

# Brasil

## PRE-SALT

### Opportunities for Investments in the Brazilian Oil & Gas Industry & 1<sup>st</sup> Pre-salt Round

**Magda Chambriard**  
Director General

July, 2013



Brazilian National Agency of Petroleum, Natural Gas and Biofuels



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# Summary

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**Brazil and Resumption of ANP Bidding Rounds**

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**Current Scenario & Investments Perspectives**

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**11<sup>th</sup> Bidding Round – Results**

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**1<sup>st</sup> Pre-salt Round – Production Sharing Contract**

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**12<sup>th</sup> Bidding Round – Concession Contract**

**6**

**Final Comments**



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# Brazil

**Area: 8,502,728 km<sup>2</sup>**

**Population: 196 million**

**GDP: US\$ 2.3 trillion**

**World's seventh largest economy**

**Political, Economical and Regulatory stability**

**Over US\$ 377 billion in International Reserves**

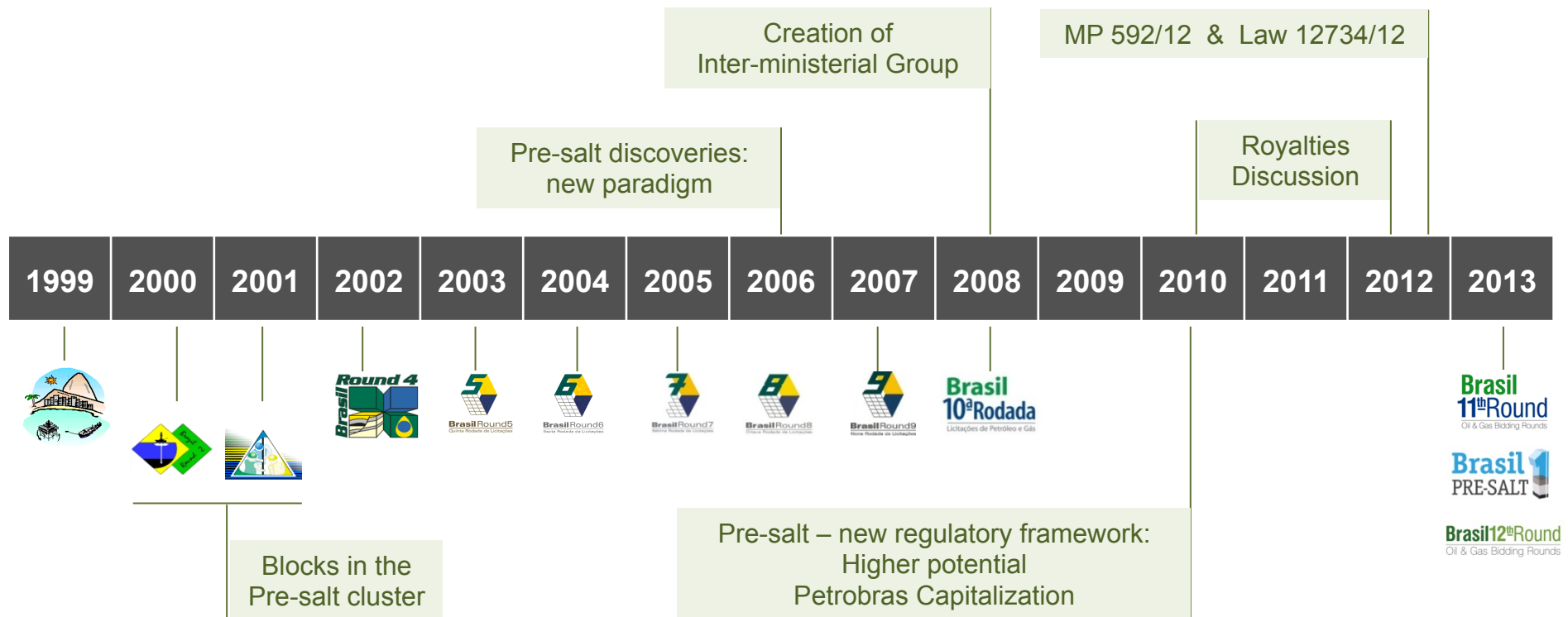
**Investment grade (Moody's, Fitch and Standard and Poors)**

**Oil, Natural Gas and Biofuels regulated under the same institutional environment (ANP)**





# The resuming of ANP bidding rounds



**ANP has invested heavily in G&G surveys to increase knowledge of the Brazilian sedimentary basins.**

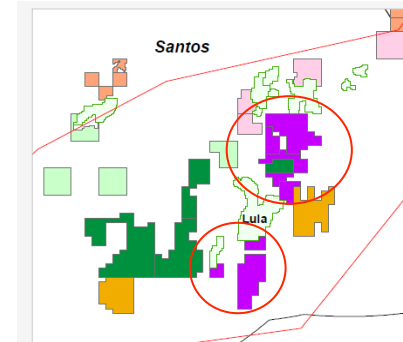
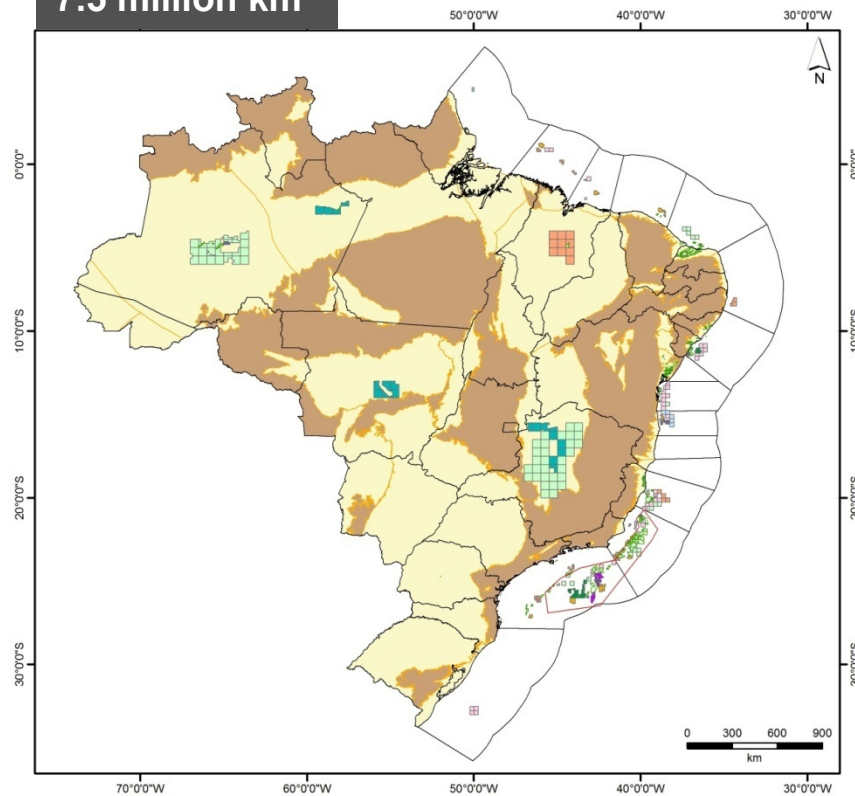


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“One country,  
three systems...”

7.5 million km<sup>2</sup>



Onerous  
assignment:  
**7 blocks**

~ 2% of sedimentary areas:  
**Production Sharing Regime**  
**1<sup>st</sup> Pre-salt Bidding Round**

**All other areas:**  
**Concession Regime**  
**including the 12<sup>th</sup> Round**



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# Current scenario and perspectives (2012)

## Proven Reserves

**Oil – ~15.3 billion bbl**

**Gas – ~459.3 billion m<sup>3</sup>**

**Near future: x2**

## Production

**Oil and NGL – 2.2 million bbl/day**

**Gas – 70.7 million m<sup>3</sup>/day**

**Near future: x2**

**39 national companies**

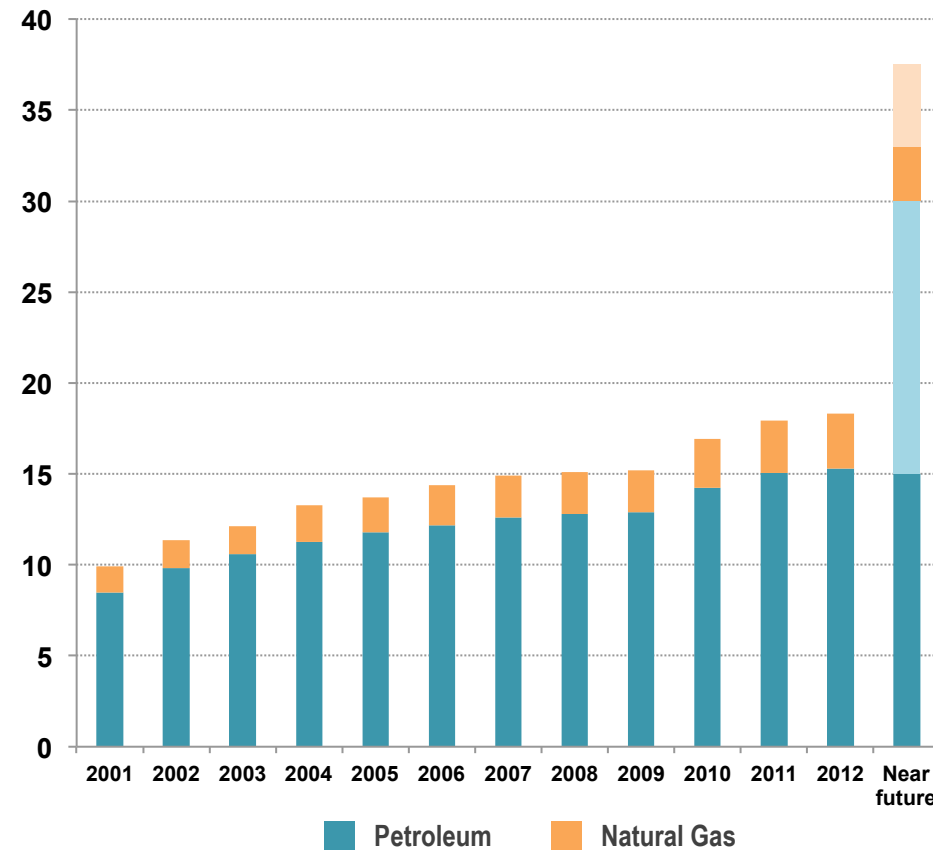
**38 foreign companies**

## Imports/Exports Balance

**Oil – 237.9 thousand bbl/day**

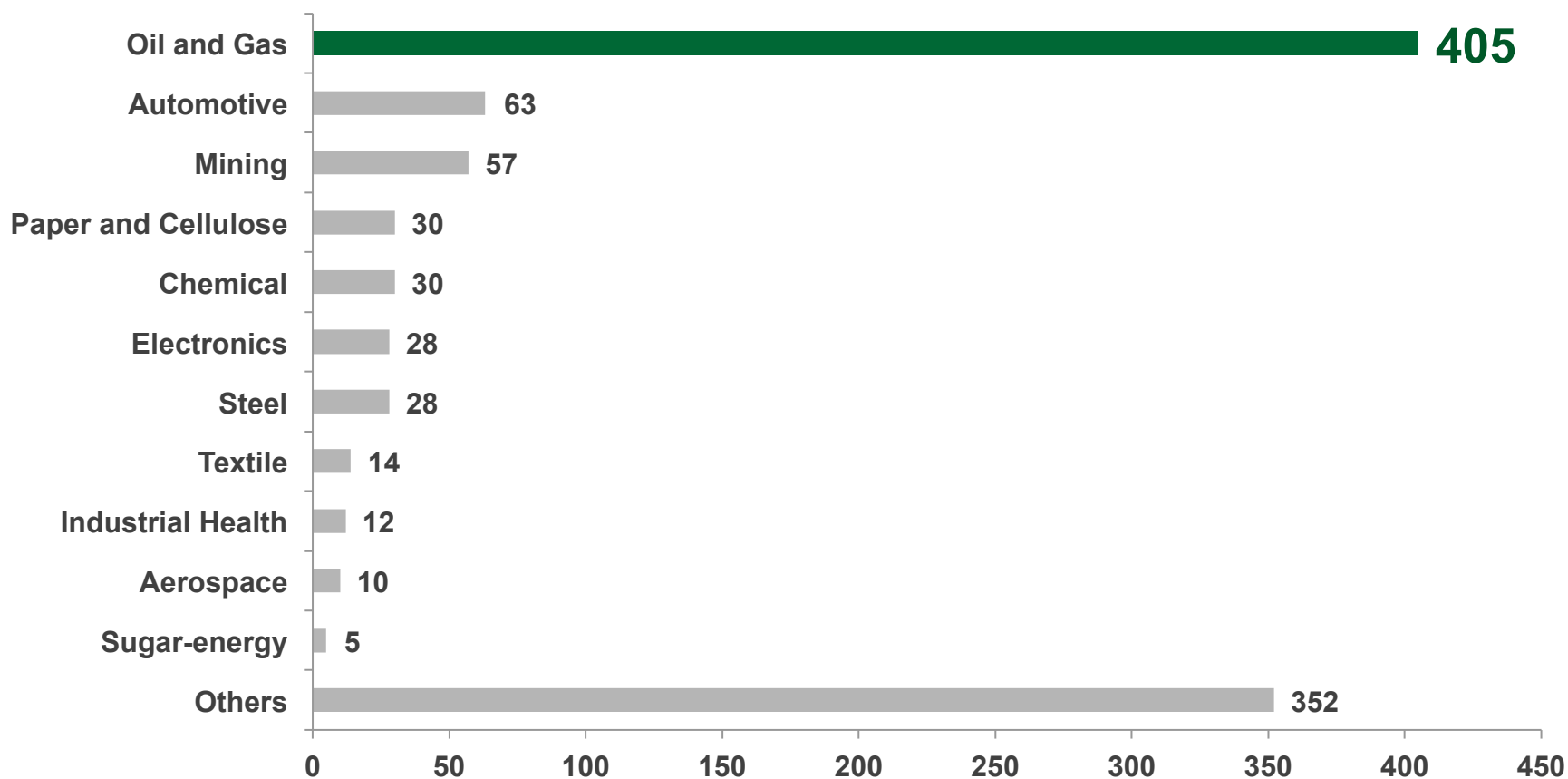
**Gas – 35.8 million m<sup>3</sup>/day**

Proven Reserves (Bboe)



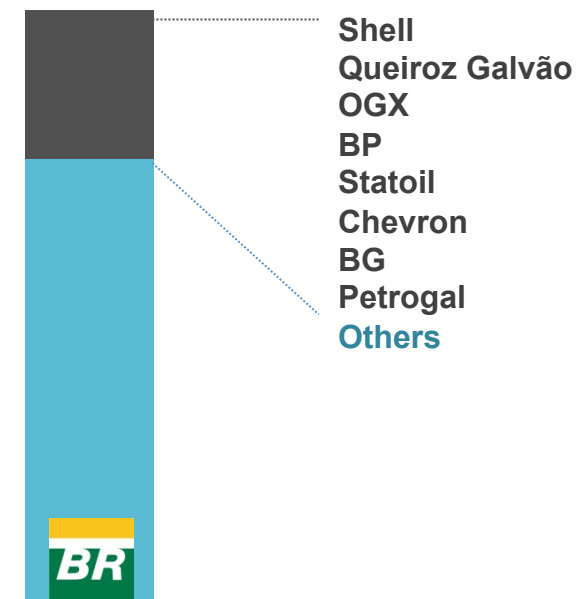
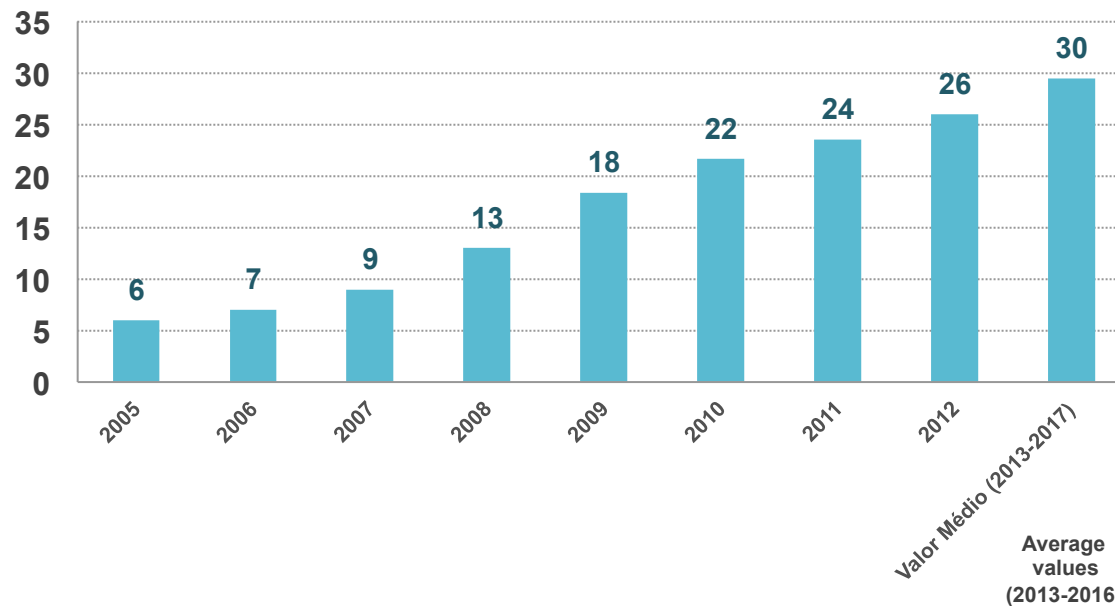


## Investments (R\$ billion) 2013-2016



## Next decade, the demand for goods and services should reach U\$ 400 billion

**Petrobras Investments in E&P in Brazil**  
Average values in the 5- year period Business Plan  
(US\$ Billion)\*



\*Based on information from the Petrobras Business Plan



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# Naval industry

**28 drilling rigs**  
6 in PE, 6 in BA, 7 in ES, 6 in RJ and 3 in RS



Action completed/operation  
 Running  
 Already auctioned

Atlântico Sul Shipyard	6 rigs	
	P-62	P-55 - hull
São Roque Shipyard	P-59	
	P60	
Enseada do Paraguaçu Shipyard (under construction)	6 rigs	
Jurong Shipyard (under construction)	7 rigs	
	P-68 and P-71 - modules and topside	
OSX Shipyard (under construction)	P-67 and P-70 - modules and topside	
Inhaúma Shipyard	P-74 and P-75 - hulls	
	P-76 and P-77 - hulls	
Brasfels Shipyard	P-57 (Jubarte)	
	P-56 (Marlim Sul)	
	P-61	
	6 rigs	
		P-66 and P-69 - modules and topside
Techint	P-76 - modules and topside	
Rio Grande Shipyard	P-55 – modules and topside	
	P-66 and P-67 - hulls	
	6 replicants – hulls	
	3 rigs	
Rio Grande Harbor Shipyard	P-63	
	P-58	
Brasil Shipyard (under construction)	P-74 - modules and topside	

Source: Adapted from the 7<sup>th</sup> balance of PAC 2, 2013



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## Naval Industry with LC Platforms, drilling rigs, supply boats



**BrasFels Shipyard – RJ (P-52)**



**Mauá Shipyard – RJ (P-50)**



**Sea Brasil – STX - RJ**



**Rio Grande Shipyard - RS**



**Atlântico Sul Shipyard - PE**



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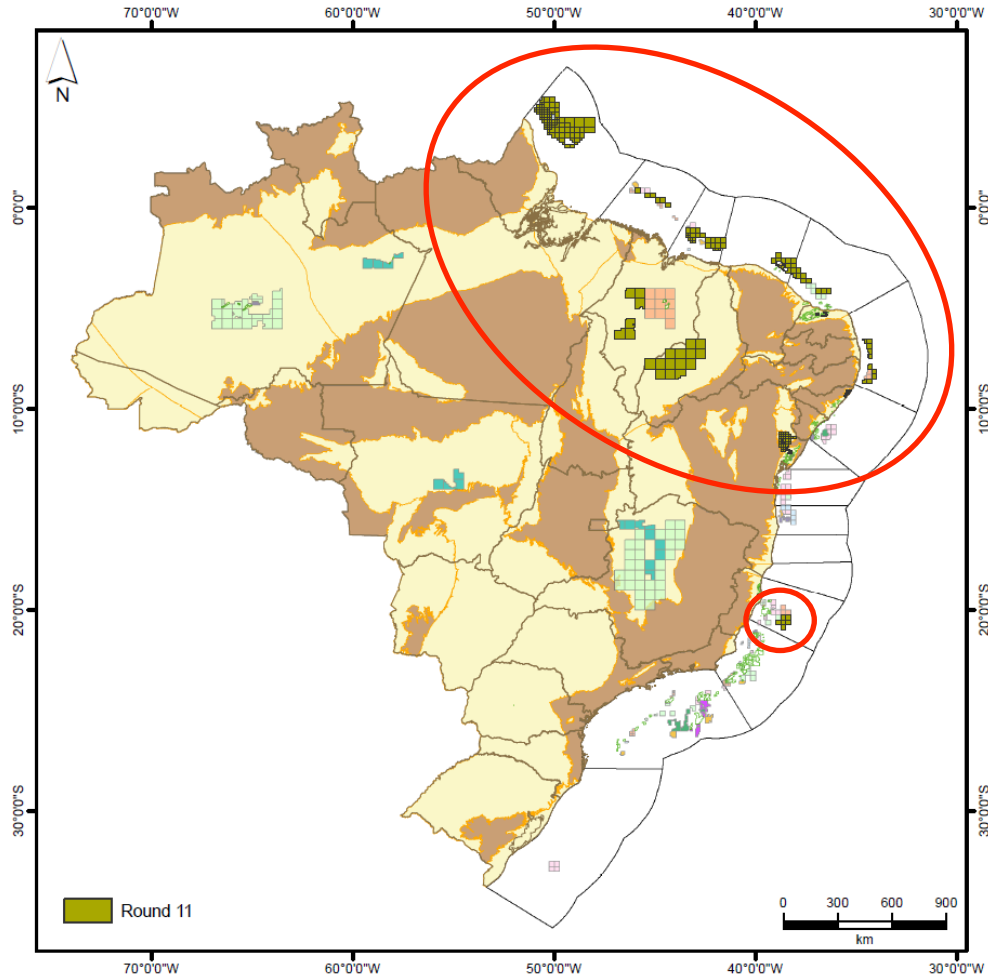
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# The 11<sup>th</sup> Bidding Round



Basin	State	Area (km <sup>2</sup> )
Foz do Amazonas	AP	44,500
Pará-Maranhão	PA, MA	4,616
Barreirinhas	MA	13,074
Ceará	CE	7,388
Potiguar	CE, RN	7,326
Pernambuco-Paraíba	PE, PB	6,291
Espírito-Santo	ES	4,330
Parnaíba	MA, PI	59,764
Sergipe-Alagoas	AL	733
Recôncavo	BA	475
Tucano Sul	BA	6,455
Potiguar	RN	588
Espírito-Santo	ES	179

**Total area: 155,718 km<sup>2</sup> or 60,123 sq. miles**



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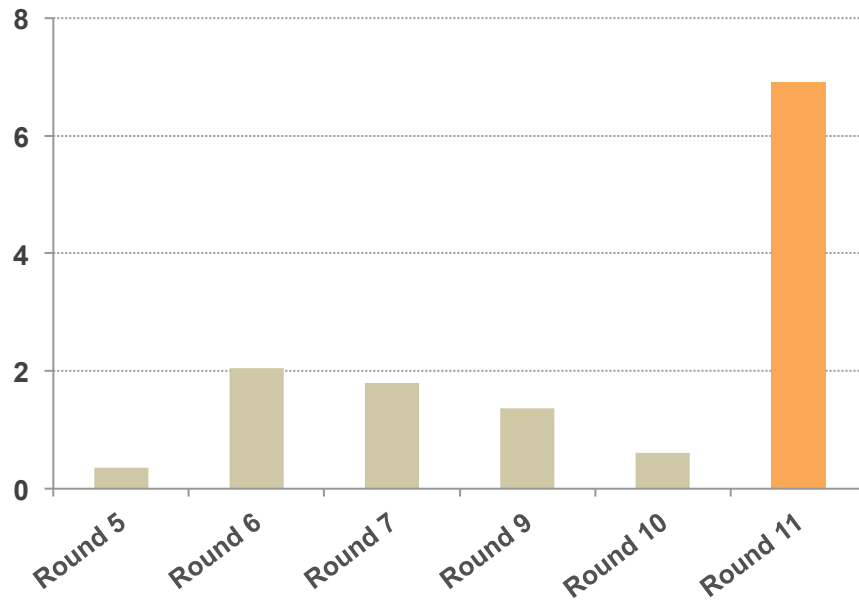


# The 11<sup>th</sup> Bidding Round Record Numbers

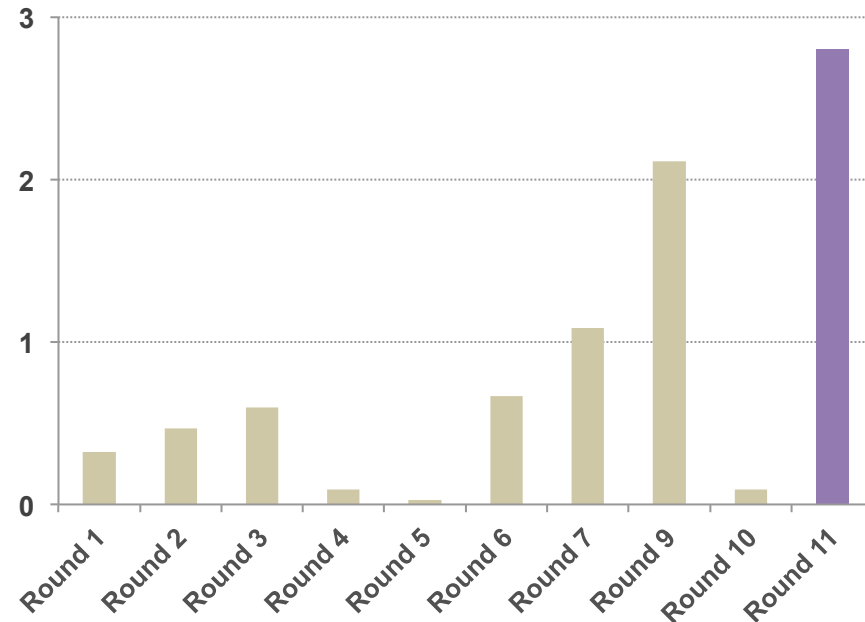
**R\$ 6.9 billion (or about US\$ 3.25 billion)** were pledged as minimum investment commitments in exploration activities in the country, far surpassing the values committed in previous Rounds

**R\$ 2.8 billion (or about US\$ 1.32 billion)** were offered as signature bonuses for the 142 blocks acquired, which cover an area of 100,372.31 km<sup>2</sup>

Work Program (R\$ billion)



Signature bonus (R\$ billion)





# The 11<sup>th</sup> Bidding Round E-bid Site

Views of the site: ~ 46,000  
Downloads: ~ 6,000

## Entries per Country:

**BRASIL**



267  
entries

**USA**



125  
entries

**CHINA**



99  
entries

**JAPAN**



72  
entries

**UK**



30  
entries

**MALAYSIA**



14  
entries

**COLOMBIA**



13  
entries

**AUSTRALIA**



11  
entries

**SPAIN**



11  
entries

**PORTUGAL**



9  
entries

**NORWAY**



8  
entries

**CANADA**



8  
entries

**FRANCE**



4  
entries

**DENMARK**



3  
entries

**ARGENTINA**



2  
entries

**UNITED ARAB  
EMIRATES**



1  
entry

**ITALY**



1  
entry

**SOUTH  
KOREA**



1  
entry





# The 11<sup>th</sup> Bidding Round Qualified Companies

64 companies from 21 countries  
(6 non-operators)

Qualification	Total	Winning in the 11 <sup>th</sup> Round
<b>A</b>	<b>30</b>	<b>13</b>
<b>B</b>	<b>10</b>	<b>9</b>
<b>C</b>	<b>18</b>	<b>8</b>

**BRASIL**



17

**USA**



7

**UK**



5

**FRANCE**



2

**CHINA**



2

**MALAYSIA**



1

**CANADA**



5

**JAPAN**



5

**COLOMBIA**



3

**AUSTRALIA**



3

**CAYMAN ISLANDS**



2

**SPAIN**



2

**ANGOLA**



1

**GUERNESEI**



1

**TAILÂNDIA**



1

**NORWAY**



1

**PANAMA**



1

**BERMUDAS**



2

**ITALY**



1

**PORTUGAL**



1

**DENMARK**



1



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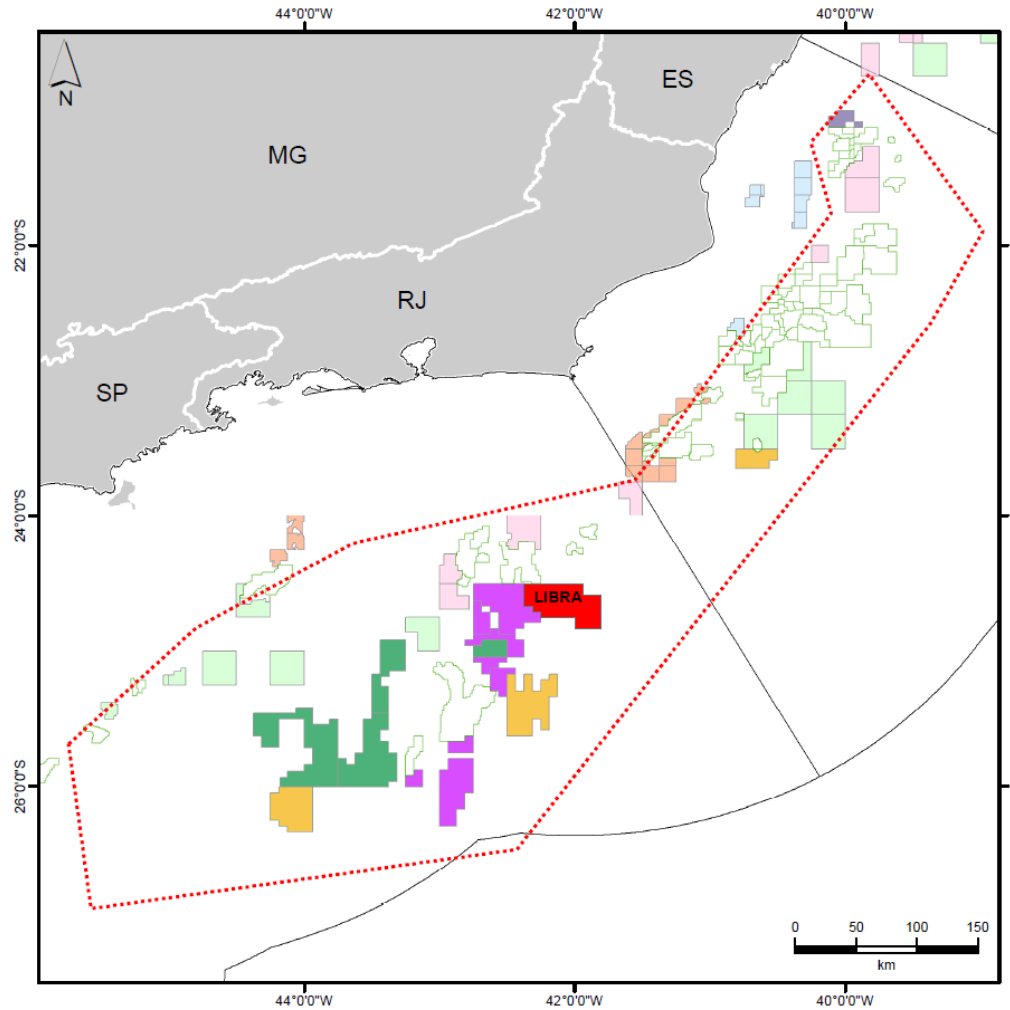
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# 1<sup>st</sup> Pre-salt Bidding Round(\*) (21 October 2013) Production sharing regime



Signature Bonus, MWP and LC



Defined in Tender Protocol

**% OF PROFIT OIL**

**?% → BID PARAMETER**

**The winner → best offer!**

**Petrobras is the mandatory operator with at least 30% participation in the winning bid**

\* [www.brasil-rounds.gov.br](http://www.brasil-rounds.gov.br)

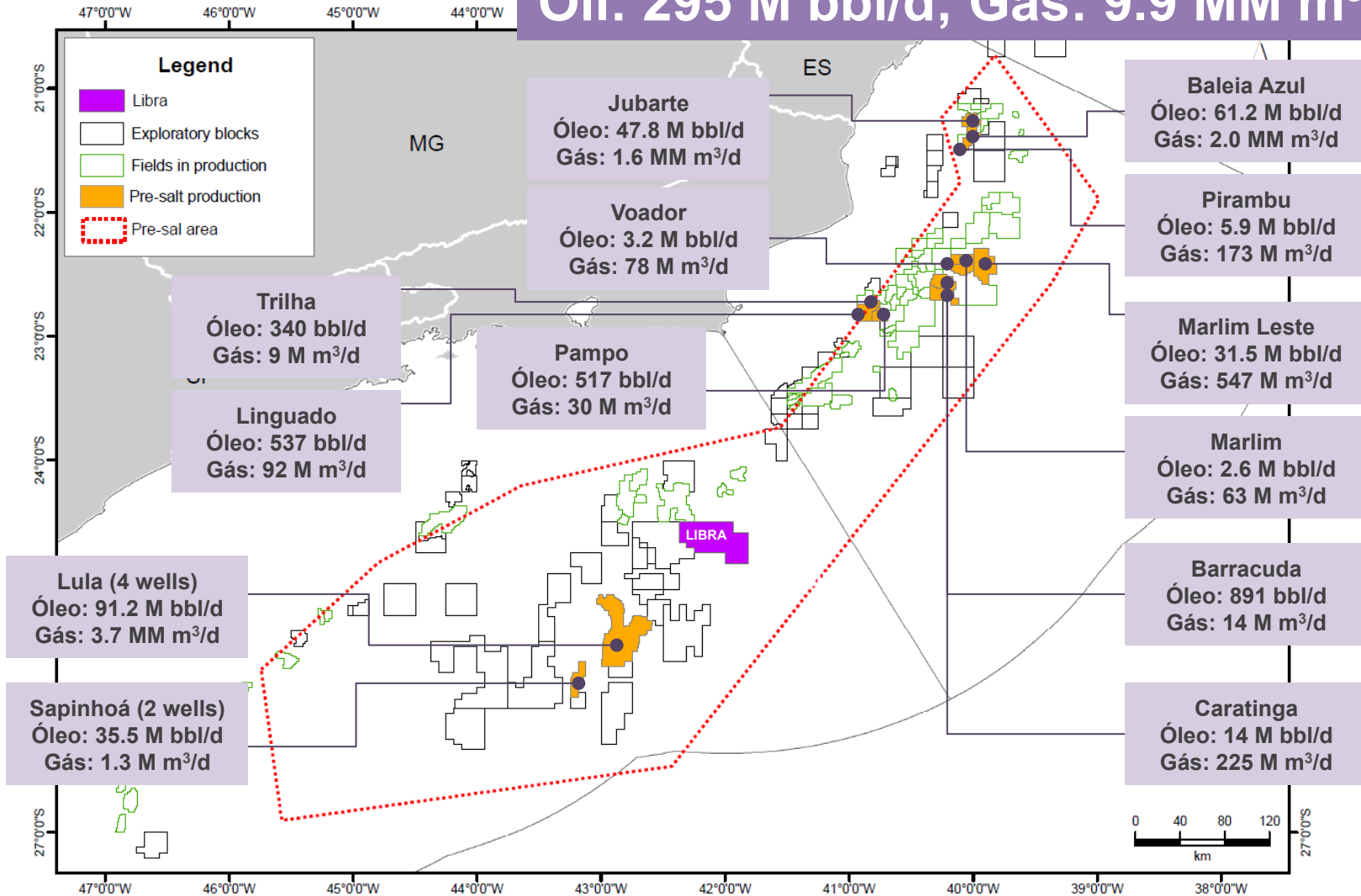


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# Pre-salt Production (April 2013)

**Oil: 295 M bbl/d; Gas: 9.9 MM m<sup>3</sup>/d**



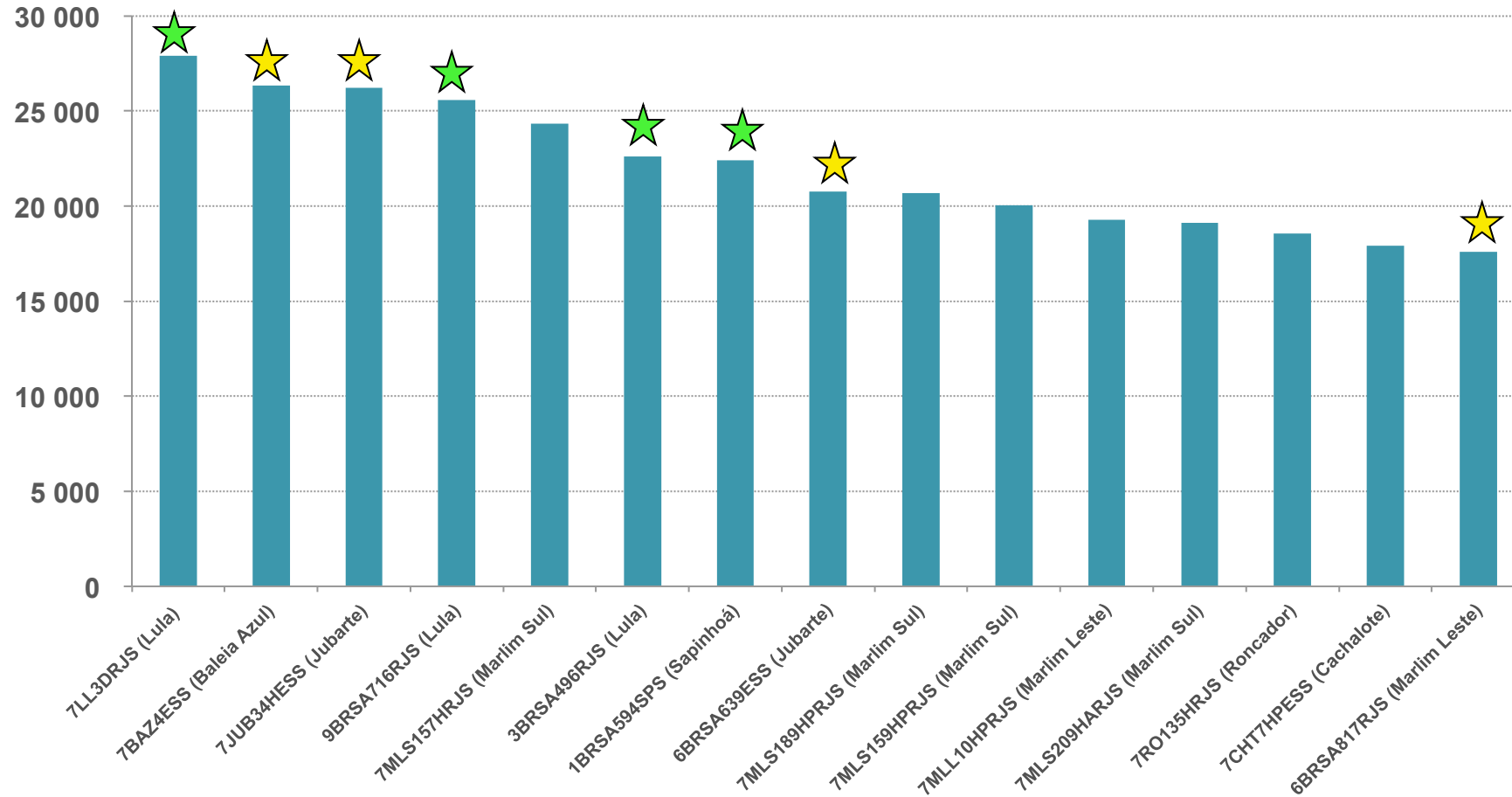


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# Wells - Top 15 (April 2013)

Production (bbl/d)



★ Pre-salt – Campos Basin  
★ Pre-sal – Santos Basin



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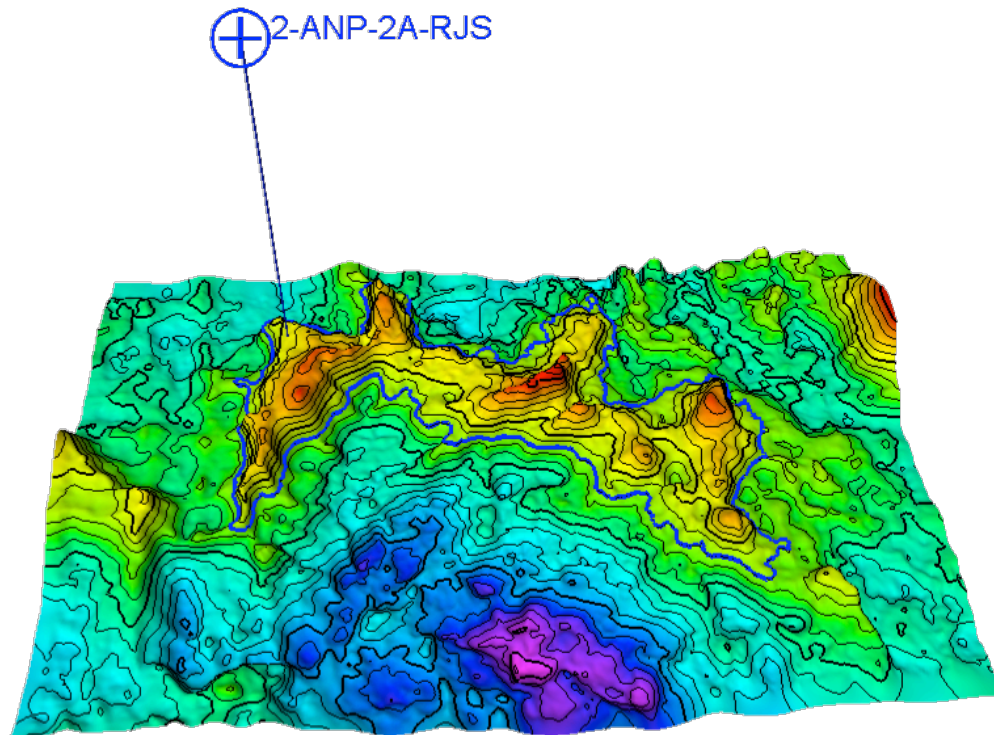
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# 1<sup>st</sup> Pre-salt Bidding Round

21<sup>st</sup> October 2013  
Opportunity on offer

Libra Prospect – Salt base – mapping in depth



**Libra - Reserves**  
**8 to 12 billion barrels**

**2-ANP-2A-RJS**

**Net pay: 326.4 m**

**27 API oil**

**Test at 5548 to 5560 m:**

**1.Flow, Ø = 32/64” – 3667 bopd**

**2.Flow , Ø = 16/64”– 1057 bopd  
(to collect fluid)**



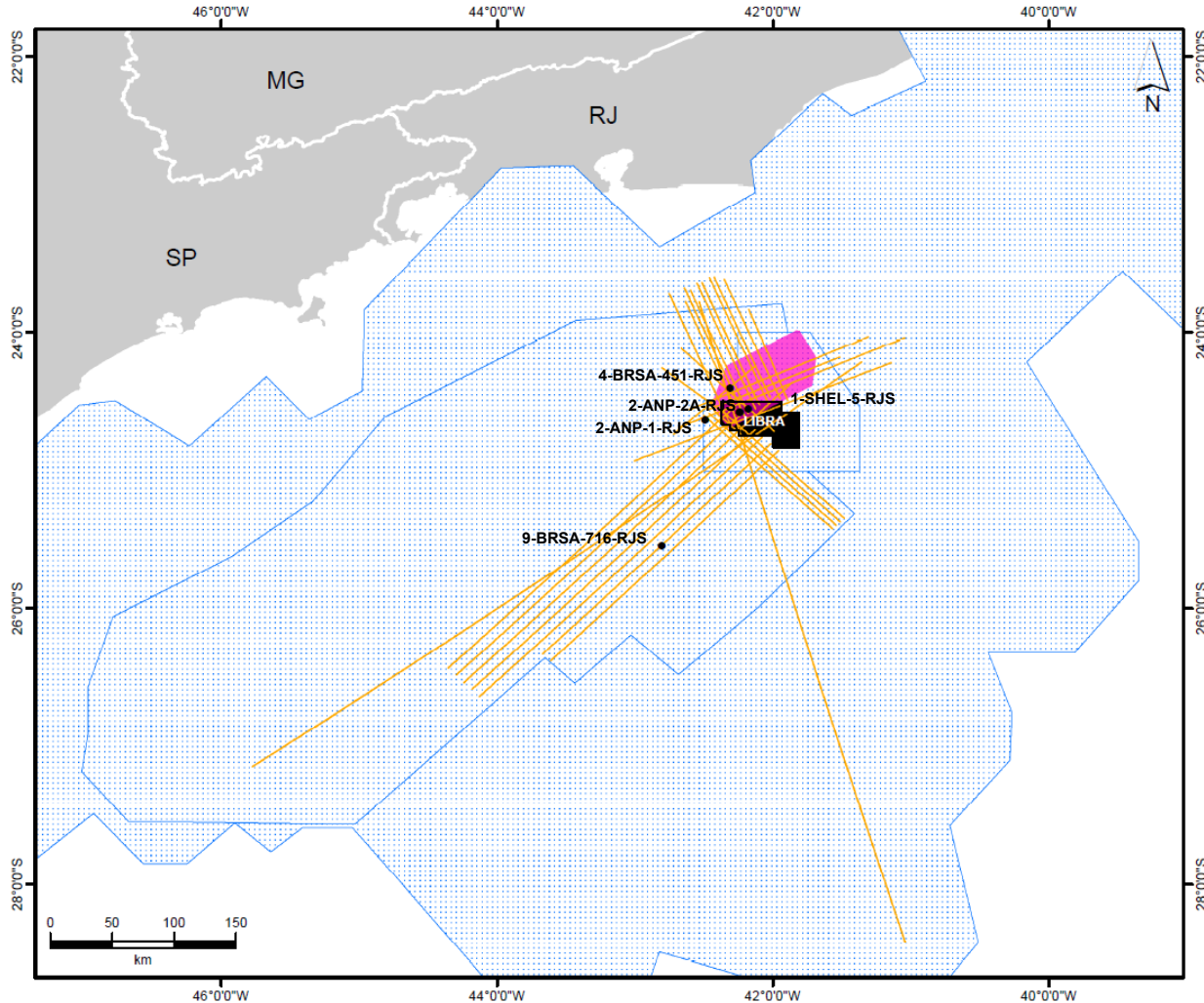
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# 1<sup>st</sup> Pre-salt Bidding Round

21<sup>st</sup> October 2013

## Package Data



**5 wells**

- *TBP, PVT and others*

**Seismic 2D**





**Seismic 3D**

**Potential methods**

**2 well geochemistry**

**5 geological reports**

### Legend

-  Wells
-  Seismic 3D
-  Seismic 2D
-  Gravimetry and magnetometry

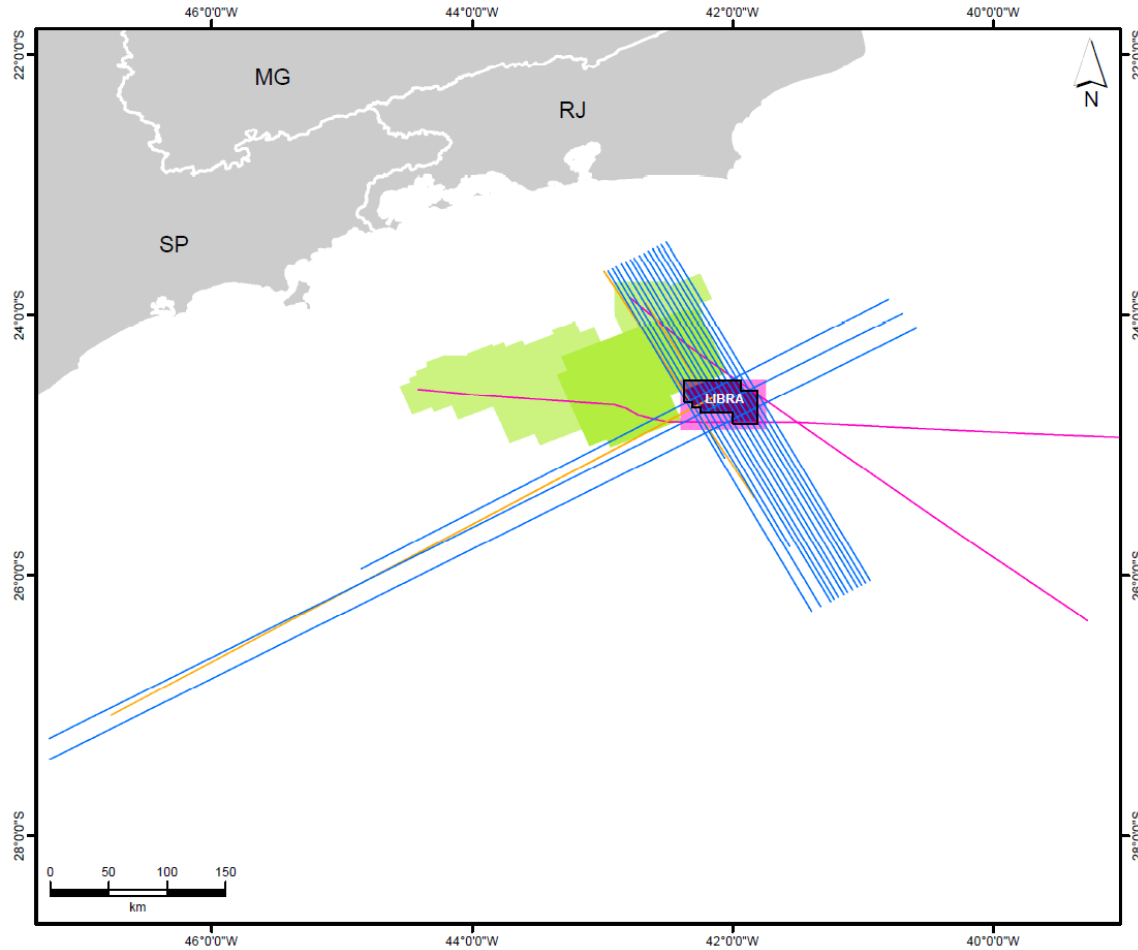


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21<sup>st</sup> October 2013  
Other Data - SPEC



**Seismic 2D**

**Seismic 3D**

**Legend**

- Seismic 3D\_R0014\_PGS\_SANTOS-I-PSDM
  - Seismic 3D\_0264\_CGGV\_SANTOS\_FASE\_I-VI\_PSDM
- Seismic 2D**
- BAKER HUGHES
  - GXT
  - SCHLUMBERGER



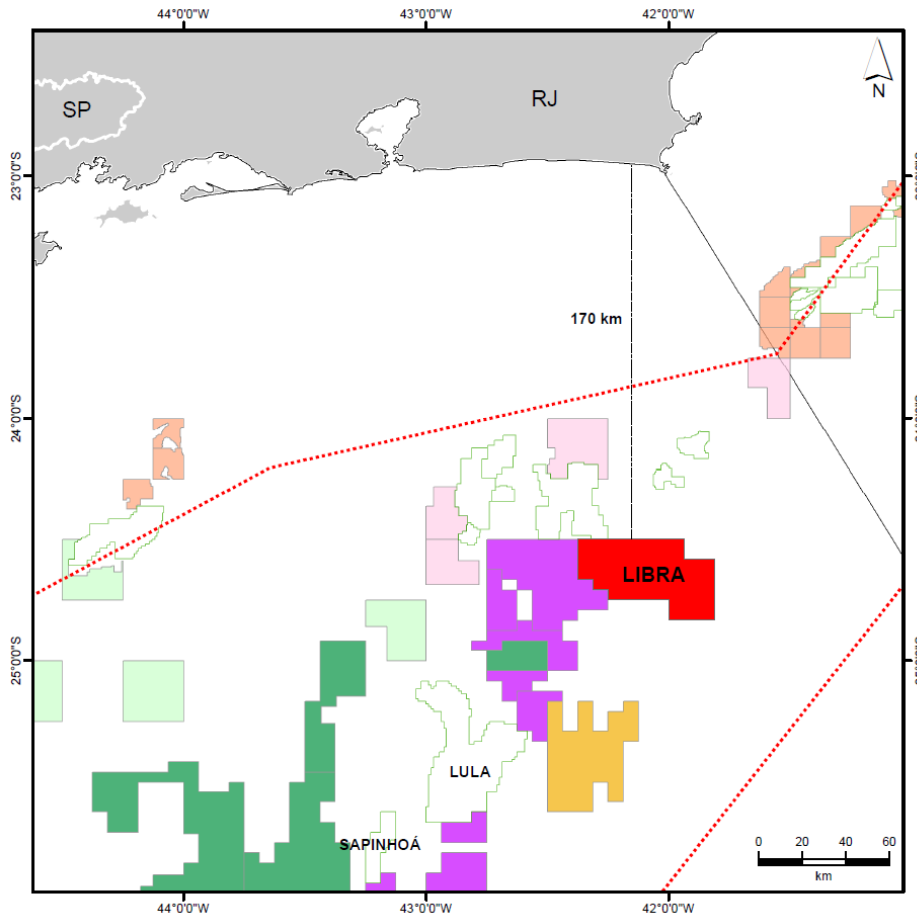


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# 1<sup>st</sup> Pre-salt Bidding Round

21<sup>st</sup> October 2013  
Opportunity on offer



**Contratual term: 35 years**  
**Exploratory phase: 4 years**

**MWP: 1,547 km<sup>2</sup> 3D Seismic**  
**2 wells**

**Signature bonus: R\$ 15 billion**  
**Minimum Government take: 75%**

**Local Content:**  
**37% - exploratory phase**  
**55% - development phase up 2021**  
**59% - development phase after 2021**

**The production sharing will be progressive with the Brent value (US\$/bbl) and the well productivity (Mbb/d)**



# 1<sup>st</sup> Pre-salt Bidding Round

## 21<sup>st</sup> October 2013

### Sharing of the profit oil

		Average productivity of producing wells (bbl/d)												
		From	0	4,001	6,001	8,001	10,001	12,001	14,001	16,001	18,001	20,001	22,001	> 24,001
		up	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
Brent (US\$)	0	60												
	60.01	70	..	..	..	..	..	..	..	..	..	..	..	..
	....	....												
	100.01	110	..	..	..	..	!!	..	..	..	..	..	..	..
	110.01	120												
	....	....	..	..	..	..	..	..	..	..	..	..	..	..
	> 160.01													

**!! The Minimum Government Share of the Profit Oil may not be below 40% in any valid offer**



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# 1<sup>st</sup> Pre-salt Bidding Round Schedule\*

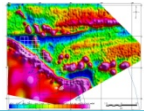
\* Subject to minor modifications



**Pre-tender (from July 9<sup>th</sup>) and tender protocol (after August 24<sup>th</sup>)**



**Expression of interest from companies: July 9<sup>th</sup> to September 9<sup>th</sup>**



**Access to data package: July 9<sup>th</sup> to September 9<sup>th</sup>**



**Public Hearing: July 22<sup>nd</sup>**



**Technical-Environmental Seminar: August 28<sup>th</sup>**  
**Legal & Tax Seminar: August 28<sup>th</sup>**



**Technical-Economic-Financial qualification: July 9<sup>th</sup> to September 24<sup>th</sup>**



**Bid bonds: up to October 7<sup>th</sup>**  
***SUBMISSION OF BIDS: OCTOBER 21<sup>ST</sup>***



**Signing of contract: November, 2013**



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# 12<sup>th</sup> Bidding Round (November 2013) Natural Gas onshore

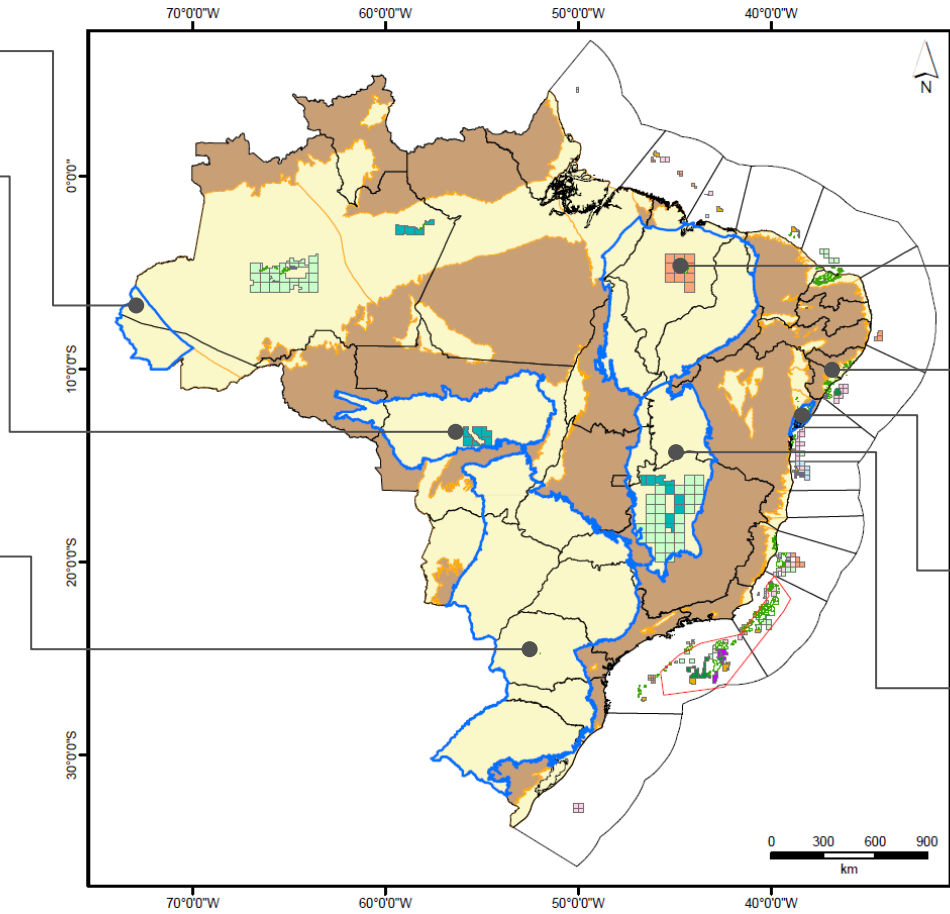
## Opportunities for electric power generation

**Acre Basin**

**Parecis Basin  
Teles Pires River**



**Paraná Basin  
Barra Bonita field**



**Parnaíba Basin  
“Gaviões” Park**



**Bacia de Sergipe-  
Alagoas**

**Recôncavo Basin**

**São Francisco Basin  
Buritizeiro County**



Pending approval from CNPE

**“Analogue” – *Barnett Shale***

**Reserves - 30 TCF in 1,196 km<sup>3</sup> of rock**

**Average depth: 1,500 to 2,400 m**

**Forecasted in situ volumes**  
(if valid analogue)

**Parnaíba – 64 TCF**

**Parecis – 124 TCF**

**Recôncavo – 20 TCF**

**São Francisco – 80TCF**

**Paraná – 226 TCF\* (EIA/2011)**

\* not endorsed by ANP



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## Final comments

Brazil is resuming bidding rounds for O&G exploration and production, applying a new regulatory framework for the Pre-Salt area

**On October 21<sup>st</sup>, an enormous opportunity will be offered for bidding: the Libra area has an estimated recoverable volume between 8 to 12 billion barrels**

The enormous scale of Brazil's potential is evident in the resuming of the bidding rounds: the Equatorial Margin, the Pre-Salt area, and the search for gas onshore in its vast inland basins

**Aware of the scale of the opportunities it offers, Brazil leverages the Local Content policy in the O&G sector to boost its industrial development**

Brazil offers great opportunities not only for O&G companies, but also for investors and suppliers, mainly for those willing to establish business in Brazil.





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