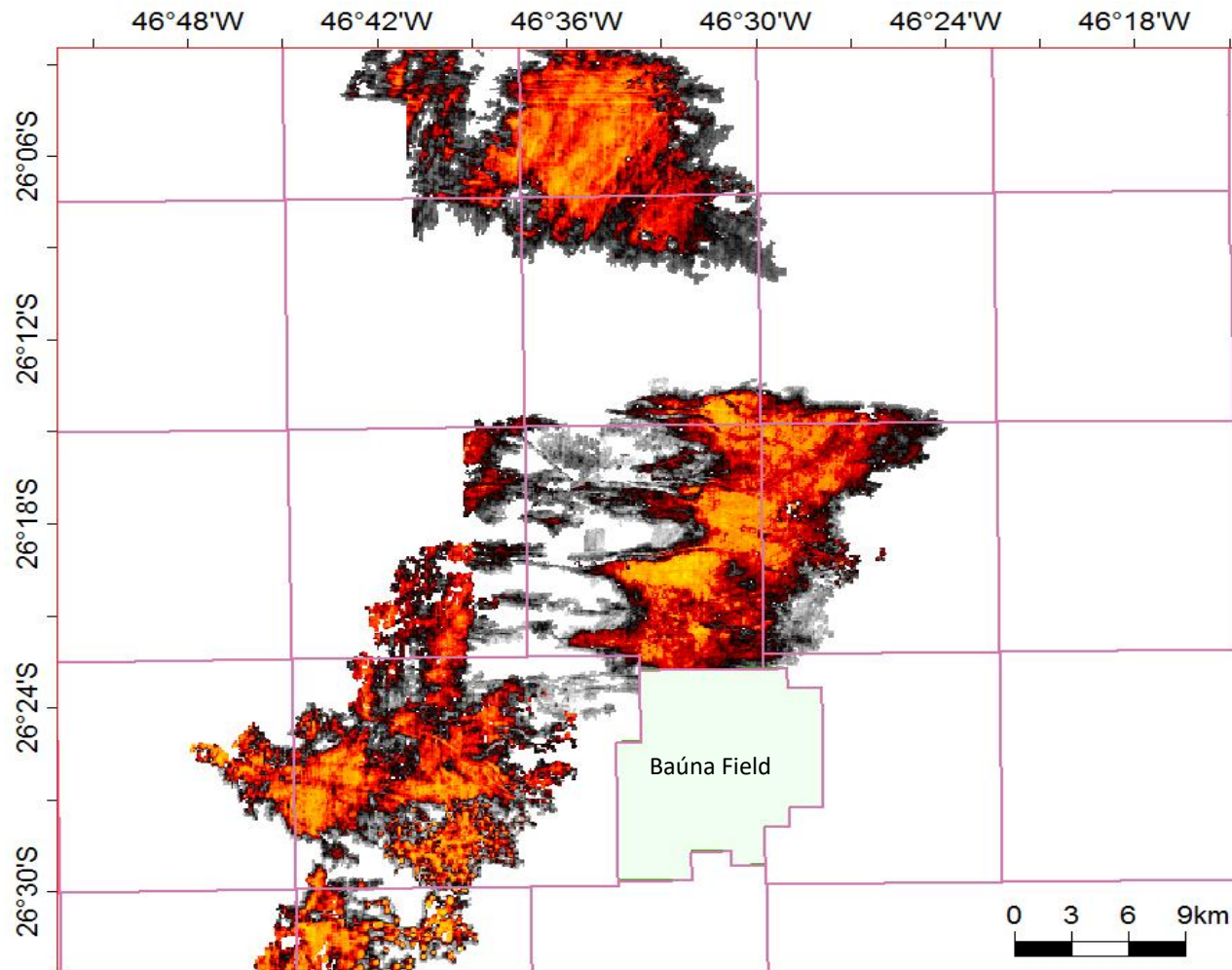




Indicated Sectors



PERMANENT OFFER – SANTOS BASIN

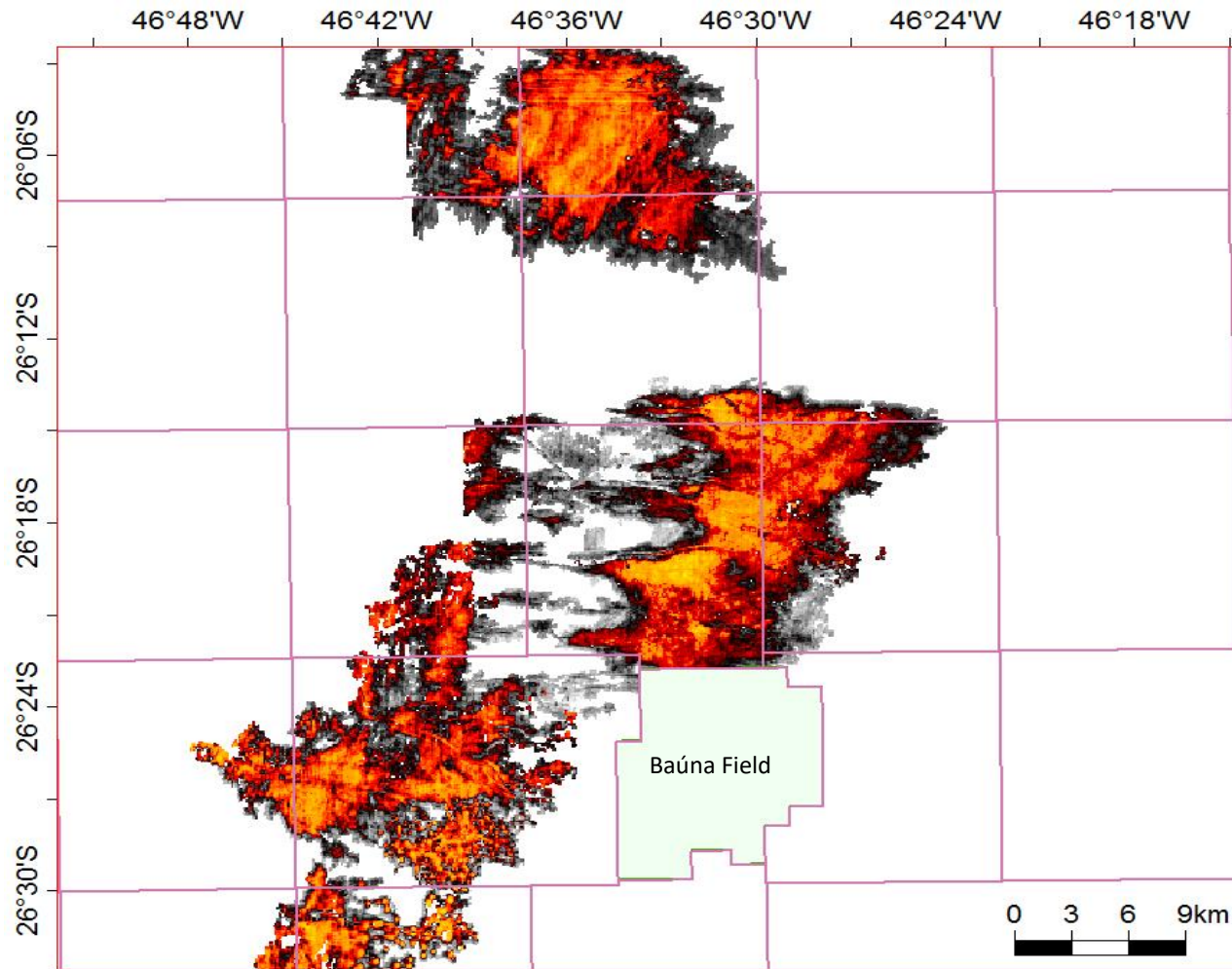
FRONTIER BLOCKS, PART OF THEM NEIGHBORING FIELDS



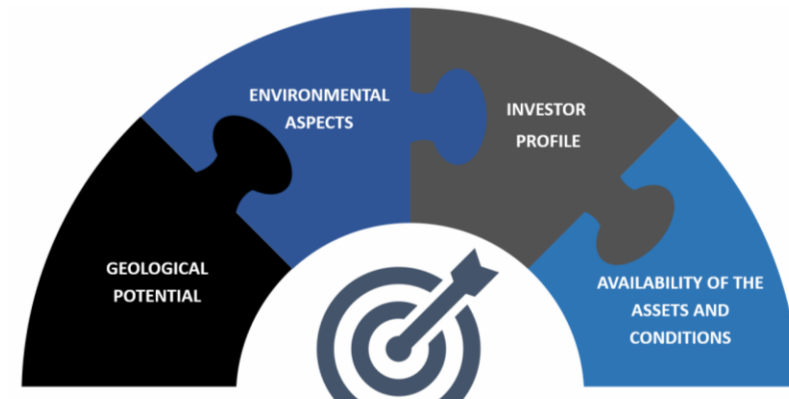
-  Block on Offer
-  Block on Study

PERMANENT OFFER – SANTOS BASIN

FRONTIER BLOCKS, PART OF THEM NEIGHBORING FIELDS

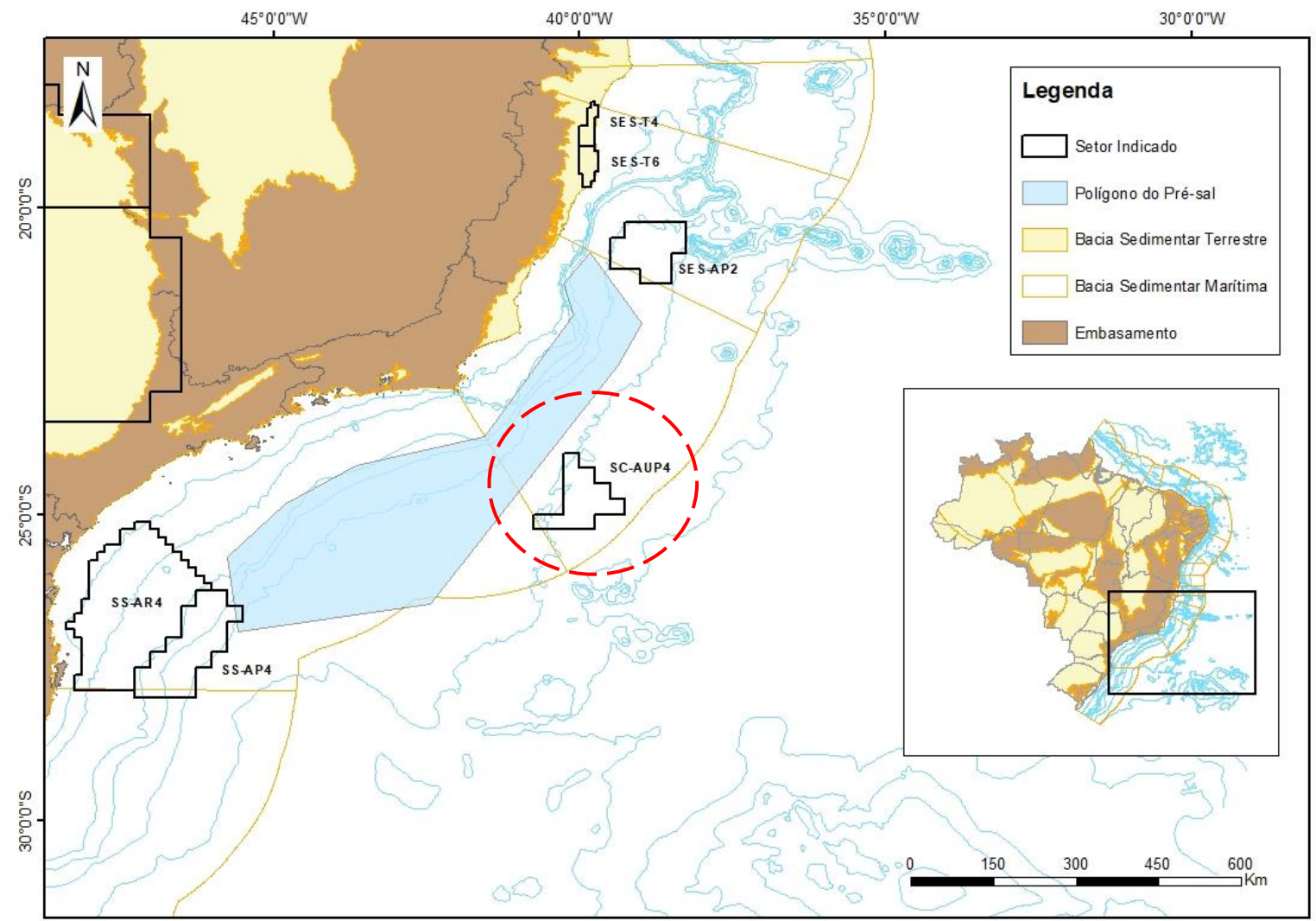


Range of geological risk and expected premium,
**THE RISK CAN BE REDUCED BY ADJACENT
PRODUCTION FIELDS**, as well as reducing
licensing problems and the possibility of
infrastructure sharing

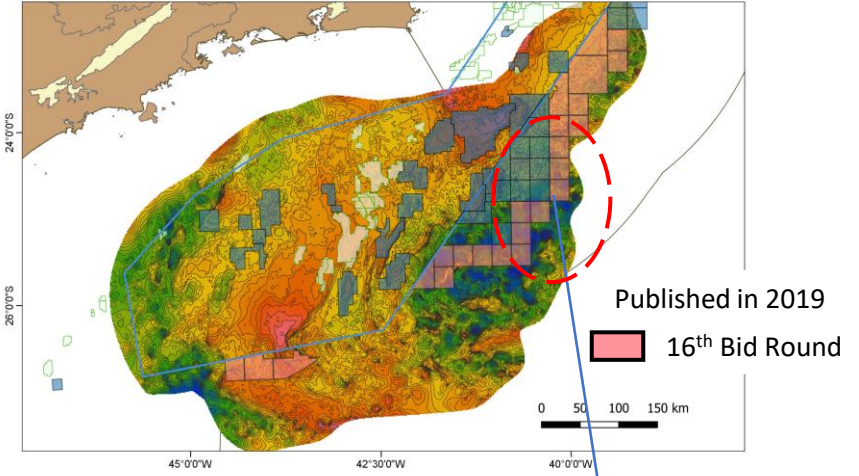
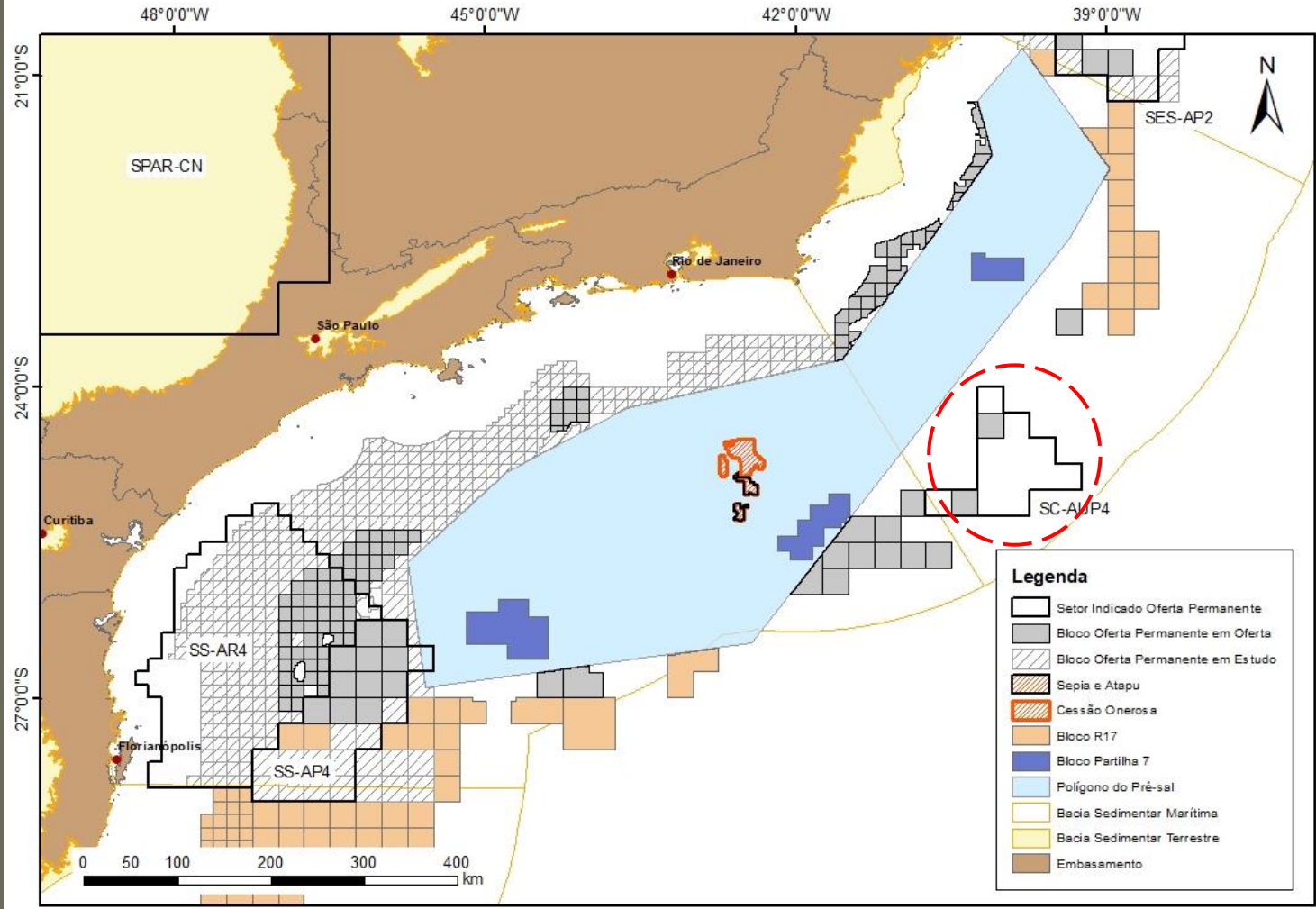




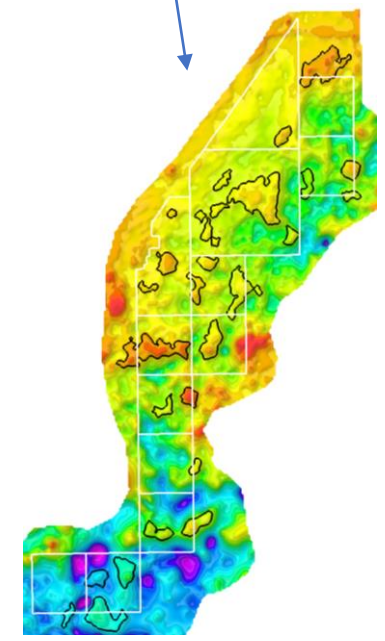
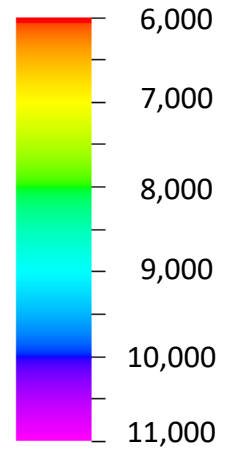
Indicated Sectors



EXPLORATORY CENARIO - CAMPOS AND SANTOS BASINS



Base of Salt (m)

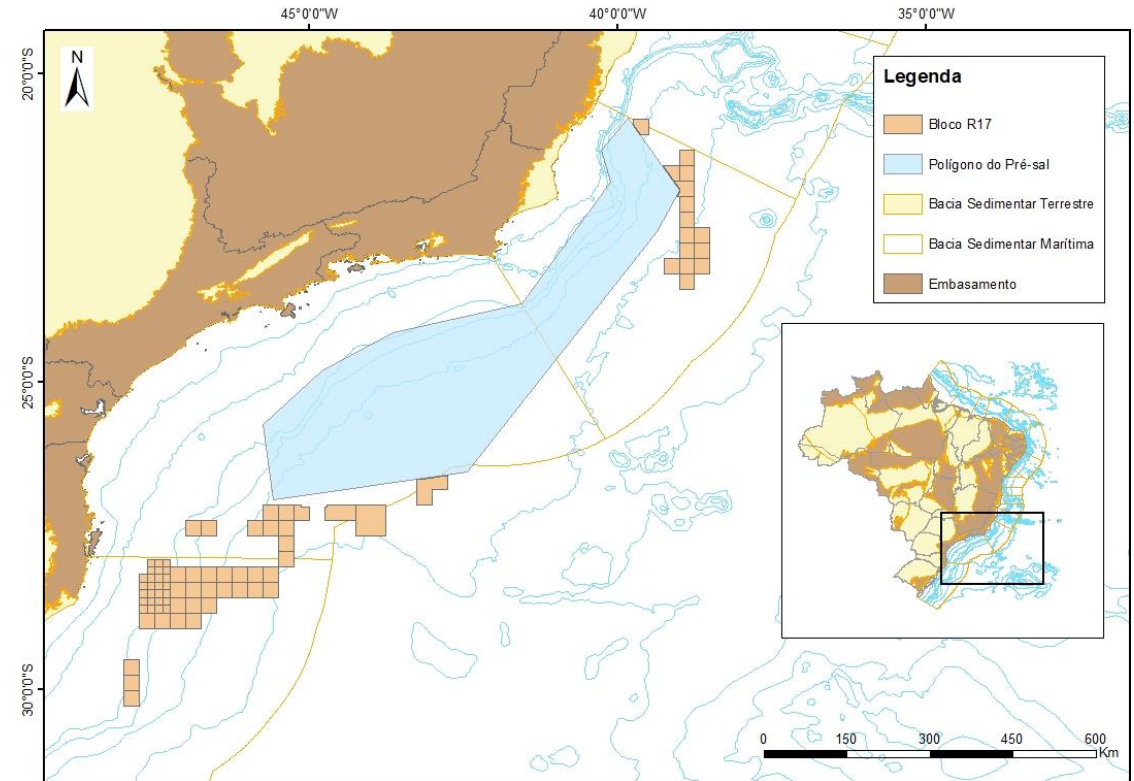
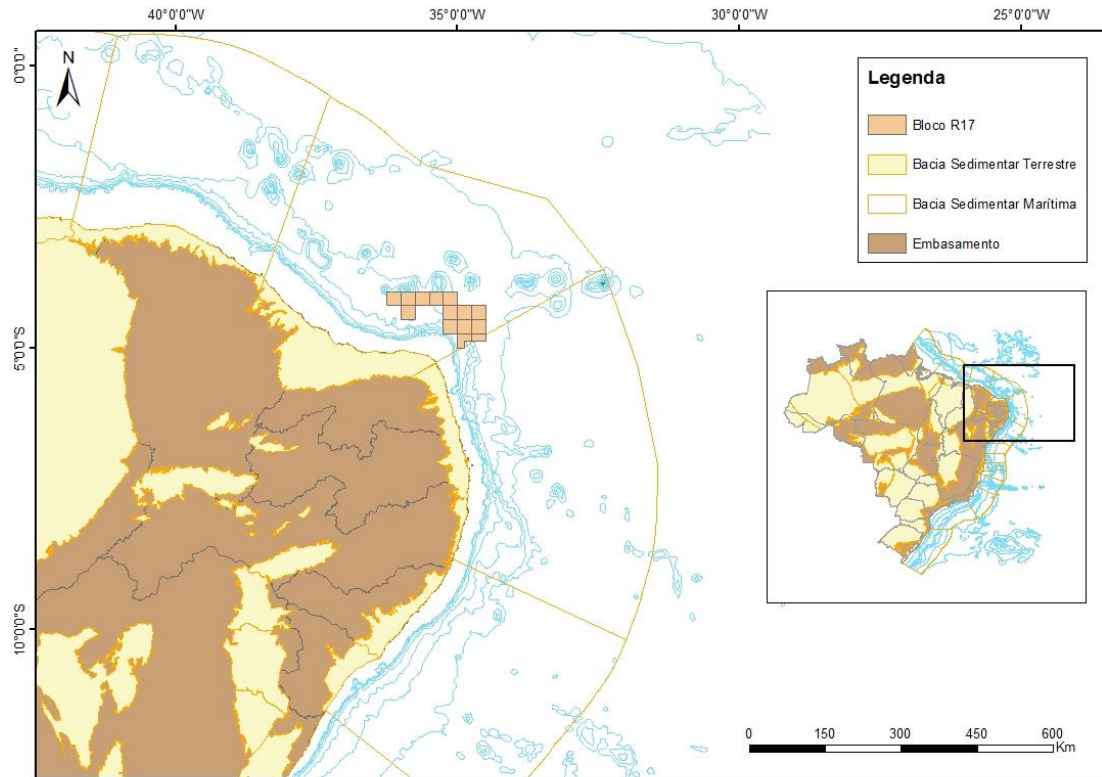


EXPLORATORY CENARIO - CAMPOS AND SANTOS BASINS

POTIGUAR, CAMPOS, SANTOS and PELOTAS BASIN

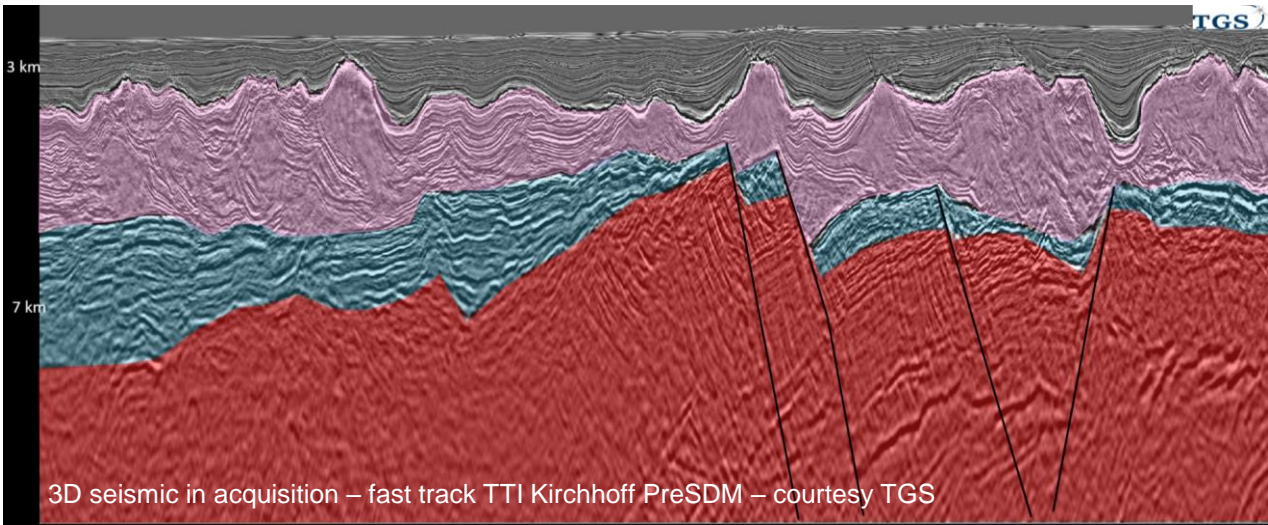
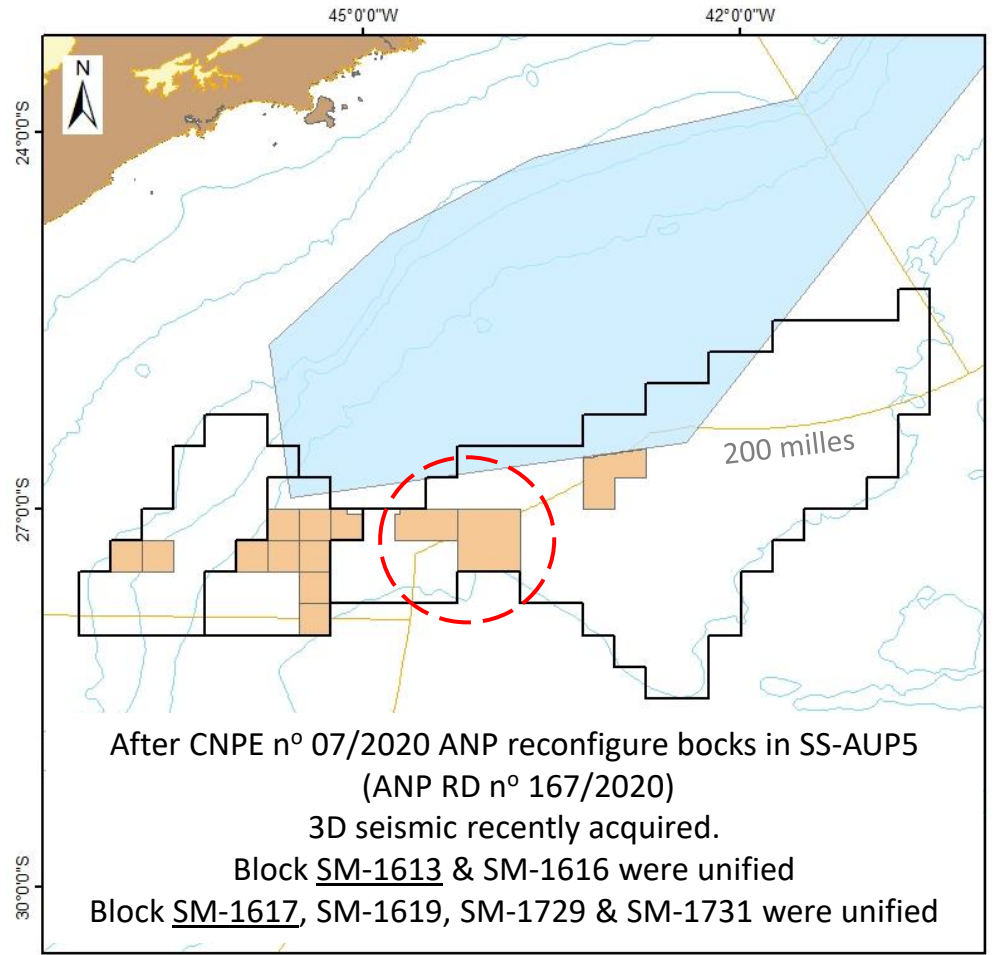
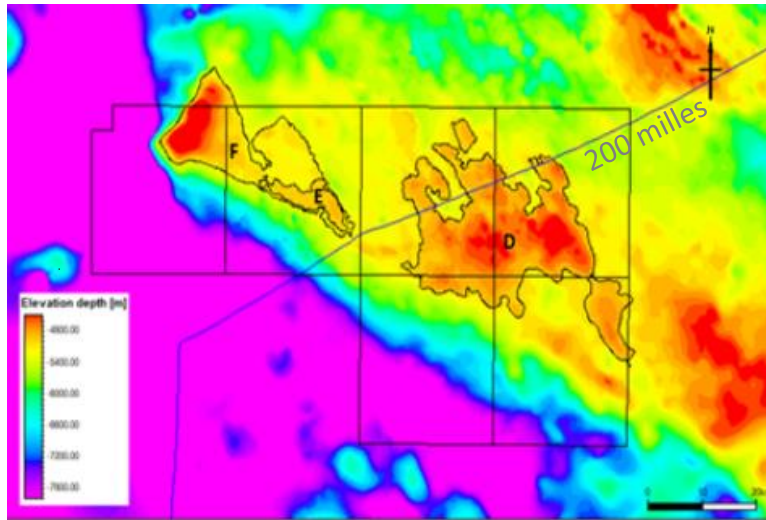


3rd Quarter, 2021



CONCESSION REGIME - SANTOS BASIN

AVAILABLE OPPORTUNITIES – R 17

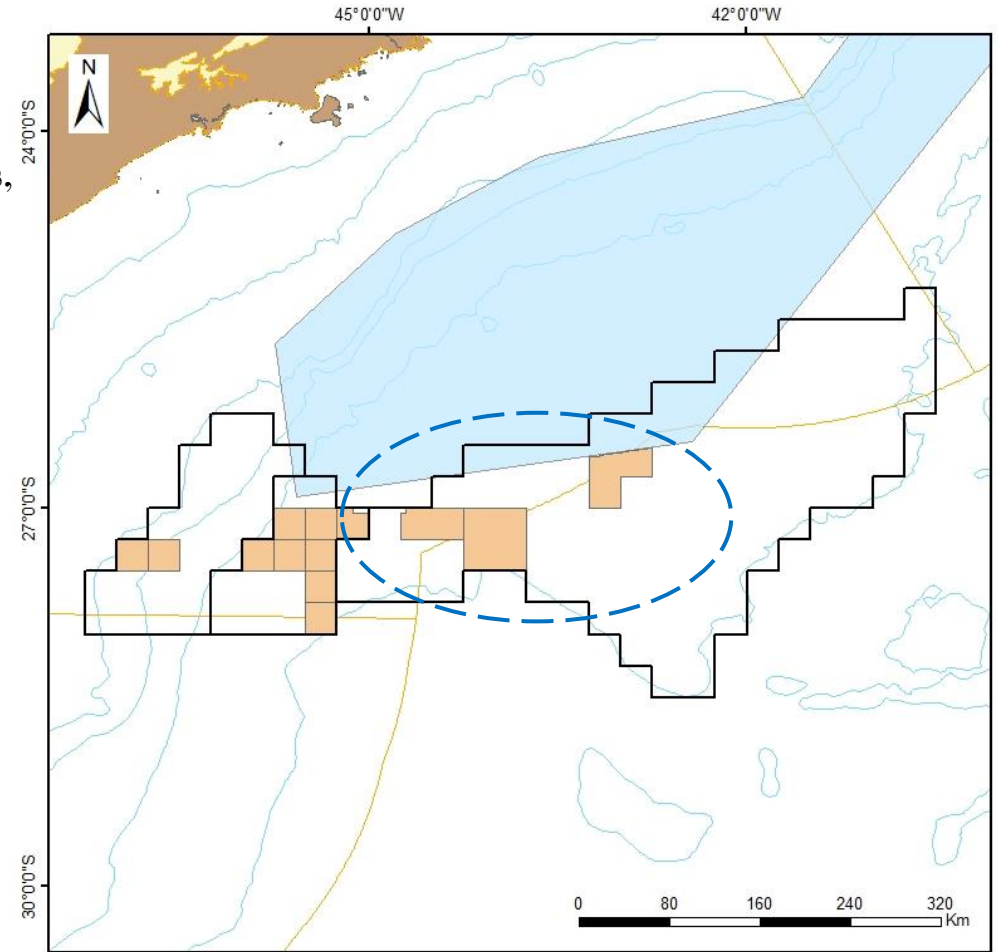
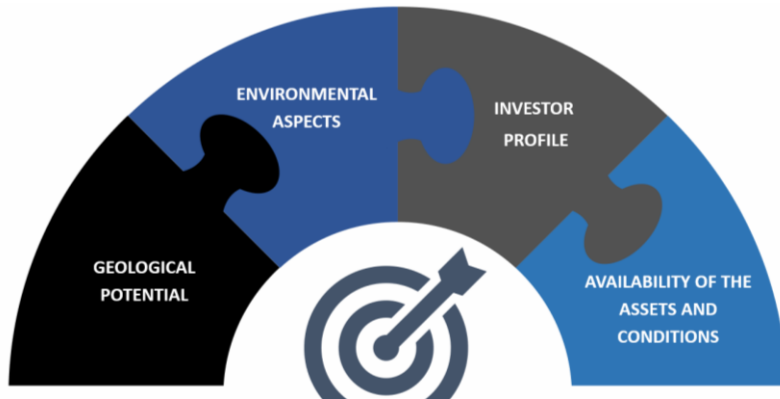


The reconfiguration will be object of CNPE deliberation

CONCESSION REGIME - SANTOS BASIN

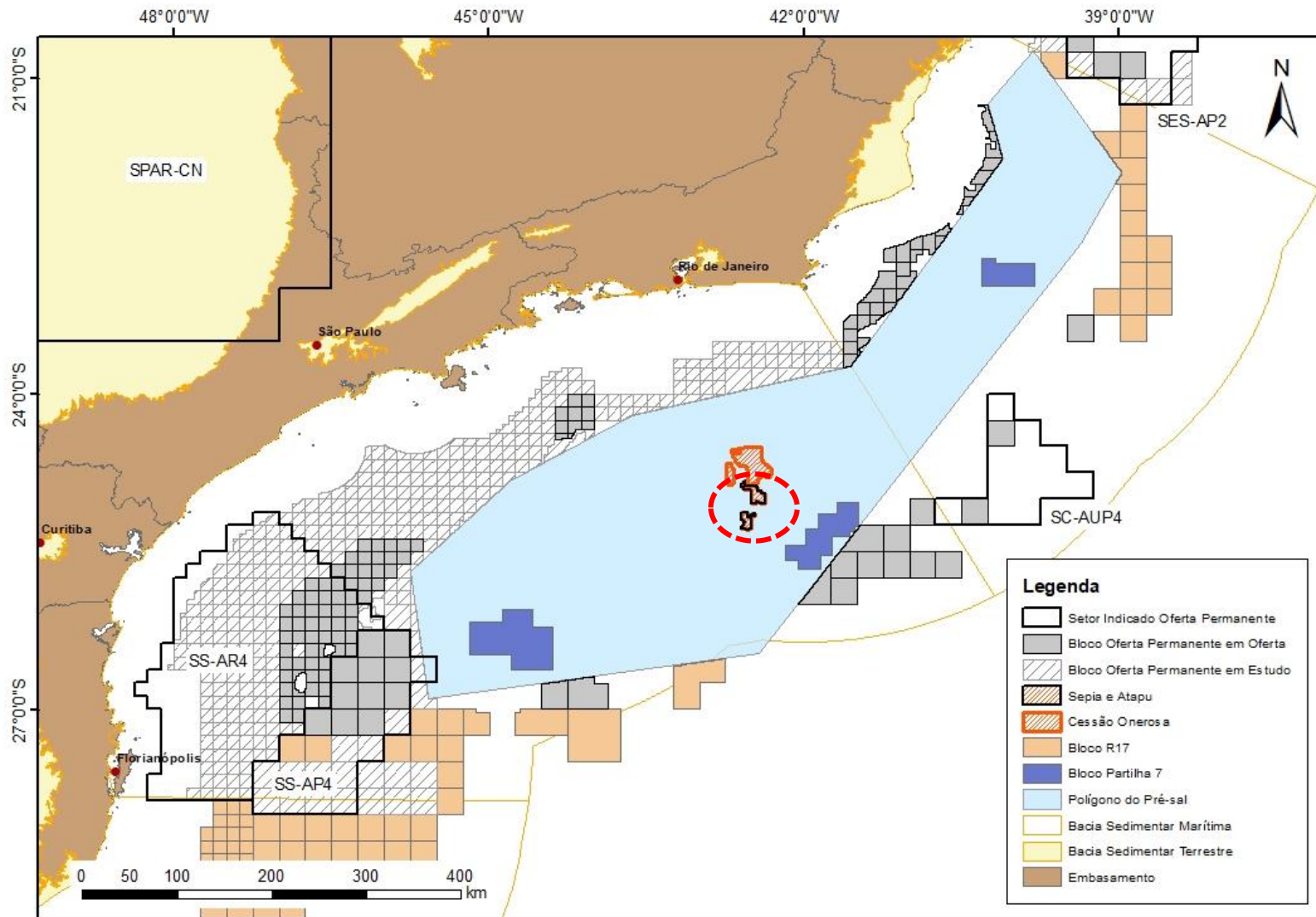
AVAILABLE OPPORTUNITIES – R 17

Moderate to high geological risk prospects, **BETTER PREMIUM**, far from fields, **RECENT GOOD QUALITY SEISMIC 3D**, beyond 200 nautical Milles.
Blocks were recently unified based on geological interpretation.



EXPLORATORY CENARIO - CAMPOS AND SANTOS BASINS

SEPIA AND ATAPU FIELDS



Concession
Contracts

Production Share
Contracts



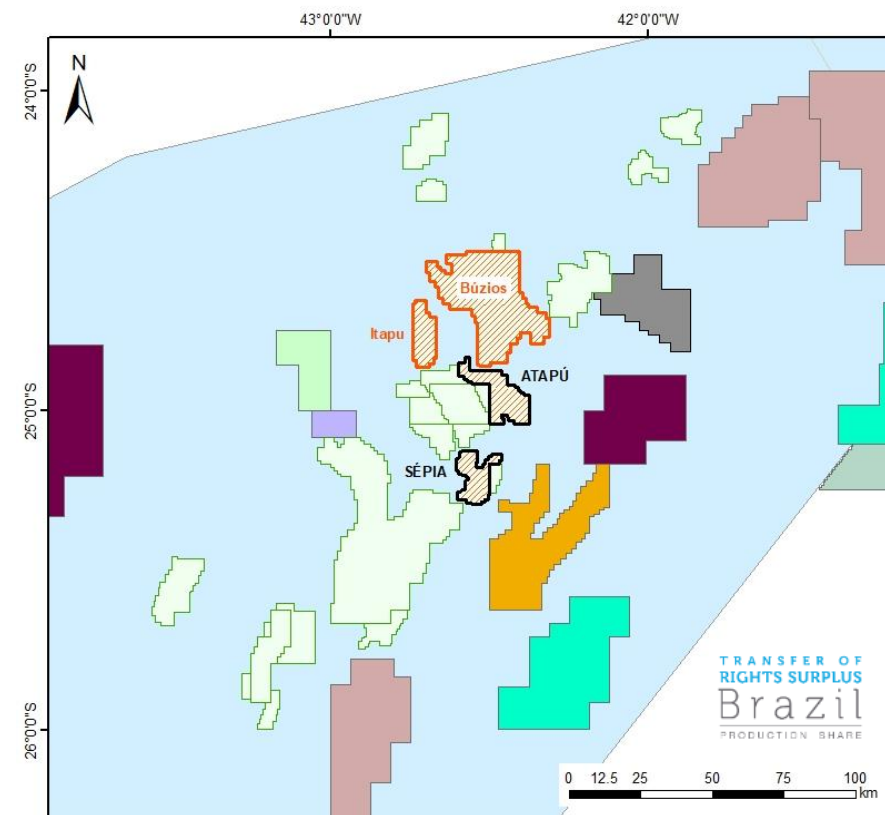
SURPLUS VOLUMES – SANTOS BASIN

TRANSFER OF
RIGHTS SURPLUS
Brazil
PRODUCTION SHARE

SEPIA AND ATAPU FIELDS

Top 10 Brazilian Well Producers

| WELL | FIELD | OIL (bbl/d) | GAS (Mm ³ /d) | TOTAL (boe/d) |
|-----------------|---------------------|-------------|--------------------------|---------------|
| 7-BUZ-12-RJS | Búzios/ Tambuatá | 56.456 | 2.016 | 69.135 |
| 7-BUZ-24D-RJS | | 51.313 | 1.985 | 63.796 |
| 7-BUZ-10-RJS | | 51.279 | 1.988 | 63.783 |
| 7-BUZ-31D-RJS | | 47.612 | 2.028 | 60.371 |
| 7-BUZ-14DA-RJS | | 42.035 | 1.671 | 52.548 |
| 7-BUZ-30-RJS | | 42.003 | 1.510 | 51.501 |
| 7-BUZ-25-RJS | | 41.409 | 1.604 | 51.498 |
| 7-BUZ-23-RJS | | 39.397 | 1.536 | 49.057 |
| 9-BRSA-1191-RJS | Búzios | 35.767 | 1.531 | 45.399 |
| 9-BUZ-3-RJS | | 34.951 | 1.643 | 45.287 |

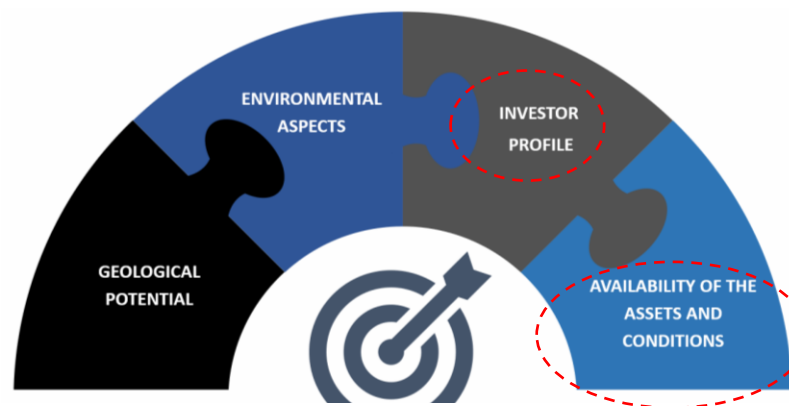


Top Oil Field Brazilian Producers

1st Tupi (1.003.716 bbl/d)

2nd Búzios (605.217 bbl/d)

8th Atapu (20.719 bb/d)

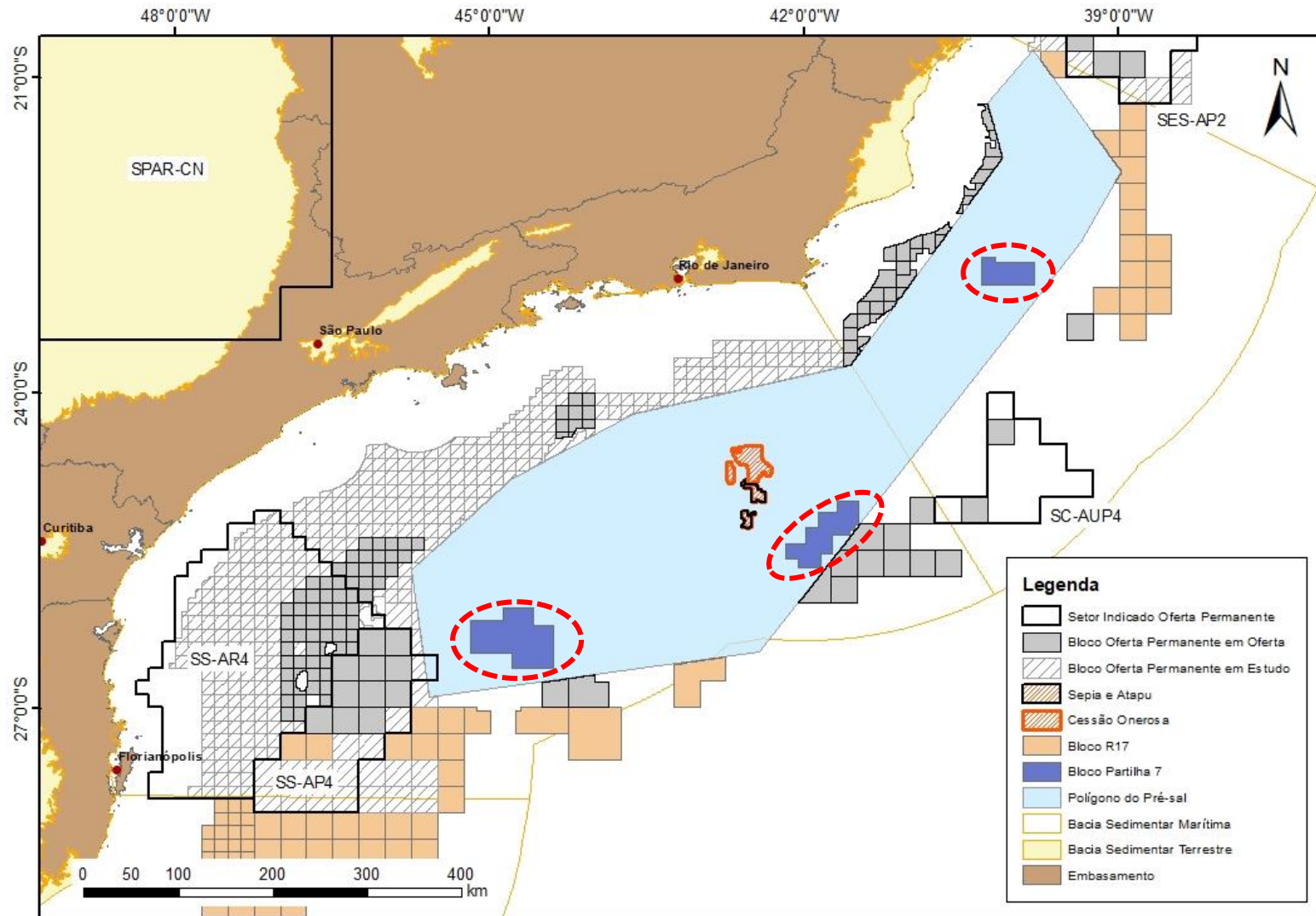


PPSA & Petrobras are negotiating compensation and co-participation agreement

MME Ordinance n° 23/2020, Janeiro 27th, 2020
ANP RD 0290/2020
I) Approved Action Plan & II) Allow SDP, SDB e SPL

EXPLORATORY CENARIO - CAMPOS AND SANTOS BASINS

AGATA, AGUA MARINHA AND ESMERALDA BLOCKS



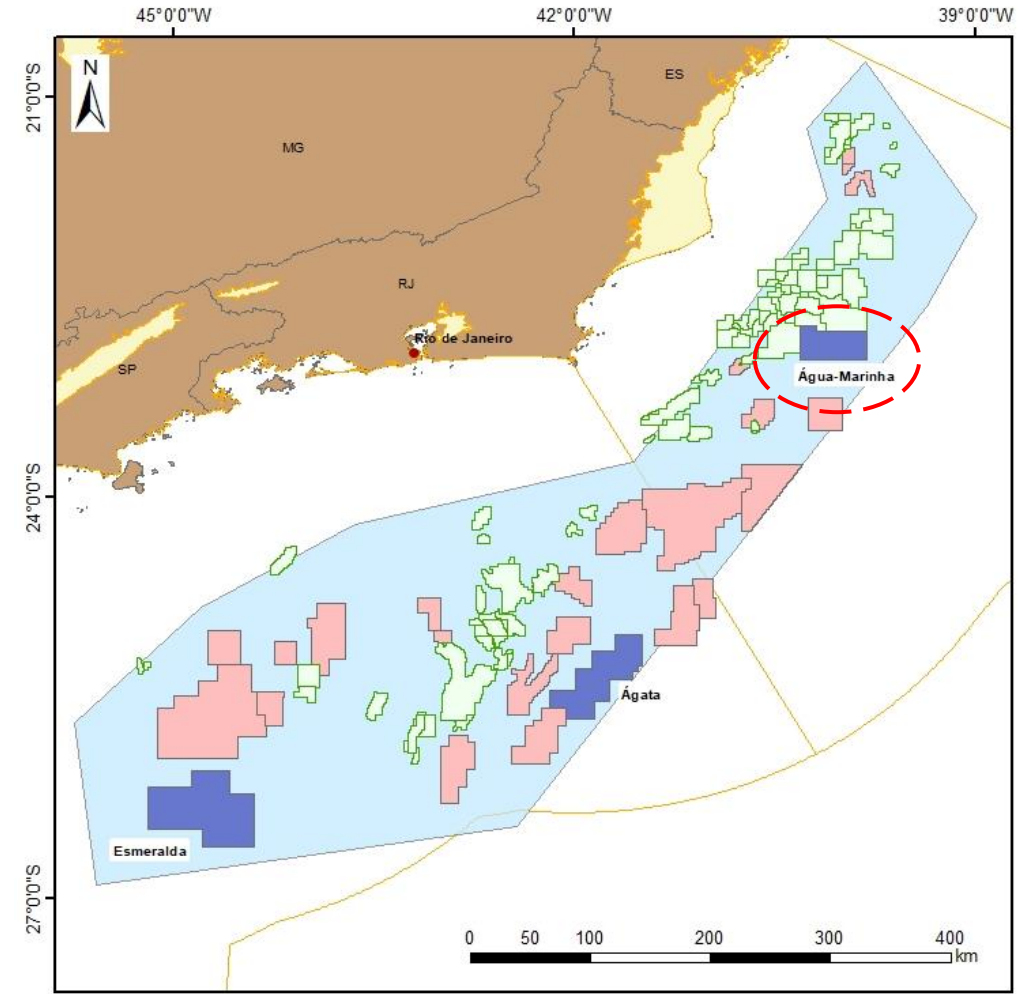
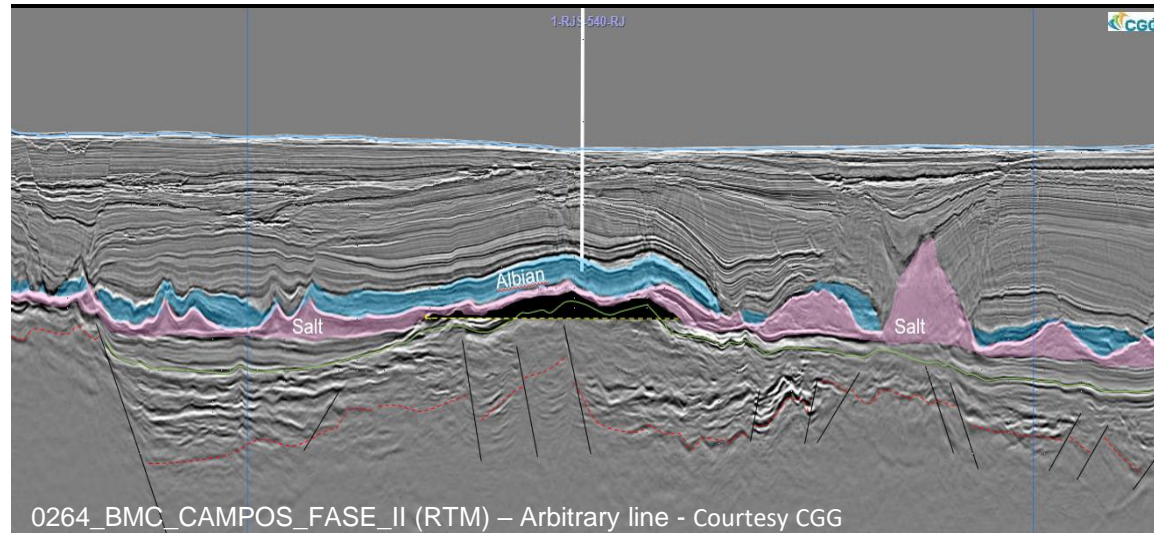
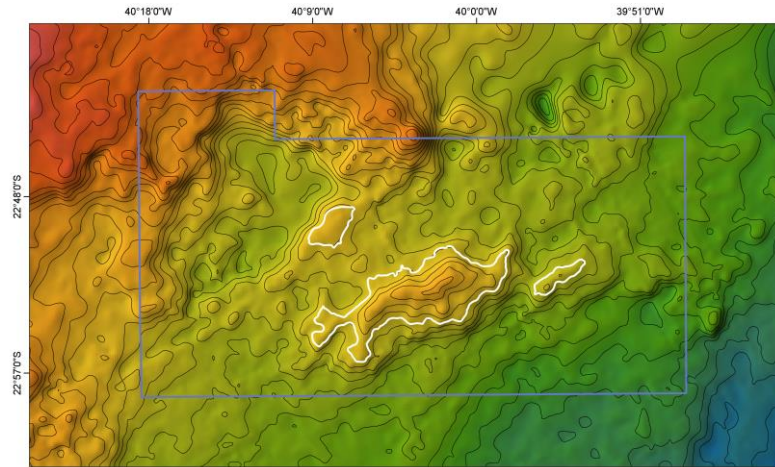
Concession
Contracts

Production Share
Contracts



PRODUCTION SHARE - CAMPOS BASIN

AVAILABLE OPPORTUNITIES – AGUA MARINHA BLOCK – LP7



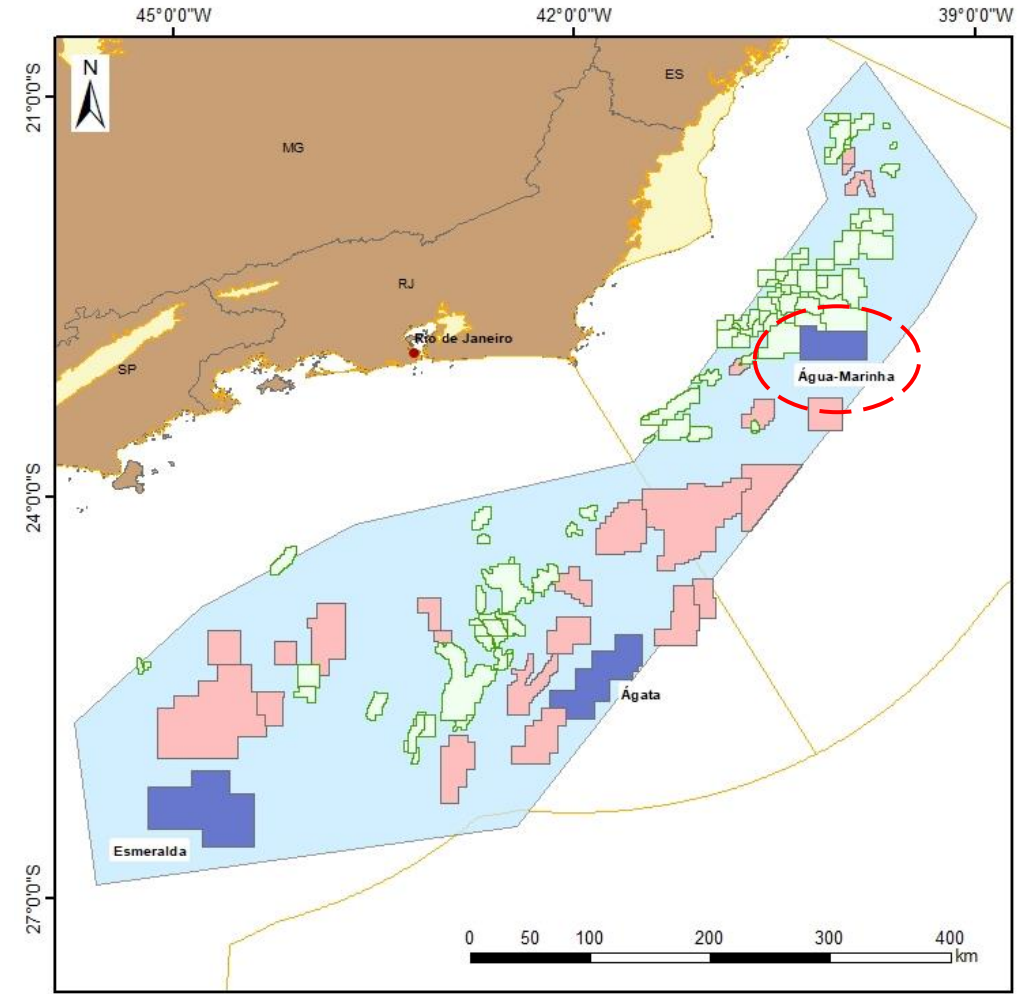
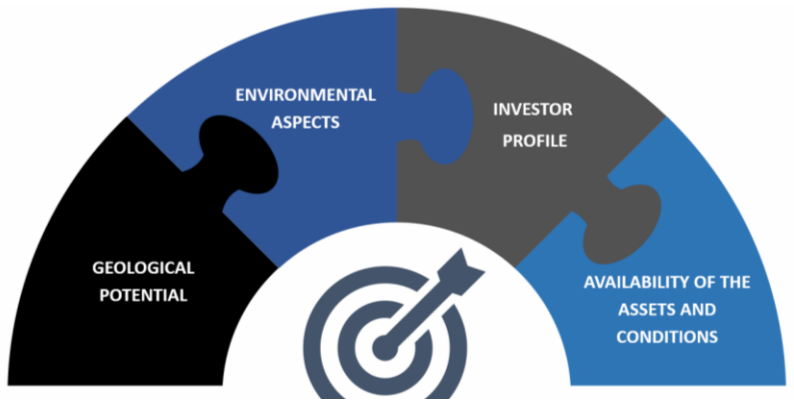
PRODUCTION SHARE - CAMPOS BASIN

AVAILABLE OPPORTUNITIES – AGUA MARINHA BLOCK – LP7



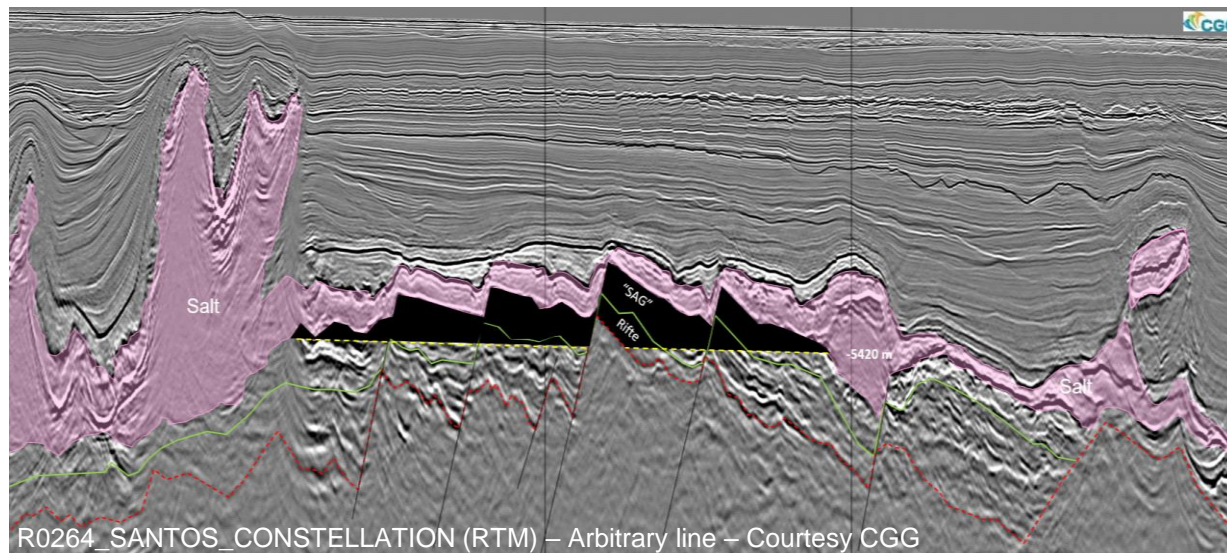
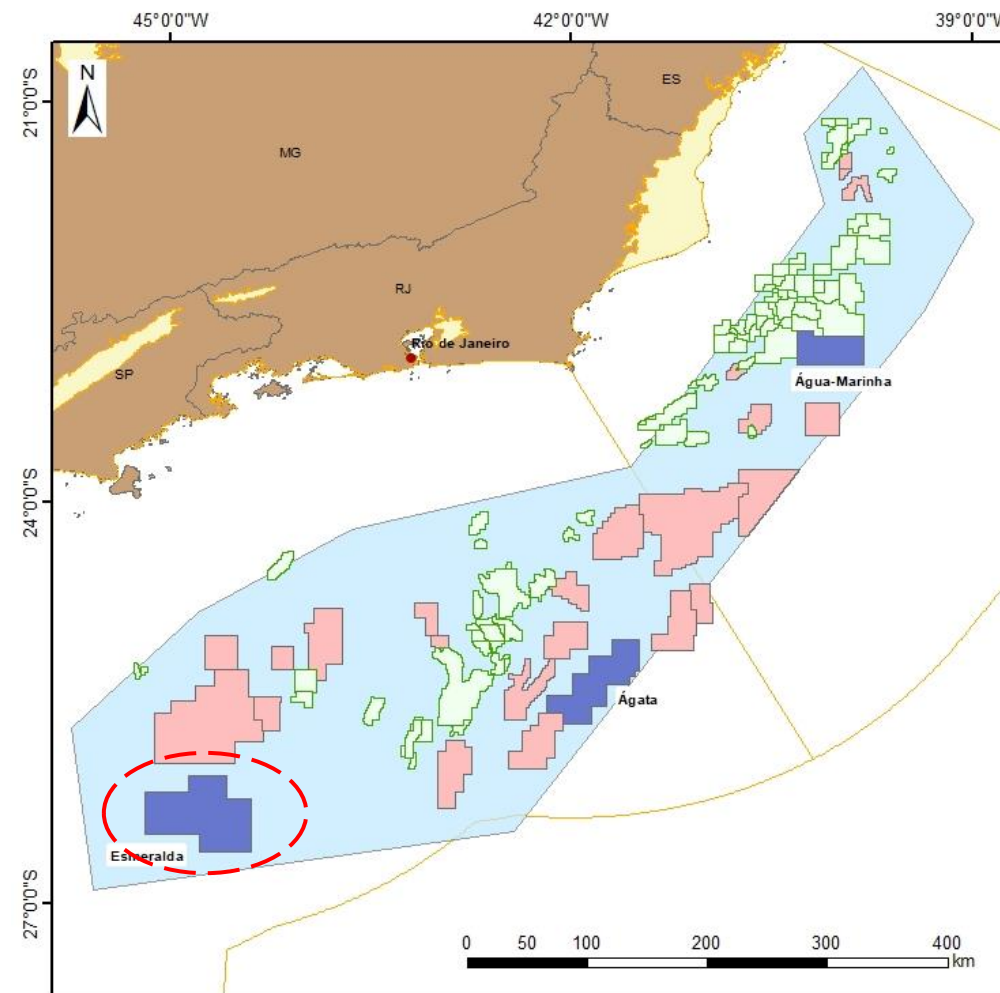
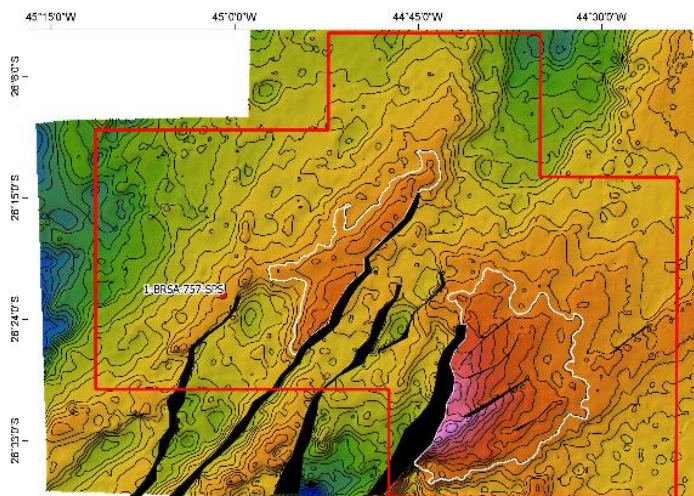
VERY LOW GEOLOGICAL RISK PROSPECT,
relatively small size, no environmental problems

Neighbor to Several Fields



PRODUCTION SHARE - SANTOS BASIN

AVAILABLE OPPORTUNITIES – ESMERALDA BLOCK – LP7

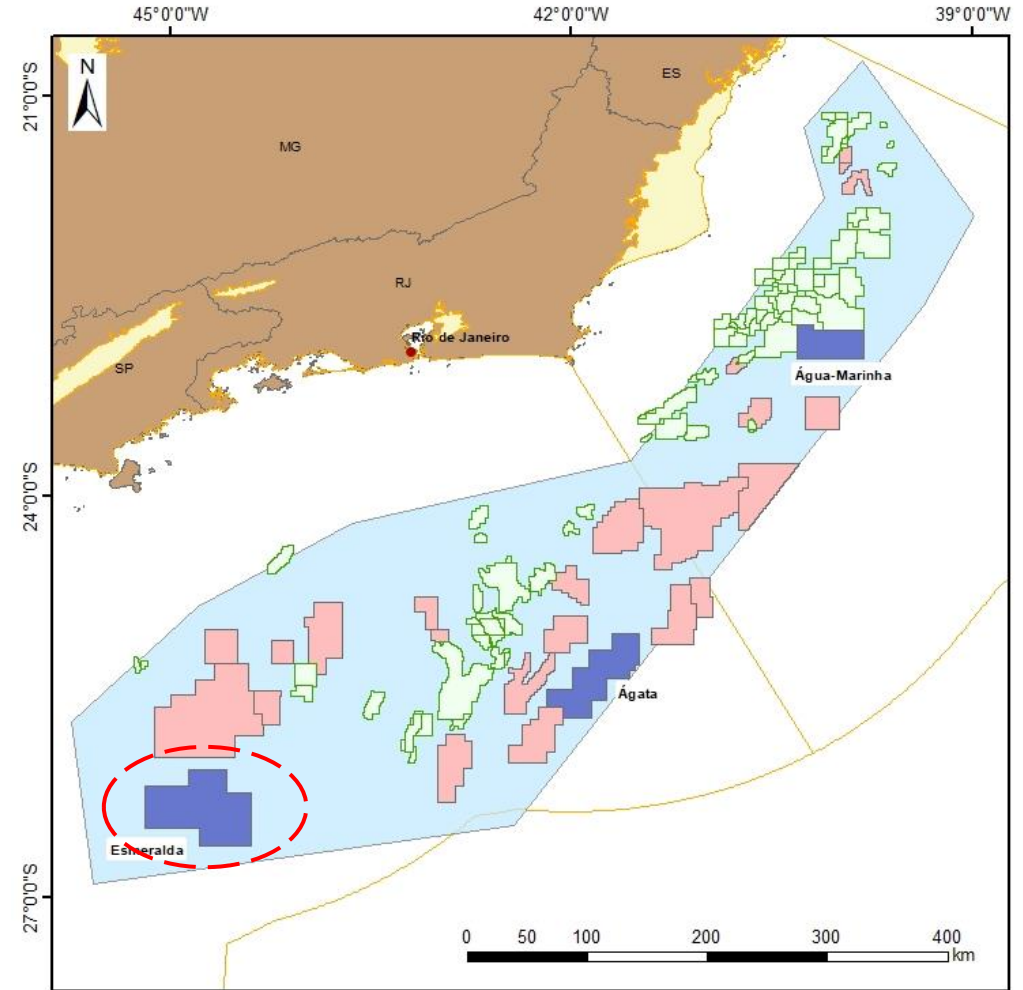
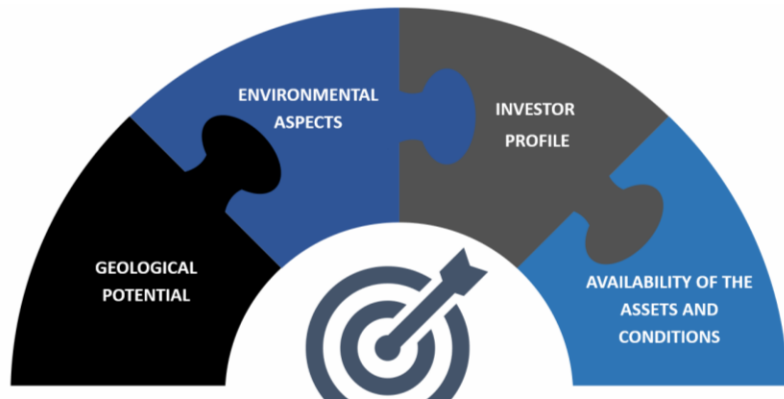


PRODUCTION SHARE - SANTOS BASIN

AVAILABLE OPPORTUNITIES – ESMERALDA BLOCK – LP7



MODERATE GEOLOGICAL RISK PROSPECT,
relatively BETTER PREMIUM, no environmental
problems but far from fields



BEYOND SANTOS AND CAMPOS BASINS

PRODUCER SEDIMENTARY BASINS

| Sedimentary Basin | OIL (bbl) | GAS (Mm ³ /d) | TOTAL (boe/d) | FIELDS NUMBER |
|---|-----------|--------------------------|---------------|---------------|
| Potiguar (onshore/offshore) (mature /frontier) | 35,786 | 652 | 39,888 | 74 |
| SEAL (onshore/offshore) (mature/frontier) | 13,248 | 973 | 19,367 | 23 |
| ES (onshore/offshore) (mature/frontier) | 20,139 | 857 | 25,529 | 35 |
| Reconcavo (onshore) | 24,033 | 1,936 | 36,208 | 66 |
| Parnaiba (onshore frontier) | 38 | 2,186 | 13,786 | 5 |
| Solimoés (onshore frontier) | 15,324 | 13,820 | 102,246 | 7 |

* The Camamu, Tucano Sul and Barreirinhas Sedimentary Basins are also producers and have good geological potential. Other non-producing basins also have geological potential.

OUTLINE

Brazilian Hot Areas

Future Licensing Rounds

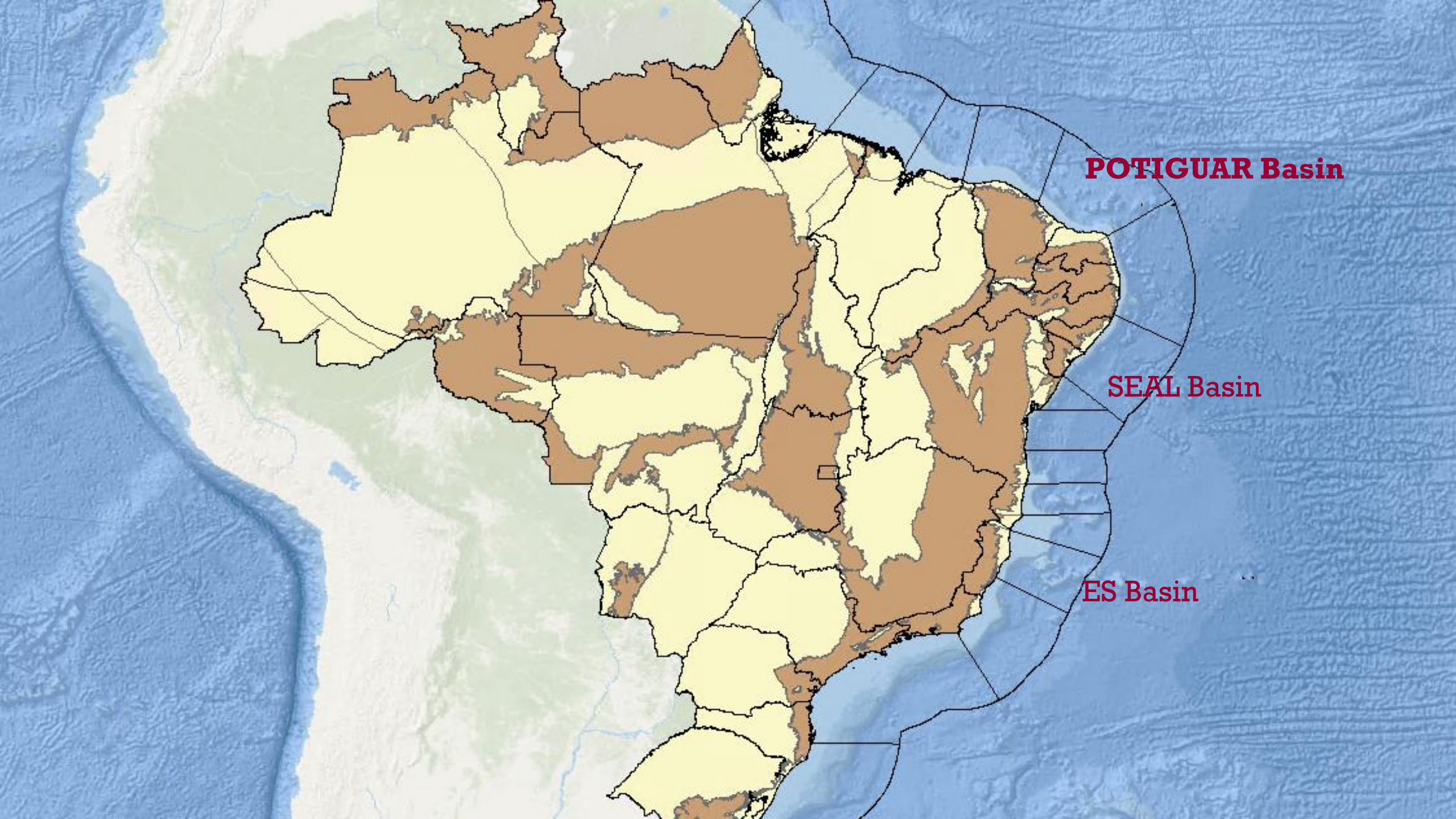


CAMPOS AND SANTOS SEDIMENTARY BASINS

»» **SEAL, ES ANP POTIGUAR** OFFSHORE/ONSHORE
* Reconcavo also is important, but have just onshore part

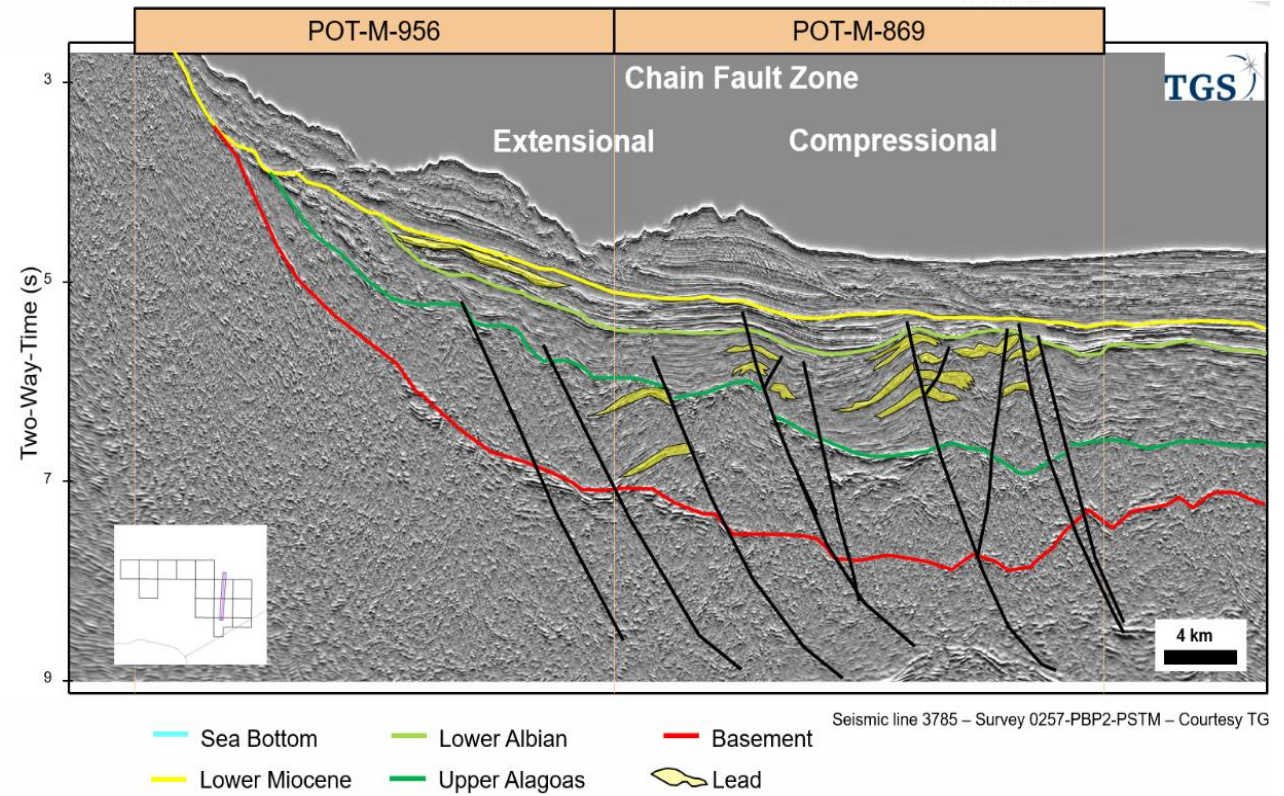
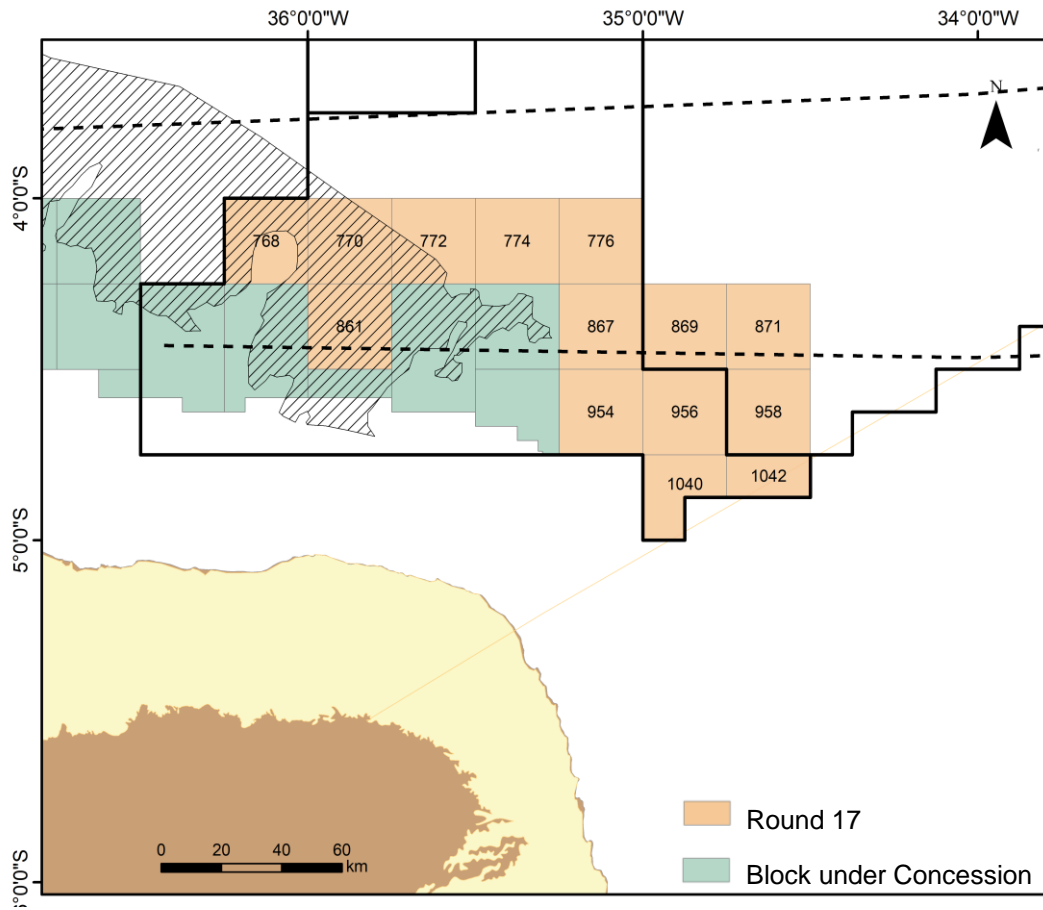
GIANT ONSHORE BASINS





EXPLORATORY CENARIO – POTIGUAR OFFSHORE



POTIGUAR BASIN



EXPLORATORY CENARIO – POTIGUAR OFFSHORE

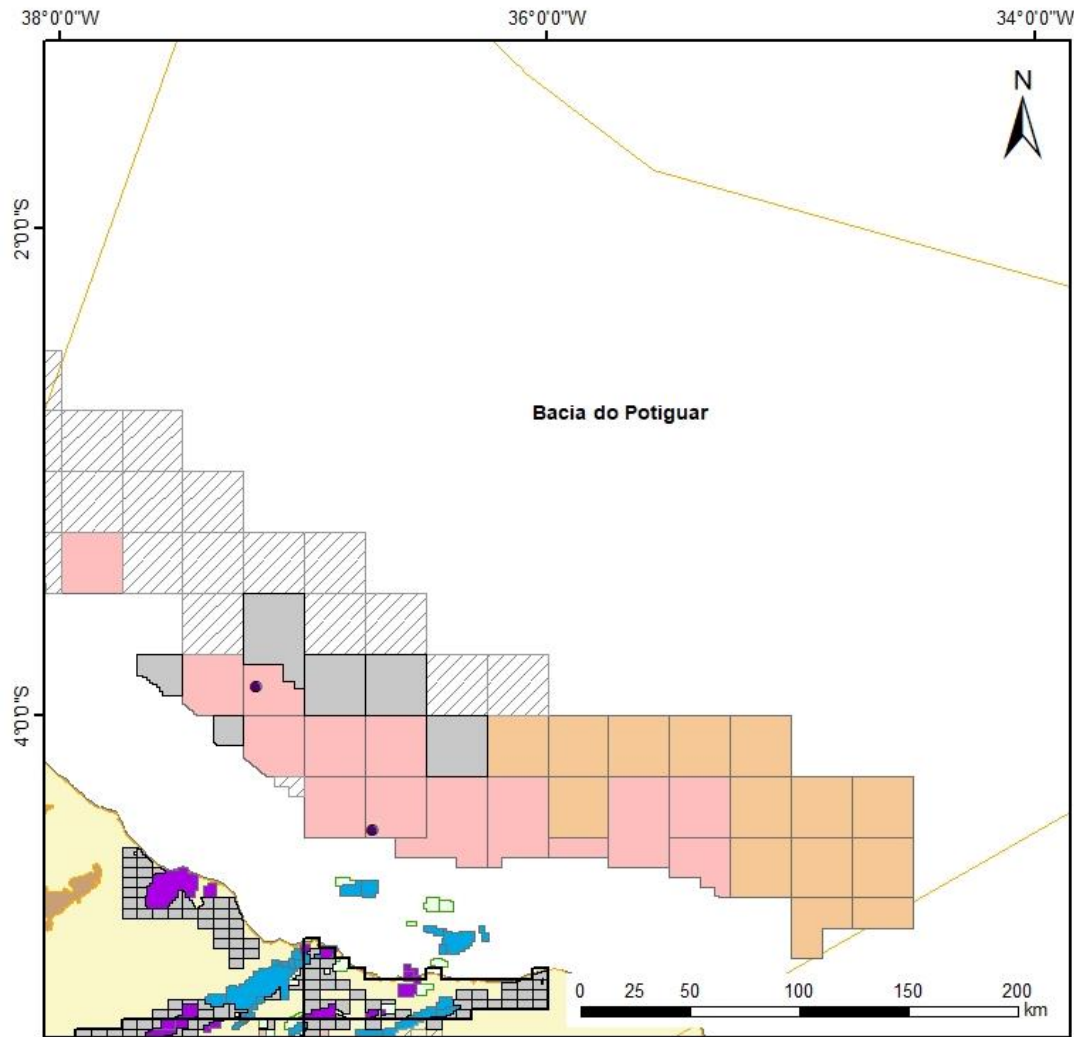
POTIGUAR BASIN















-  Block on Offer
-  Block on Study



-  Round 17



Legenda



-  Área em Desenvolvimento
-  Setor Indicado Oferta Permanente
-  Bloco Oferta Permanente em Oferta
-  Bloco Oferta Permanente em Estudo
-  Bloco R17
-  Teaser BR concluído
-  Teaser BR
-  Campo em Des. ou Produção
-  Bloco Exploratório
-  Bacia Sedimentar Marítima
-  Bacia Sedimentar Terrestre
-  Embasamento

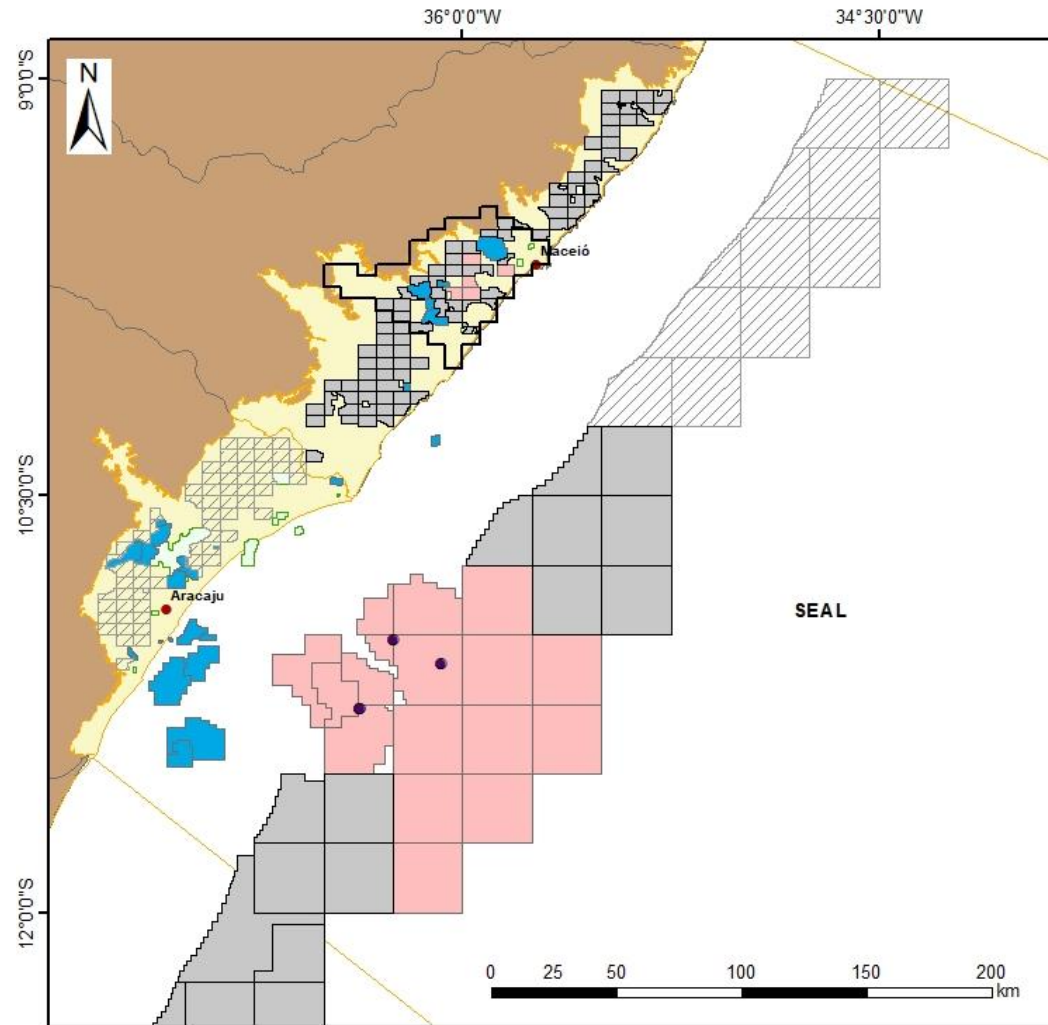


EXPLORATORY CENARIO – SEAL











SEAL BASIN

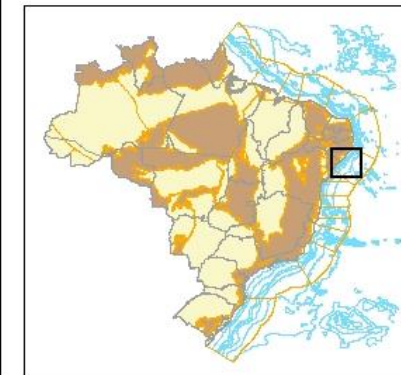


-  Block on Offer
-  Block on Study

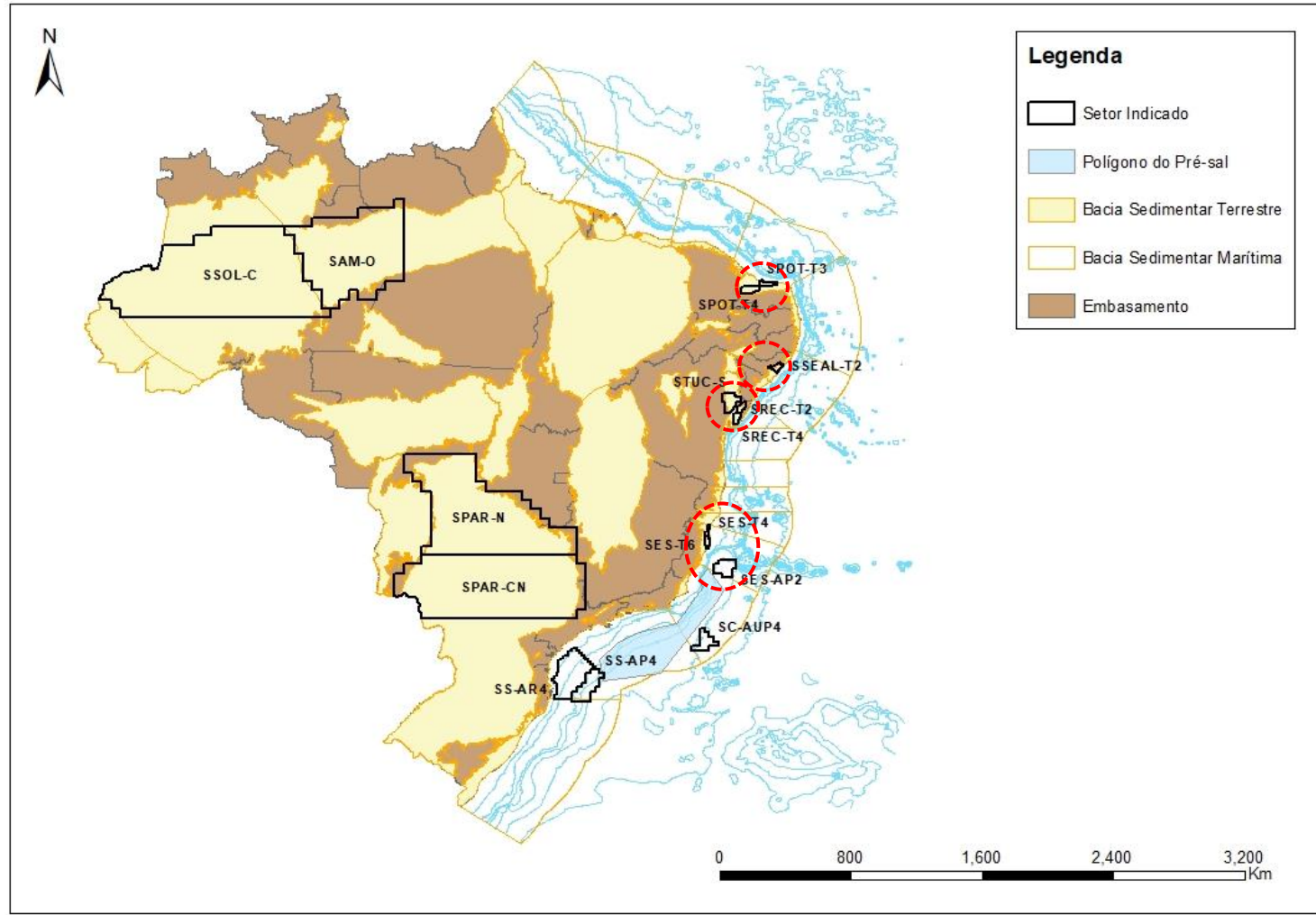


Legenda

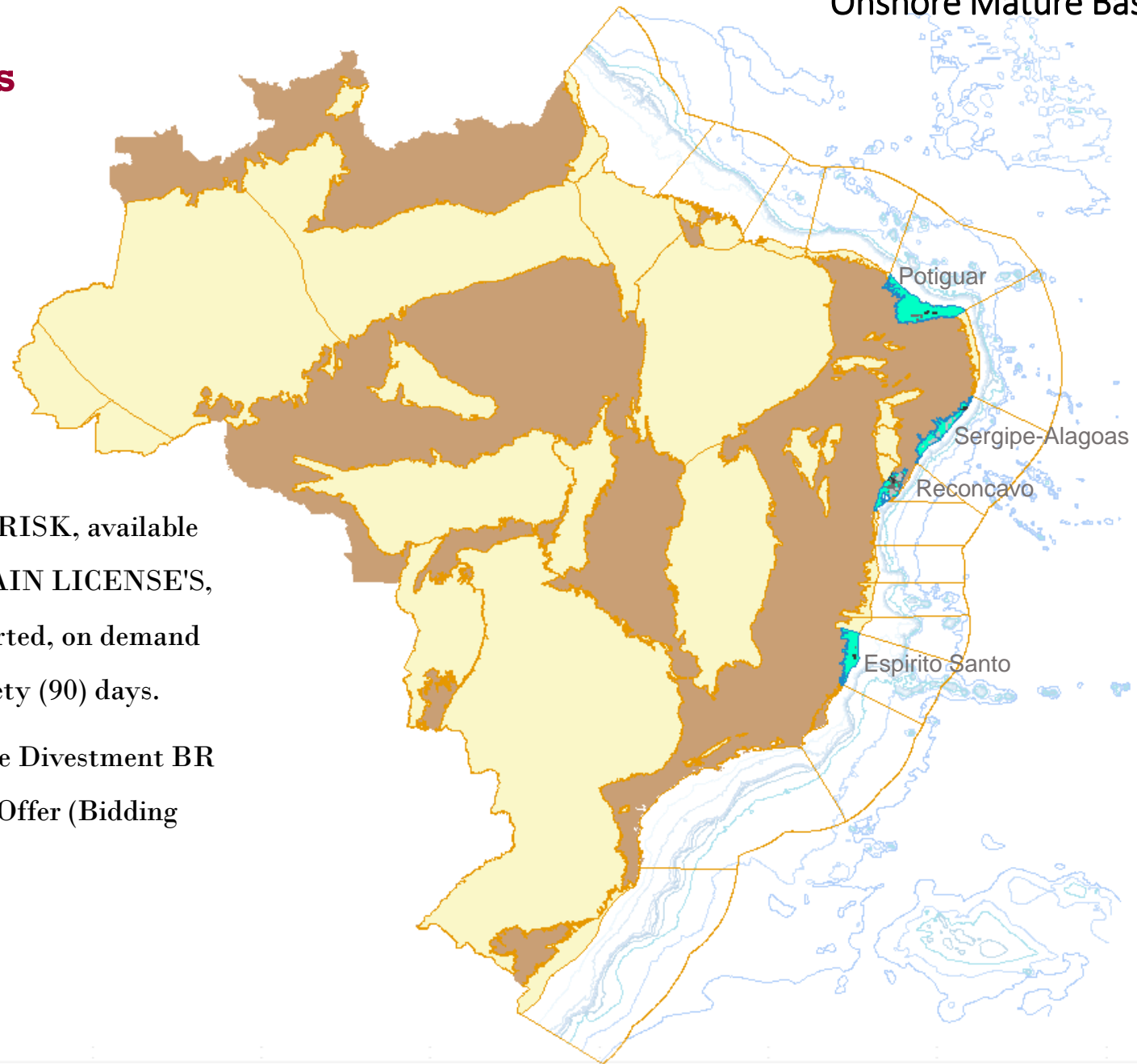
-  Área em Desenvolvimento
-  Setor Indicado Oferta Permanente
-  Bloco Oferta Permanente em Oferta
-  Bloco Oferta Permanente em Estudo
-  Teaser BR
-  Campo em Des. ou Produção
-  Bloco Exploratório
-  Bacia Sedimentar Marítima
-  Bacia Sedimentar Terrestre
-  Embasamento



INDICATED SECTORS



Brazilian Hot Areas – Mature Basins



Well-known geology with **VERY LOW GEOLOGICAL RISK**, available infrastructure, seismic and well data, **EASIER TO OBTAIN LICENSE'S**, positive impact on local content, recent discoveries reported, on demand bidding rounds and cycle shall be no longer than ninety (90) days.

Well succeed 1st Cycle of Permanent offer as well as on the Divestment BR Plan, Sector indicated for the 2nd Cycle of Permanent Offer (Bidding Round will be on December 4th)

OUTLINE

Brazilian Hot Areas

Future Licensing Rounds



CAMPOS AND SANTOS SEDIMENTARY BASINS

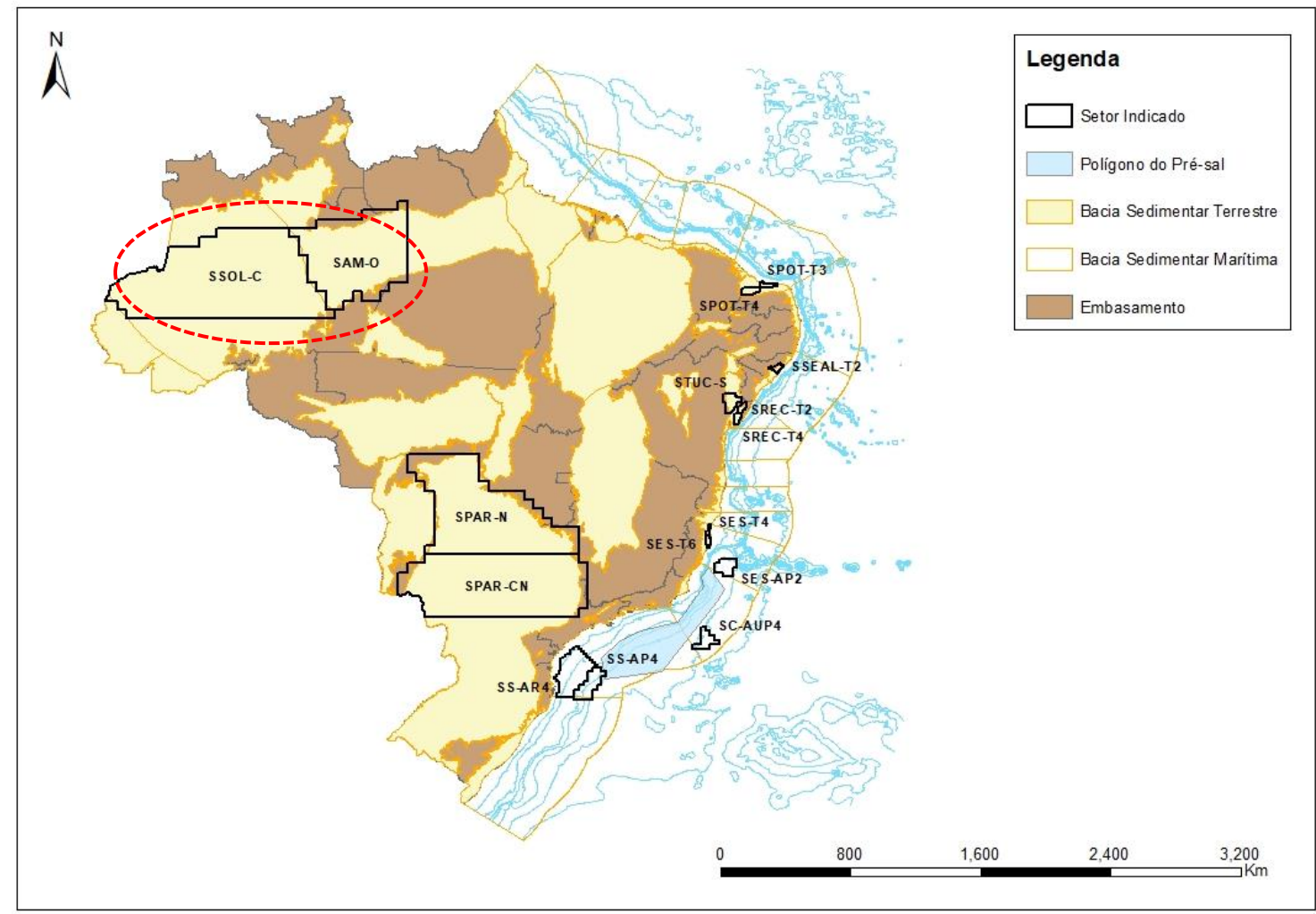
SEAL, ES ANP POTIGUAR OFFSHORE/ONSHORE

» **GIANT** ONSHORE BASINS

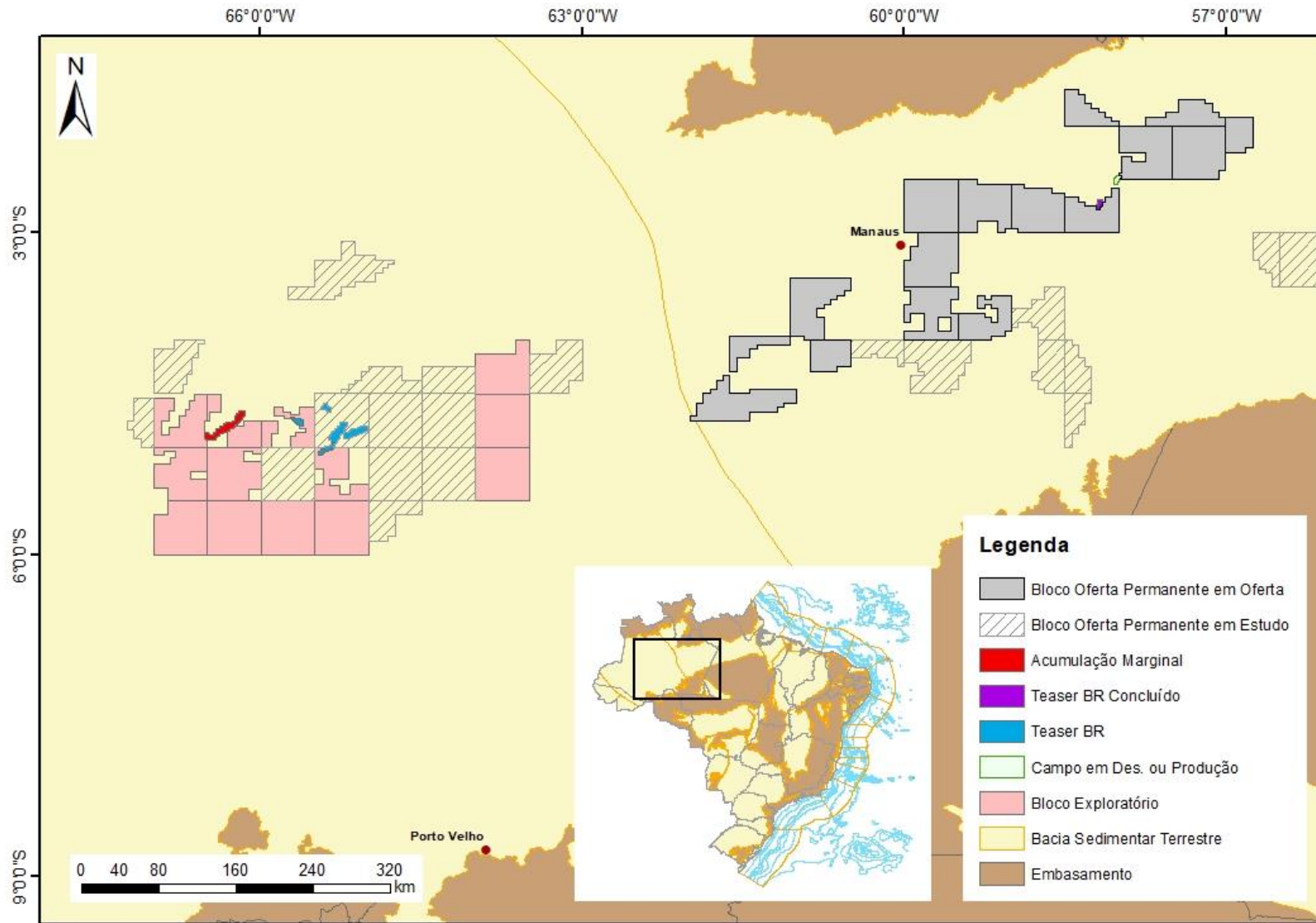




Indicated Sectors



EXPLORATORY CENARIO – SOLIMES AND AMAZONAS PALOZOIC BASIN



Solimoes Basin

The Urucu pole is responsible for classifying the Solimoes Basin as the third producer in Brazil, this fields are for sale at Teaser Br (June 2020).



The Jurua Gas field is on offer in the 2nd Cycle of Permanent Offer

There are many other prospects that reported gas discoveries on contracted blocks

Amazonas Basin

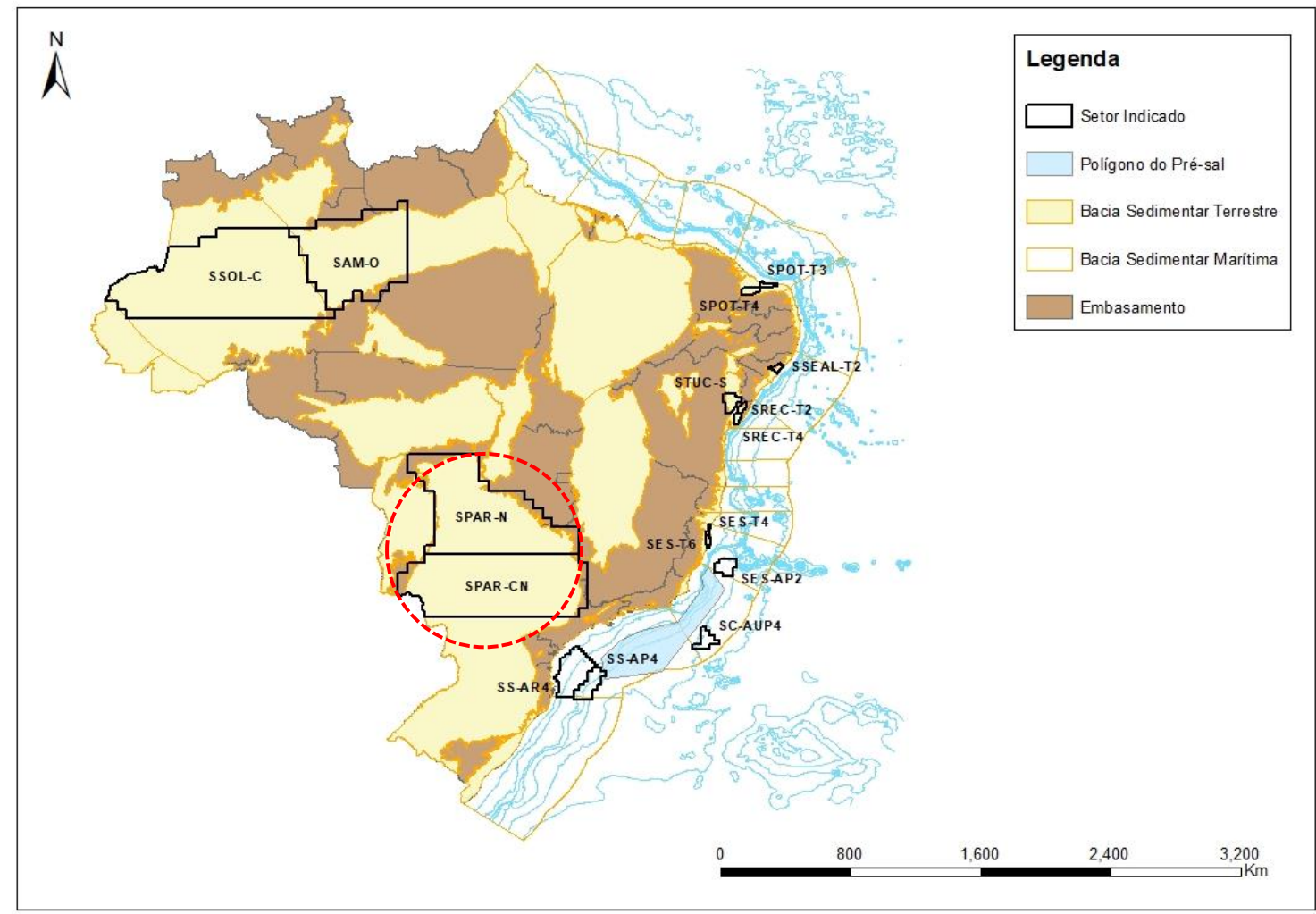
ANP approved the new Development Plan of the Azulao field (expected to begin the operation in 2021).



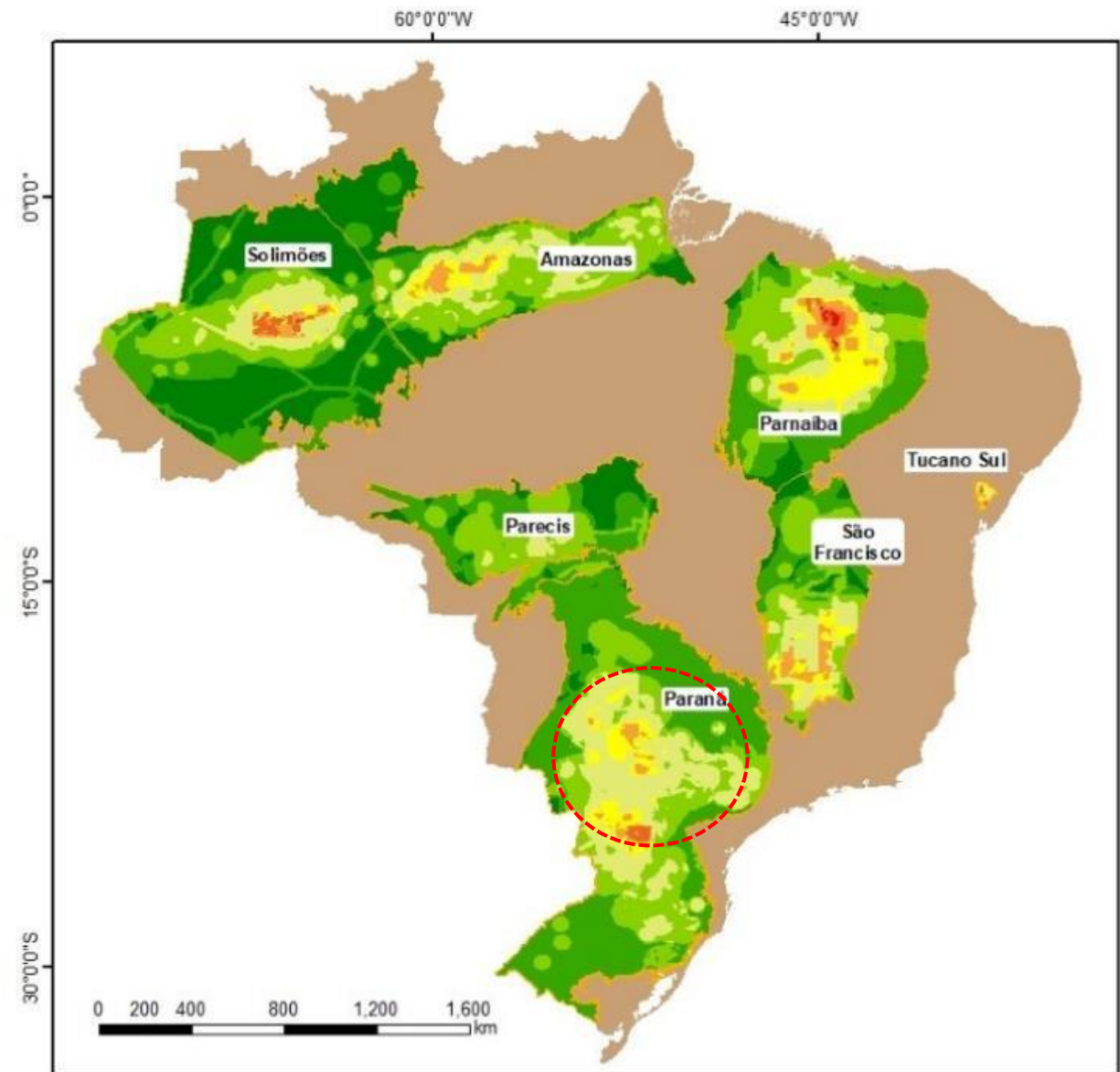
Many blocks on offer



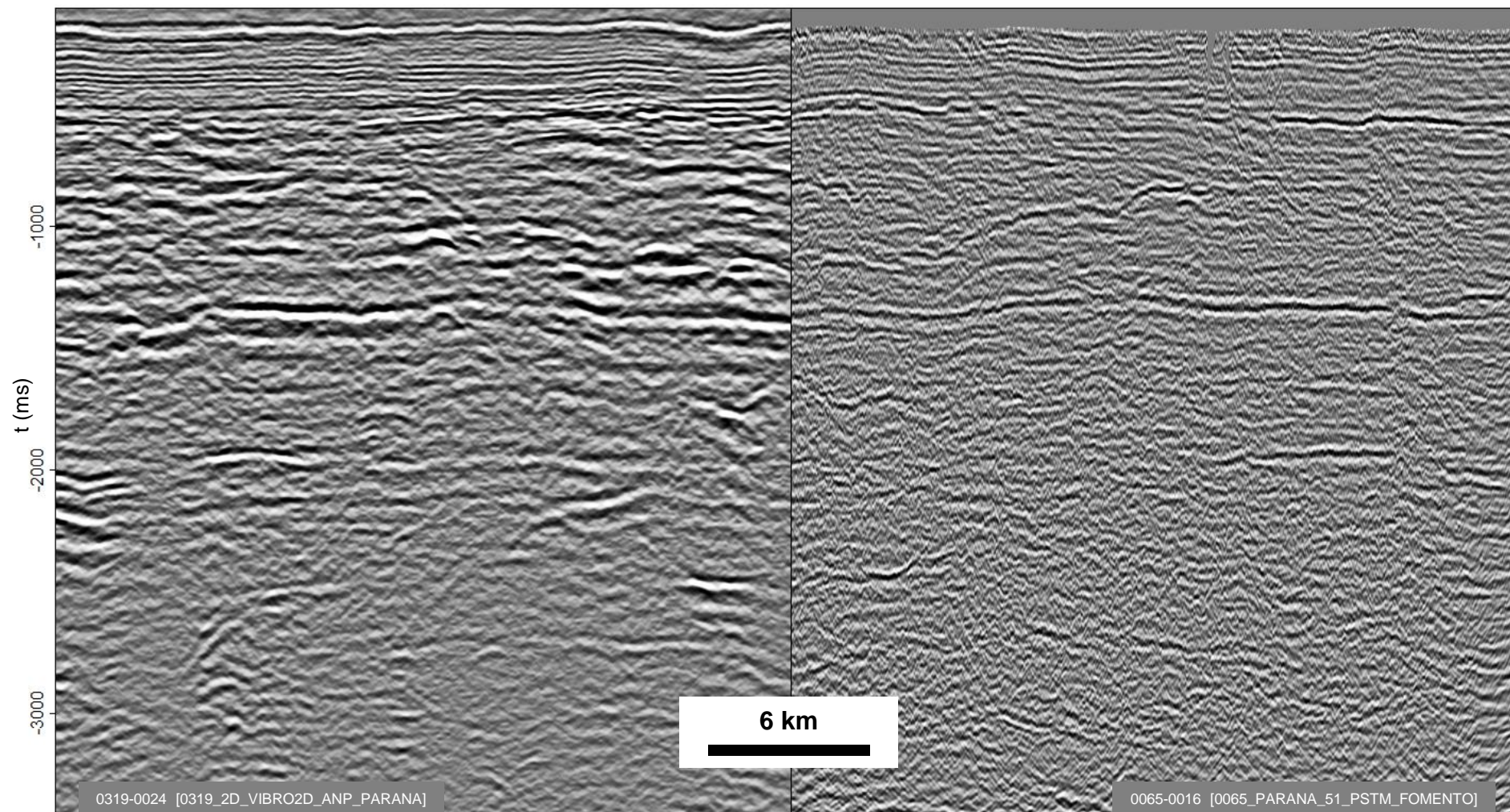
Indicated Sectors



ANP Multi-criteria Analysis



2D SEISMIC RECENTLY ACQUIRED BY ANP – PUBLIC DATA

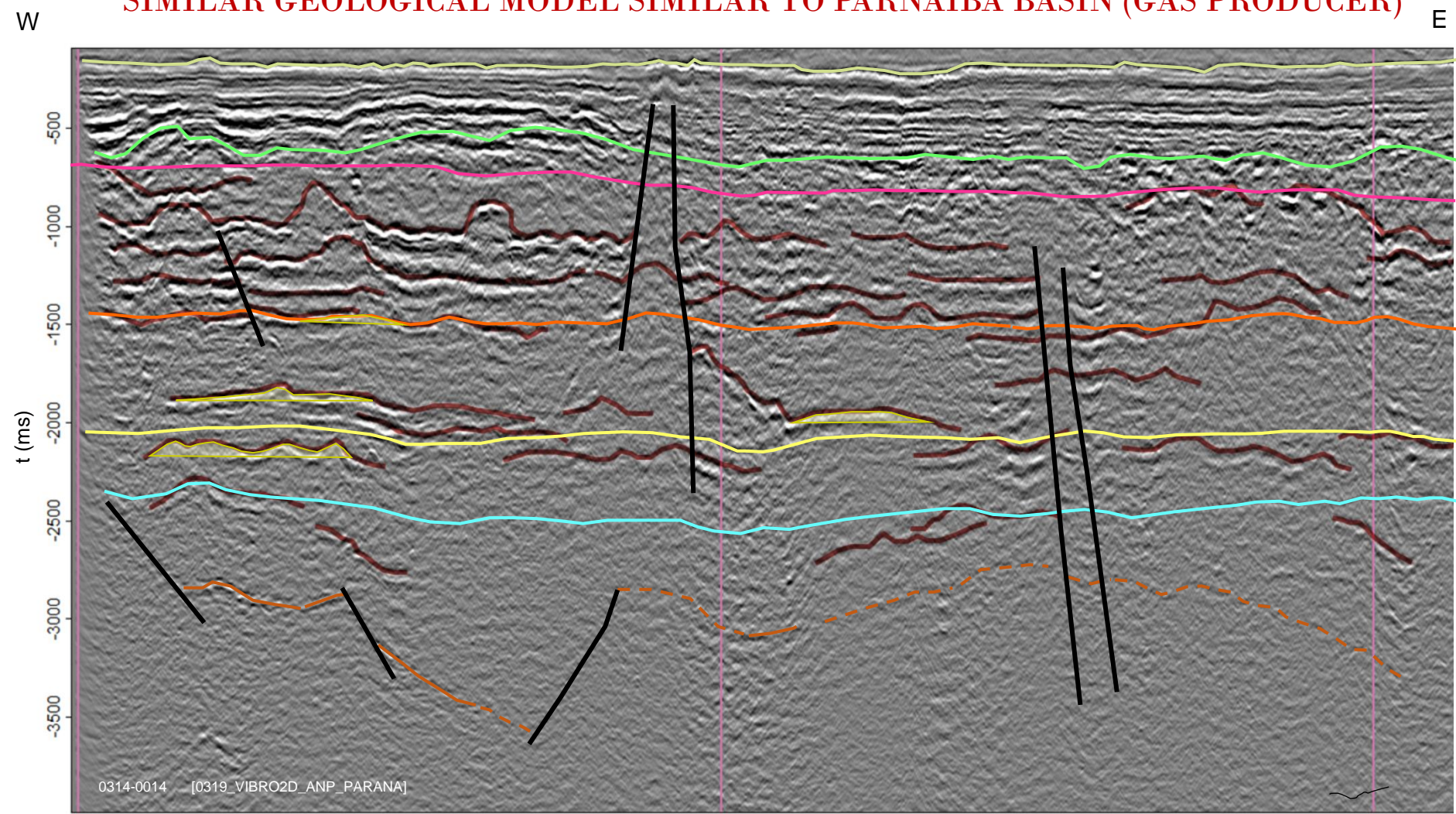


New seismic survey. Better image.

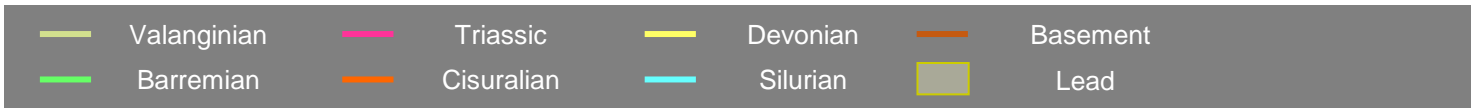
Old seismic survey.

EXPLORATORY CENARIO – PARANA PALOZOIC BASIN

SIMILAR GEOLOGICAL MODEL SIMILAR TO PARNAIBA BASIN (GAS PRODUCER)



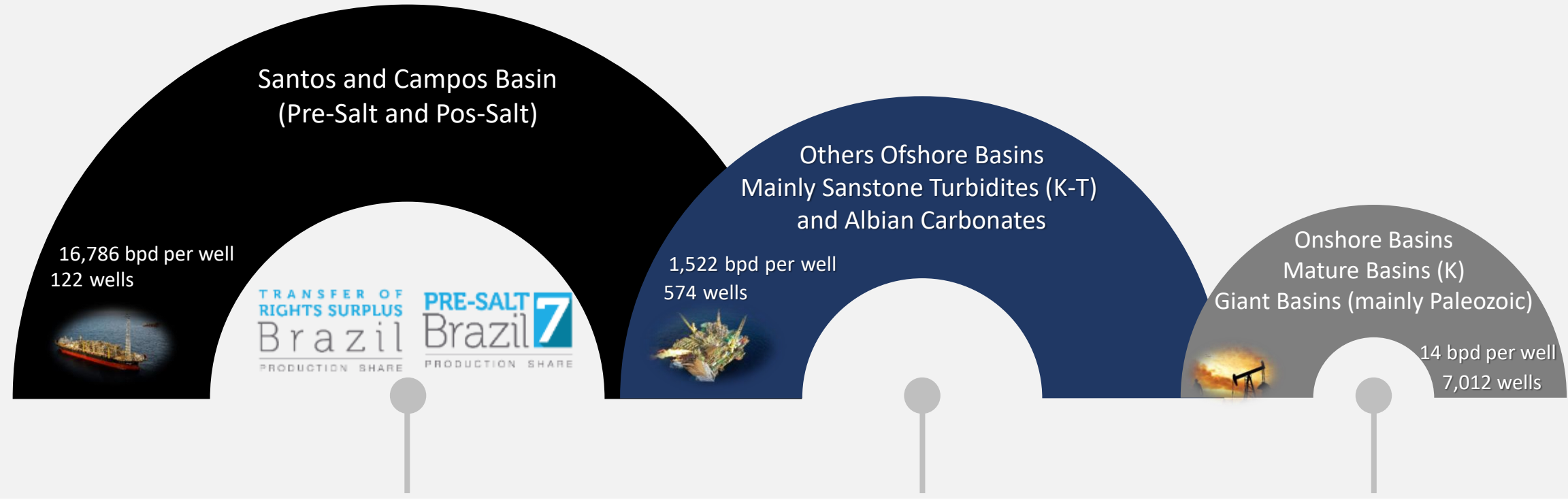
0314-0014 [0319_VIBRO2D_ANP_PARANA]





FINAL REMARKS

DIFFERENT PROFILE COMPANIES



High Potential and Frontier Areas

Frontier Areas

Mature and Frontier Areas



Operator A – qualified to ultra-deepwater, deepwater, shallow water, onshore and in areas with marginal accumulations;

Operator B/C – qualified to operate blocks located in shallow water, onshore, and areas with marginal accumulations;

Operator D – qualified to operate only in blocks and areas with marginal accumulations;

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Additional Information

<http://rodadas.anp.gov.br/pt/>
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<http://rodadas.anp.gov.br/pt/nominacao-de-areas>