PRE-SALT

Achievements and Legacy

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NON-SEC COMPLIANT OIL AND GAS RESERVES:

CAUTIONARY STATEMENT FOR US INVESTORS

We present certain data in this presentation, such as oil and gas resources, that we are not permitted to present in documents filed with the United States Securities and Exchange Commission (SEC) under new Subpart 1200 to Regulation S-K because such terms do not qualify as proved, probable or possible reserves under Rule 4-10(a) of Regulation S-X.
Agenda

- Pre-salt context
- Performing as planned
- Supporting the future
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As known, the Brazilian Pre-Salt was discovered in 2006 and covers an area of 149,000 square kilometers.
The pre-salt is managed in an harmonic way, with several partners and three regulatory models:

**Santos Basin - Concession Model**
- BMS-8 (66%) BR (10%) (10%) (14%)
- BMS-9 (45%) (30%) BR (25%)
- BMS-11 (65%) (25%) (10%)
- BMS-21 (80%) (20%)
- BMS-24 (80%) (20%)
- BMS-50 (60%) (20%)

**Santos Basin - Production Sharing Agreement Model**
- BM-C-33 (35%) (35%) BR (30%)

**Other concessions** (100%)

**Campos Basin - Concession Model**
- Xerelete (41,175%) (41,75%) SI (17,65%)
- Alb. Leste (90%) (10%)
- BM-C-33 (35%) (35%) BR (30%)

**Santos Basin**
- (40%)
- Production Sharing Agreement Model (20%)
- (10%)

**Santos Basin Transfer of Rights Contract**
- (100%)
Since the 80’s, Petrobras has been innovating in ultra-deepwater

K2 MOUNTAIN
(8.6 km)

Source: iStock/Petrobras images

PRE SALT
(Reservoirs down to 7km)
Today, the Pre-salt production is already supported by 12 production systems and 55 wells.
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The development strategy has been accomplished over the years and shared with the industry through OTC.
To take advantage of all Pre-Salt potential, a long-term vision for planning was required.

Phase 0: Information Gathering

Phase 1a: Production Development

Phase 1b: Technological Innovation

Updated Information on the Pre-Salt Development Offshore Brazil: Material results lead to a bright future

José Miranda Formigli
OTC 2011
A specific methodology and a new integrated workflow in characterizing the reservoir were developed...

In the earlier 2000’s, Petrobras and partners decided to acquire 20,000 km² of 3D over the main Pre-salt areas.

Better algorithmic and velocity models

Improvement in Pre-Salt reservoir imaging
117 exploratory wells drilled from 2005 to March 2015

Pre-Salt Exploratory Success Rate: > 90%

10 EWTs from Apr/2009 to Mar/2015

Pilot Project:
First supergiant Field, Lula
On stream since Oct/2010
As mentioned in OTC 2011, the first project in Phase 1a was the Sapinhoá Pilot that was put on stream in 2013.

Sapinhoá Project
FPSO Cidade de São Paulo

Project on stream.

1st Oil: Q1 / 2013
As mentioned in 2011, we planned to put on stream others mega projects through 2014. The Pre-Salt production by June 2013 was about 310kbd.

Lula NE Project  
FPSO Cidade de Paraty

As announced at OTC 2011...

1st Oil: Q2 / 2013
On March 2014, the average production was about 395 kbpd

Norte Parque das Baleias Project
FPSO Petrobras 58

As announced at OTC 2013...

1st Oil: Q4 / 2013

...project on stream.

1st Oil: Q1 / 2014
With these 5 new units, production achieved an average of 666 kbpd on December 2014

Iracema Sul Project
FPSO Cidade de Mangaratiba

As announced at OTC 2011...

1st Oil: Q4 / 2014

...project on stream.

1st Oil: Q4 / 2014
On November 2014, the average production was over 600 kbd. It nearly doubled in less than 8 months.

Sapinhoá Norte Project
FPSO Cidade de Ilhabela

As announced at OTC 2011...

...project on stream.

1st Oil: Q3 / 2014

1st Oil: Q4 / 2014
The pre-salt layer daily production record was 737 kbpd in Feb 2015.
Those results were supported by innovative technologies...

Average monthly production (kbpd)

Reservoir

Well Construction

Subsea

Topside and Processing Facilities

Daily record (Feb 26th): 737 Thousand bpd
... and above average well productivity...

Top 5 productive wells: all over 30 kbpdp

Top Wells - Sapinhoá Field
1. SPH-7: 42 kbpdp
2. SPH-5: 36 kbpdp
3. SPH-1: 36 kbpdp

Top Wells - Lula Field
4. LL-27: 35 kbpdp
5. RJS-681: 34 kbpdp
... all to support the production goal of 1 MM bpd by 2017, as mentioned in OTC 2009

The **Production** more than **doubled** in 24 months

![Graph showing production increase from 300 kbpd in Feb/13 to 520 kbpd in Jun/14 to 737 kbpd (peak) in Feb/15]

- **Phase 0:** Information Gathering
- **Phase 1a:** Production Development
- **Phase 1b:** Technological Innovation
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All the strategies and efforts pursued so far gave Petrobras strong competitive advantages related to cost reduction and productivity improvement.
New technologies are already under evaluation

- RESERVOIR CHARACTERIZATION
  - CONTROLED SALINITY WATER INJECTION
  - H₂S REMOVAL SYSTEMS
- LOWER COMPLETION DECOUPLING
- FPUs PROCESSING CAPACITY
- INTELLIGENT COMPLETION
  - HIGH PRESSURE SEPARATION
  - CO₂ SEPARATION SYSTEMS
  - OCEAN BOTTOM SENSORS
  - NANO-TECHNOLOGY
Accelerated Learning Curve will continue to be applied ...

Structured assessment of Learning Curves ...

... to identify optimization initiatives ...

... that were the basis for optimization programs

Scope: most critical wells & subsea items

Objective: accelerate experience effects

Optimization dimensions

- Improved planning, processes & design
- New technologies
- Metrics & incentives
- Sourcing strategy

The importance of these optimization programs will continue as the Pre-salt campaign moves forward

Initial cost optimization program ...

... expanded into specific programs for wells & subsea systems 40+ initiatives
... once we achieved an impressive result at a massive campaign of offshore well construction.

- 25 drilling rigs
- 130 wells drilled

54% of time reduction from 2010 to 2014

Time reduction in well construction through Accelerated Learning Curve
Pre-Salt scale provides optimization through standardization

Based on the successful experience in Campos Basin, Petrobras has been continuously investing in equipment standardization for Pre-salt development

Subsea tree standardization
Subsea manifolds standardization
Flexible pipes standardization

Standardized equipment are the key for Cost optimization and effective Risk Management
Drop in oil prices puts pressure on suppliers

Industry CAPEX and OPEX behavior compared to Brent prices

Source: Bloomberg

Source: IHS Energy - Upstream Capital Costs Index (UCCI) e Upstream Operating Costs Index (UOCI)
Petrobras has an unique combination of costs, productivity and efficiency. As a consequence, a very competitive portfolio.

### 2014 Lifting Cost* (US$/boe)

<table>
<thead>
<tr>
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<th>Pre-salt</th>
<th>Petrobras Average</th>
<th>Other Operators</th>
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<tbody>
<tr>
<td><strong>2014 Lifting Cost</strong></td>
<td>9.1</td>
<td>14.6</td>
<td>15.0</td>
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*without government take

Source: Evaluate Energy

### 2014 Operational Efficiency (%)

**Pre-salt last three years average: 92.4%**

Source: Wood Mackenzie Corporate Benchmarking Tool - Publicly Traded Companies (04/28/15)
Petrobras and its partners have a phenomenal portfolio which puts Brazil in a leading position in ultra-deepwater development.

“It is a privilege to count with a solid partner like Petrobras, a leading specialist and true reference in deep and ultra deep water.”

- Nelson Silva, BG Brasil Chairman

“The enormous amount of knowledge already gained allowed Petrobras and its partners to overcome the challenges which the pre-salt brought to the development of the production.”

- Carlos Alves, Petrogal Brasil CEO

“Petrobras is a first rate operator and what the company is doing in the pre-salt could not be accomplished by any other company in the world on its own.”

- Tomas Blanco, Repsol Sinopec Brasil CEO
YESTERDAY, TODAY AND ALWAYS OVERCOMING CHALLENGES ALL OF THEM