



Launch of Brazil Country Report

Brazilian Embassy, 12 March 2018

EIC:

Clarisse Rocha
Head of Americas



What is the EIC?



- Not-for-profit energy trade association established in 1943, in Rio since 2000
- Represent UK registered companies supplying goods and services to global energy industries
- Approximately 50 staff in UK and overseas
- Only UK TA that has international hubs: Rio, Dubai, Houston and Kuala Lumpur
- Over 600 members in various energy sectors





Brazil Country Report



- PEST analysis
- State of Play:
 - O&G and PNR sectors
- Major players and projects
- Doing Business in Brazil
- Report available to EIC members (free) and non-members



For enquiries, please contact info@the-eic.com



PEST Analysis



Political

- Democratic federative republic with a presidential system
- Three autonomous levels of government: federal, state and municipal
- Ongoing political crisis following the impeachment of Dilma Rousseff and parallel Car Wash corruption investigation
- General elections set for October 2018
- 2016 Corruption Perception Index: 79/176
 - A founding UN member, Brazil is also part of the Mercosul regional bloc, Organization of American States, Union of South American Nations, and World Trade Organization, among several others
 - Low terrorism threat

Economic

- Gross domestic product: US\$1.8tn (world's 9th largest economy in 2017)
 - Economy components:
 - Services (67%)
 - Industrial (27.4%)
 - Agriculture (5.4%)
- World Bank's Ease of Doing Business Rank: 125/190 (2018)
 - Starting a business: 176
 - Paying taxes: 184
 - Enforcing contracts: 47
 - Getting credit: 105
 - Trading across borders: 139
 - Interest rate: 7%
- Inflation rate: 3% (December 2017)
- Credit ratings: Ba2 (Moody's), BB- (S&P), BB (Fitch)
- Slowly recovering from economic crisis: 2.7% GDP growth expected in 2018

PEST

Social

- Population: 207.6 million (2016)
 - Life expectancy: 75 (2015)
 - Literacy rate: 91.7% (2014)
- UNDP 2016 Human Development Index: 79/188 (indicates high human development)
 - Unemployment: 12.3% (2017)
- Population below poverty line: 4.3% (2015)
 - Official language: Portuguese
- 2017 EF English Proficiency Index: 41/80
 - Population focused on urban areas
- Significant crime levels in major cities
 - Ethnically diverse population
 - Free education
 - Universal healthcare

Technological

- Population with access to electricity: 99.7% (2014)
- Population with Internet access: 60% (2016)
- Mobile phone subscriptions: 244m (2016)
- Fixed broadband subscriptions: 26.6m (2016)
 - Brazil ranks 69th in the Global Innovation Index (2017)
- National Petroleum Agency requires 1% of oil profits to be invested in R&D
 - Leading subsea players have R&D centres in Rio de Janeiro



State of Play: Oil and Gas



Upstream

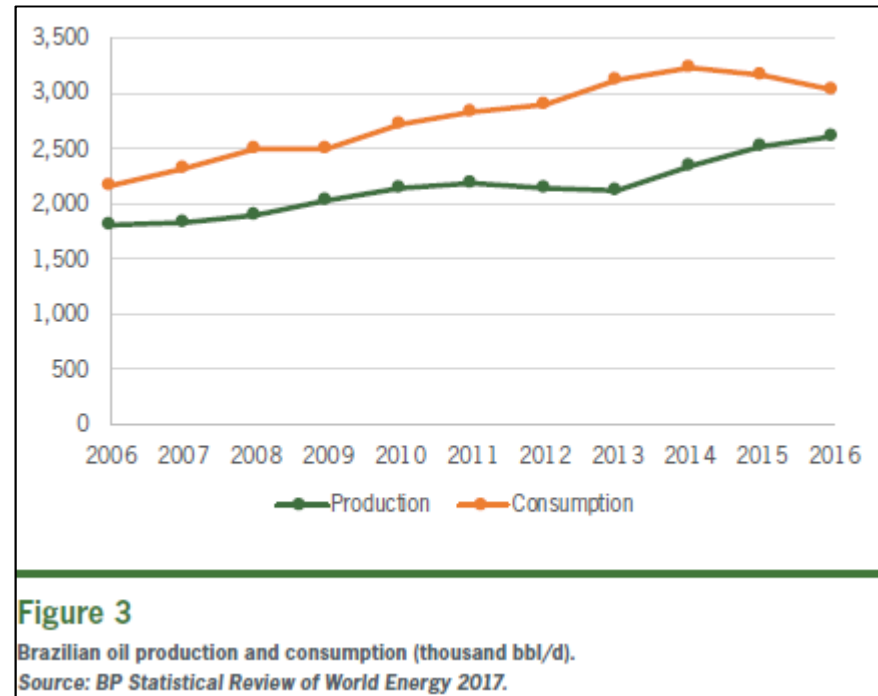
- 12.6bn barrels of proven reserves
- Production of 2.15MMbbl/d in 2016

Midstream

- 7,500km of oil pipelines; 7,100km of gas pipelines
- Three LNG regas terminals

Downstream

- 17 refineries, with combined processing capacity of 2.4 million b/d
- Latam's largest producer of first and second-generation petrochemicals

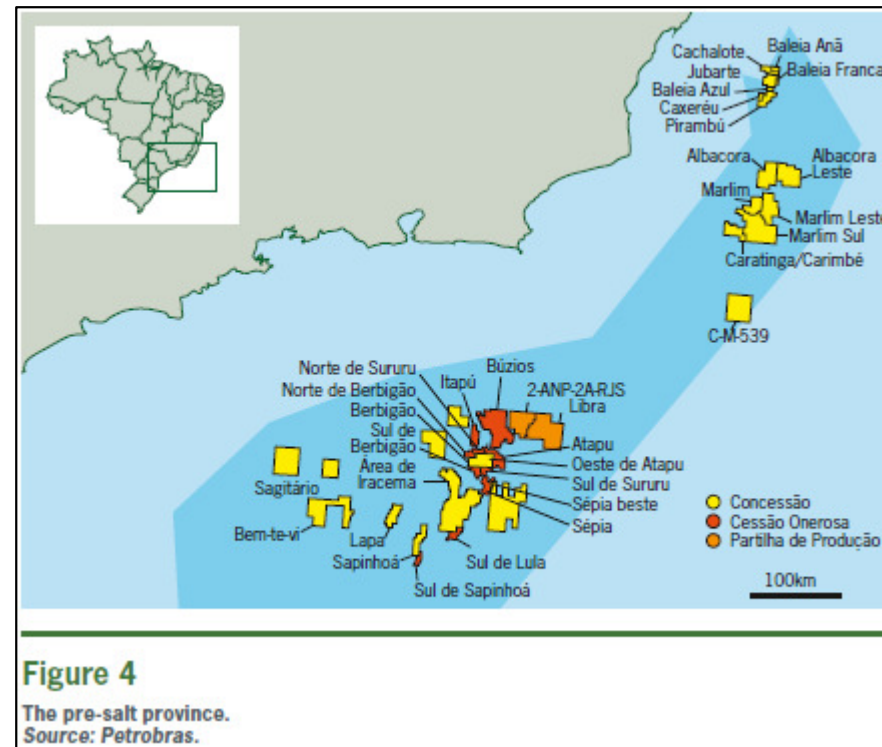




State of Play: The pre-salt



- Reserves of up to 176 billion barrels (UERJ)
- Production of 1.3MMbbl/d (Dec 17)
- Productivity is key: pre-salt output surpassed post-salt fields in less than 10 years
- Focus of Petrobras' E&P investment in coming years





Concessions

PSCs

Transfer-of-
rights



State of Play: Bidding rounds



- 14th bidding round for E&P concessions in September; 2nd and 3rd round for PSCs in October
- Petrobras no longer required to be the sole operator of pre-salt areas
- Participation of major IOCs
- New players in the market

Operator	Consortium structure	Basin	No. of blocks awarded
Petrobras	Petrobras – 50% ExxonMobil – 50%	Campos	6
ExxonMobil	ExxonMobil - 100%	Campos	2
	ExxonMobil – 50% Queiroz Galvão – 50% Murphy Oil – 20%	Sergipe-Alagoas	2
Repsol	Repsol – 100%	Espirito Santo	1
CNOOC	CNOOC – 100%	Espirito Santo	1
Karoon	Karoon – 100%	Santos	1

Table 1

Offshore blocks awarded in the 14th bidding round.

Operator	Consortium structure	Block
Petrobras	Petrobras – 45% Repsol Sinopec – 25% Shell – 30%	Entorno de Sapinhoá
Petrobras	Petrobras – 40% BP – 40% CNOOC – 20%	Peroba
Petrobras	Petrobras – 50% BP – 50%	Alto de Cabo Frio Central
Statoil	Statoil – 40% ExxonMobil – 40% Galp – 20%	Norte de Carcará
Shell	Shell – 55% Qatar Petroleum – 25% CNOOC – 20%	Alto de Cabo Frio Oeste
Shell	Shell – 80% Total – 20%	Sul de Gato do Mato

Table 2

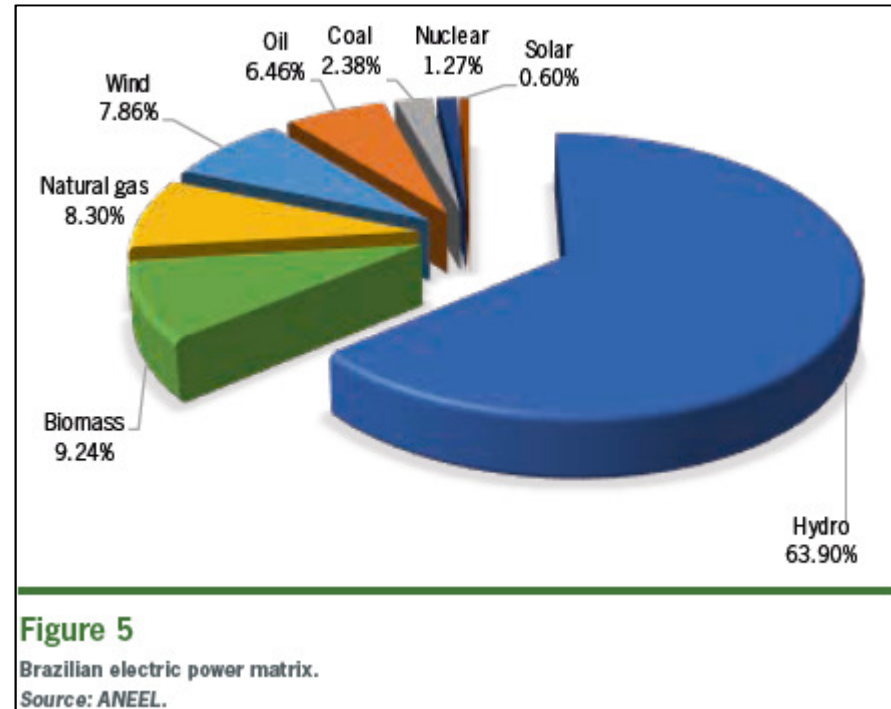
Blocks awarded in the 2nd and 3rd pre-salt bidding rounds.



State of Play: PNR



- 3rd largest electricity market in the Americas
- Installed capacity of 157GW
- Renewables is the backbone of the electric power matrix
- One of three countries in Latam with NPPs
- Great potential for EfW and distributed generation





State of Play: Power Auctions



- Two major power tenders in December 2017
- PPAs awarded 88 projects adding 4.5GW of installed capacity
- Substantial number of wind and solar PV projects
- Two major gas-fired plants in RJ

Source	A-4		A-6	
	No. of projects	Capacity (MW)	No. of projects	Capacity (MW)
Wind	2	64	49	1,386.6
Solar PV	20	574	-	-
Biomass	1	25	6	177.0
Mini/small hydro	2	11.5	6	139.0
Thermal (natural gas)	-	-	2	2,138.9
Total	25	674.5	63	3,841.6

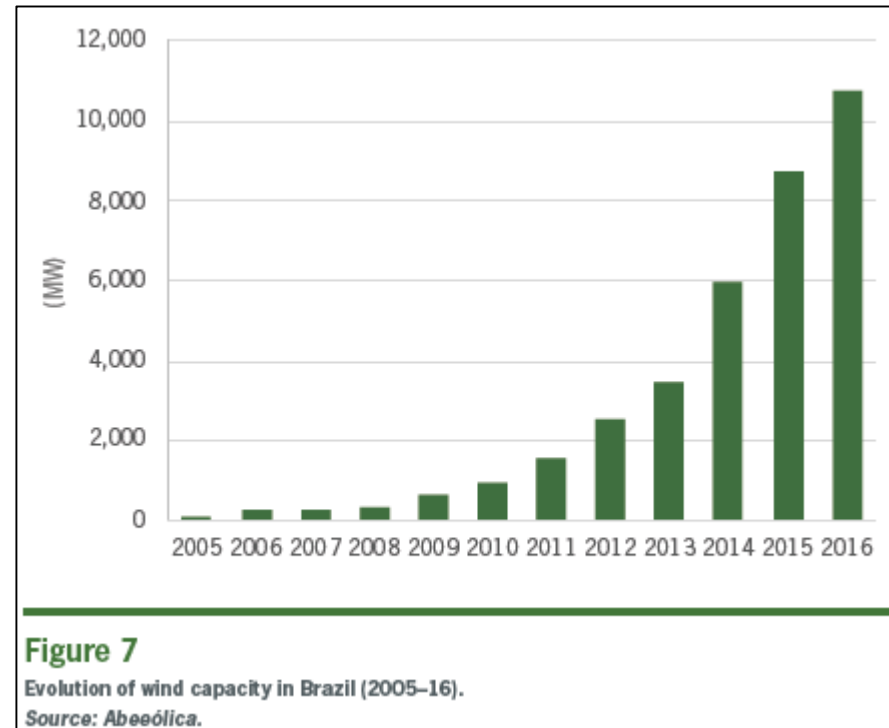
Table 4
Projects awarded PPAs in A-4 and A-6 auctions in December 2017.
Source: EPE.



State of Play: Wind segment



- Rapid growth of wind capacity over the last decade (1st in the region)
- Public financing instrumental for development of local supply chain
- Complementary role due to weather variations





O&G Major Players: Petrobras



- Improved financial strength
- Focus on pre-salt E&P projects
- Departure from non-strategic projects
- Strategic partnerships with IOCs
- Better-positioned in ANP bidding rounds
- Revamped procurement practices

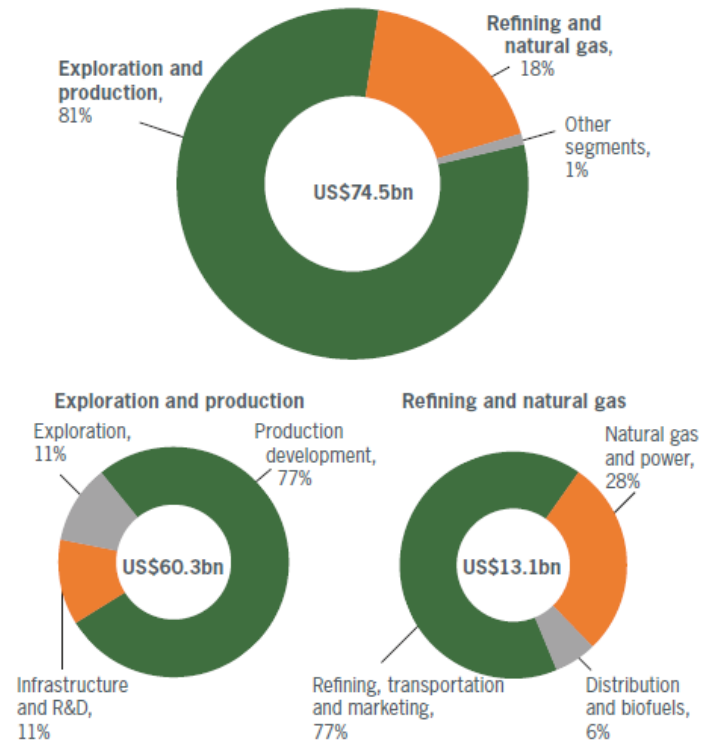


Figure 11
Petrobras 2018–22 Business and Management Plan.
Source: Petrobras.

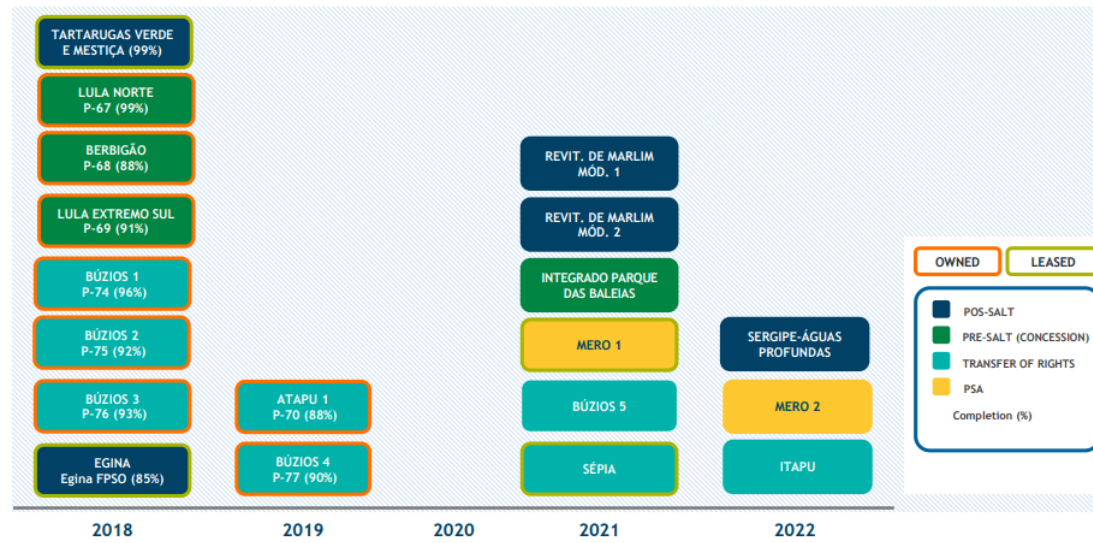


Petrobras FPSO Projects



- 19 new FPSOs by 2022 (18 in Brazil)
- Charter contracts instead of Petrobras-owned units
- Reduced local content for Mero FPSO
- Five FPSO tenders as of Feb 2018:
 - Buzios 5
 - Mero 2
 - Marlim I
 - Marlim II
 - Parque das Baleias

Start-up of 19 new production units by 2022



Source: Petrobras



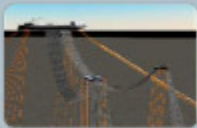
Petrobras Registration Process



Categorias Estratégicas e Críticas

8 GESTORES DE CATEGORIA

Subsea e EPCI



- Serv. de suporte à prod. de campos
- Linhas flexíveis
- Equip. e acess. navais e de amarra
- Equip. sub. de produção
- EPCI
- Oper. Submarinas

Válvulas, Tubos, Conexões e Equip. Estáticos



- Válvulas
- Tubos e conexões
- Vasos e tanques de armazenamento
- Fornos / Caldeiras / Aquecedores
- Torres, reatores, partes e acess. de processo

Equipamentos Industriais



- Bombas e acessórios
- Instrumentação e automação
- Motores e geradores elétricos
- Turbo geração e compressão

Perf. e Complet., Sondagem, Afret. FPSO



- Afretamento de plataformas de produção
- Afretamento de sondas marítimas
- Perfuração e completação (serviços de poços)

EPC, Projetos e Revamp



- Construção e obras civis
- EPC (Bens e Serviços para empreendimentos)
- Manutenção e revamp
- Serviços de engenharia de projeto

SMS, TIC e Serv. de Geofísica



- Equipamentos e serviços de SMS
- Serviços de geologia geofísica e sísmica
- TIC

Químicos e Catalisadores



- Catalisadores e produtos químicos para refino
- Produtos químicos para poços e tratamento de óleo
- Combustíveis e lubrificantes

Logística



- Afretamento aéreo operacional
- Afretamento de navios e embarcações especiais
- Fornecimento de alimentação offshore
- Transporte terrestre

Estratégicas: 13/13

Críticas: 18/19

Operacionais: 1/16

Demais atendidas pela SBS/ECGF/ICM



Petrobras Registration Process



LAW 13.303 – “Public Companies Law” will be enforced in May 2018, being applicable for all of the Brazilian public-capital/ mixed-capital companies. Companies will be able to join the bidding process and disclose the bids they receive. Regarding Petrobras, prospective bidders will be required to have the CRC certification, otherwise, they will have to submit all CRC registration documents along with their bid.

Bid process:

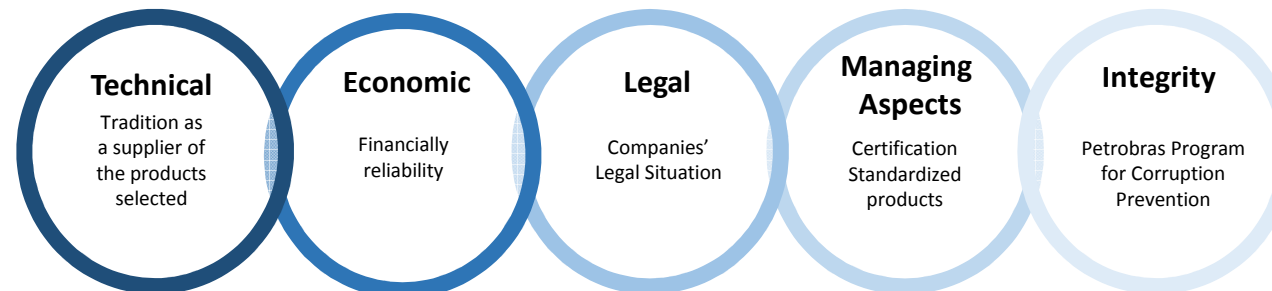


CRC APPROVED

Send the CRC documents to be approved

The process is divided in 2 basic steps in which Petrobras evaluates potential suppliers:

- 1. Identification** – company must provide its general information to start the process. In this first phase is also necessary to select, among the categories pre-defined by Petrobras, the ones related to your company's products.
- 2. Detailed information** – the company will be evaluated in 5 different criteria. Each one of them is divided in sub-items where specific information will be requested.



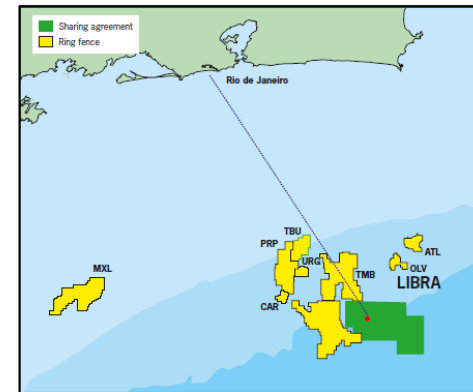


Petrobras FPSO Projects (awarded)



- Guanabara FPSO (Mero field)

- Contractor: Modec
- Capacity: 180,000b/d and 12MMcm/d
- Start-up: 2021
- Tender ongoing for 12 WCTs



- Carioca FPSO (Sépia field)

- Contractor: Modec
- Capacity: 180,000 b/d and 6MMcm/d
- Start-up: 2021
- Flandre VLCC expected to be converted at Cosco shipyard



Petrobras FPSO Projects (to be awarded)



- Búzios 5 FPSO

- Bidding deadline: **26 March 2018**
- Capacity: 180,000b/d and 12MMcm/d
- Start-up: 2021
- Deadline extended to allow SBM Offshore to bid, acc'd to local sources



- Mero 2 FPSO

- Bidding deadline: **29 June 2018**
- Capacity: 180,000 b/d and 12MMcm/d
- Start-up: 2022



Petrobras FPSO Projects (to be awarded)



- Parque das Baleias (new FPSO)

- Bidding deadline: **20 June 2018**
- Capacity: 100,000b/d and 5MMcm/d
- Start-up: 2021



- Marlim FPSOs (Modules I & II)

- Bidding deadline: **20 June 2018**
- Capacity: 80,000 b/d and 7MMcm/d (module I) and 70,000b/d and 4MMcm/d (module II)
- Start-up: 2021
- Contractors able to bid for one or both FPSOs





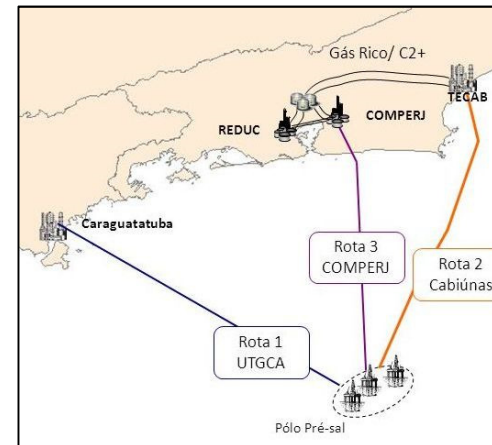
Petrobras Midstream Projects



- Comperj UPGN
 - EPC contractor: Kerui-Método consortium (pending contract signing)
 - Capacity: 14MMcm/d
 - Start-up: 2020
 - Chemtech subcontracted for detailed engineering



- Route 3 pipeline
 - Start-up: 2020
 - Two ongoing tenders:
 - Encalco/Concremat lowest bidder for 48km onshore section
 - Allseas, McDermott and Sapura bidding for 10km shore approach section





Petrobras Downstream Projects



- Abreu e Lima (RNEST)
 - Start-up: 2014
 - EPC contractor for SNOX unit: Qualiman Engenharia
 - EPC contractor for sulphur units: Conenge SC-Possebon
 - PBR seeking partner for completion of second train

- Comperj Refinery
 - Startup: N/A
 - PBR seeking partner to complete refinery
 - CNPC seen as a likely option





Other Major Players



- Statoil



- Peregrino 2:
Startup: 2020
Jacket: Heerema
Deck: Kiewit
Subsea EPCI: TechnipFMC
Living quarters: Apply Leirvik

- Carcará: startup in 2023-24, to feature FPSO

- Total



- Lapa:
Tender launched for flexible lines and umbilicals
- Awaiting env't approval for drilling campaign in northern Brazil

- Shell



- Parque das Conchas:
Petroserv's SSV Catarina rig leased for well intervention campaign
- Gato do Mato:
Drilling on Gato do Mato Sul planned for 2019
- Obtained Alto de Cabo Frio Oeste block

- ExxonMobil



- As operator, obtained exploration blocks in the Campos and SE-AL basins
- Also holds blocks awarded at the 11th bidding round



Other Major Players

- Karoon
 - Operator of the Echidna field in the Santos basin
 - FEED ongoing; FID for production unit expected in mid-2018
 - Negotiations with suppliers ongoing (GE, SLB, Bumi Armada, BW Offshore)
- QGEP
 - Operates the Atlanta field
 - Early production with Petrojarl I FPSO
 - Permanent production unit planned to be installed in 2021, FID expected in 2019
- ENEVA
 - Operator of Gavião fields in Maranhão
 - Recently acquired Azulão field, possibility for reservoir-to-wire project





PNR Major Players

- Eletrobras
 - Latam's largest power holding
 - Comprises a group of subsidiaries focused on different regions/segments (e.g. Eletronorte, Eletronuclear)
 - Inst. capacity of 46.8GW
 - Privatisation under analysis
- ENGIE Brasil
 - Largest private power generator
 - Inst. capacity of 8.7GW
- CTG Brasil
 - Third largest generator
 - Acquired assets from Duke Energy
- Other players
 - CPFL, Neoenergia, AES Tietê, EDP Brasil, Enel, etc

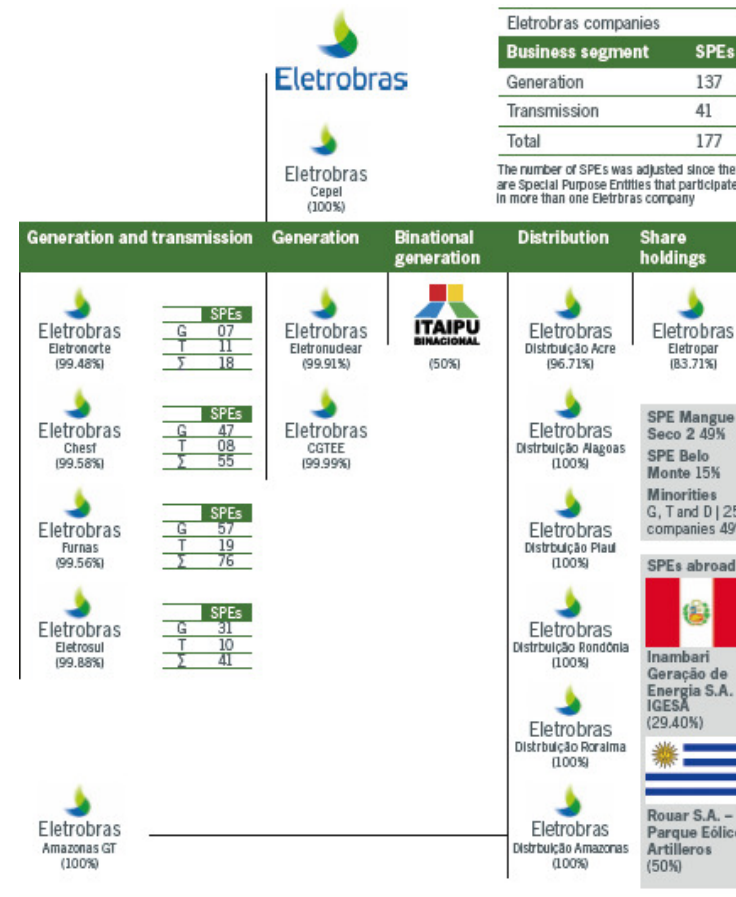


Figure 12
Eletrobras ownership chart.
Source: Eletrobras.



Doing Business in Brazil



- Setting up a business

- Limited liability companies
- Corporations
- Sales representation/distribution
- Joint ventures

- Tax

- Corporate income taxes (IRPJ, CSLL)
- Gross revenue taxes (PIS, COFINS)
- State tax (ICMS)
- Municipal taxes (ISS, IPTU)
- Foreign currency exchange

- Special customs arrangements

- Temporary admission
- Bonded warehouses
- REPETRO

- Local content

- Local content certification
- LC changes to 14th bidding round
- New LC regulations may be valid for older E&P contracts (7th round onwards)

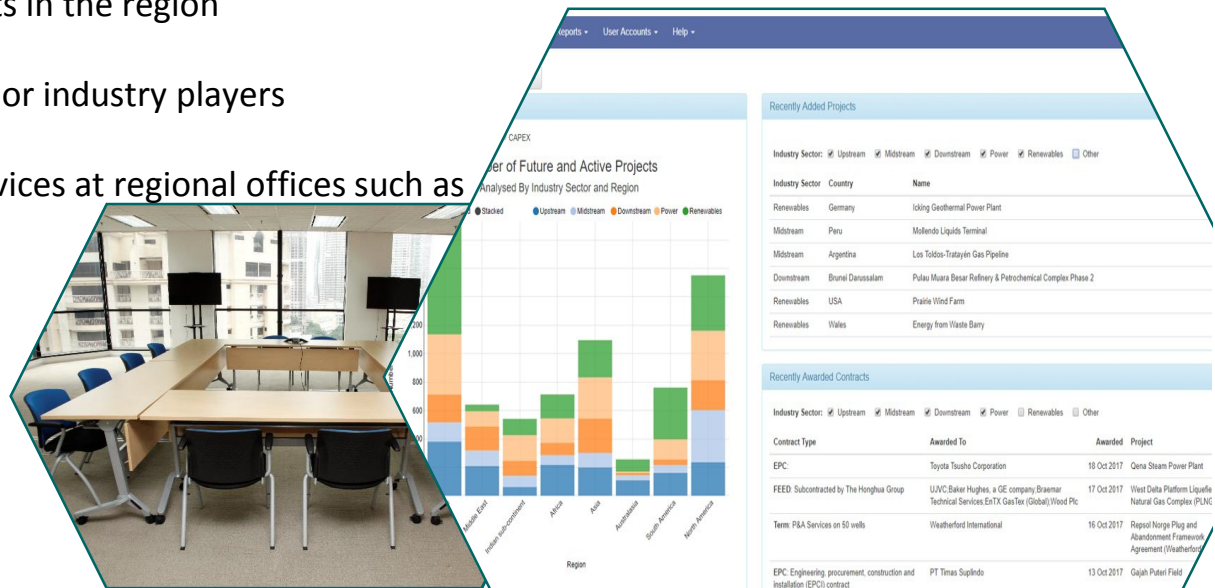
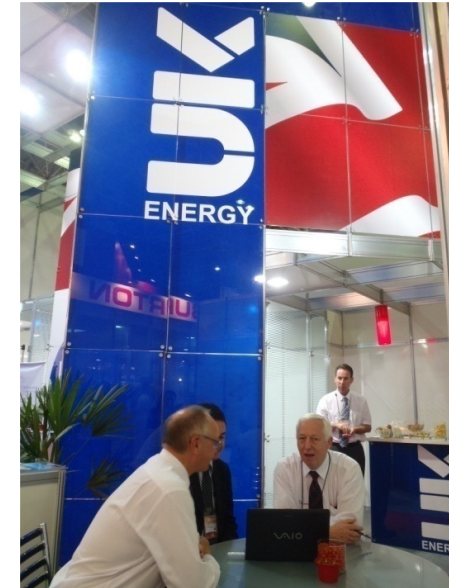


How can we support UK companies?



Business Intelligence and Events:

- **EICDataStream** Country and Insight Reports :
 - Leading project tracking database: feasibility construction completion
 - Exclusive to EIC members
 - tracking 7,500+ projects in development / under construction
 - Over 10,000 projects in operation
 - Daily updates by team of analysts
 - Continuous improvement based on member feedback
- UK pavilion at main exhibitions
- Trade delegations to key markets in the region
- Business presentations with major industry players
- Launchpad offices and Local services at regional offices such as Petrobras Registration





Connecting members with buyers and enhancing knowledge



High-profile events:

- Overseas trade delegations
- EIC-run UK pavilions
- Joint working with DIT and partner trade associations

UK and overseas

- EIC Connect flagship events
- Business events
- Member update meetings

Next Events in Rio:

- 15 Mar – The Fundamentals of FPSOs
- 20 Mar – UK Energy in Brazil 2018
- 5 Apr - Launch event of Brazil Country Report in Rio
- 21 Jun – The Fundamentals of FPSOs
- 24 Sep – Rio Oil & Gas 2018





RIO OIL & GAS 2018 – UK Pavilion



- Prime Location for the UK group
- Promotion of the group through publications/press releases and UK brochure
- Experienced organisation
- 34,200+ visitors
- 540+ exhibitors from over 22 countries



In partnership with:



**Department for
International Trade**

For further information
and to apply, contact:

Lucia Durante, Overseas Events Administrator
Lucia.durante@the-eic.com
+44 (0) 20 7091 8617



EIC South America



Clarisse Rocha

Head of Americas

Tel: +55 21 3265 7405

E-mail: clarisse.rocha@the-eic.com

Report by

Pietro Ferreira

Regional Analyst, South America

Tel: +55 (21) 3265 7403

Email: pietro.ferreira@the-eic.com



EIC South America:

Av. Rio Branco, 89 – 26th floor

Manhatan Tower

Rio de Janeiro – RJ – Brazil

Tel: +55 (21) 3265-7400

Fax: +55 (21) 3265-7410

E-mail: rio@the-eic.com