

Delivering world class development projects

Carlos Alves

Head of Exploration & Production



A focused E&P strategy

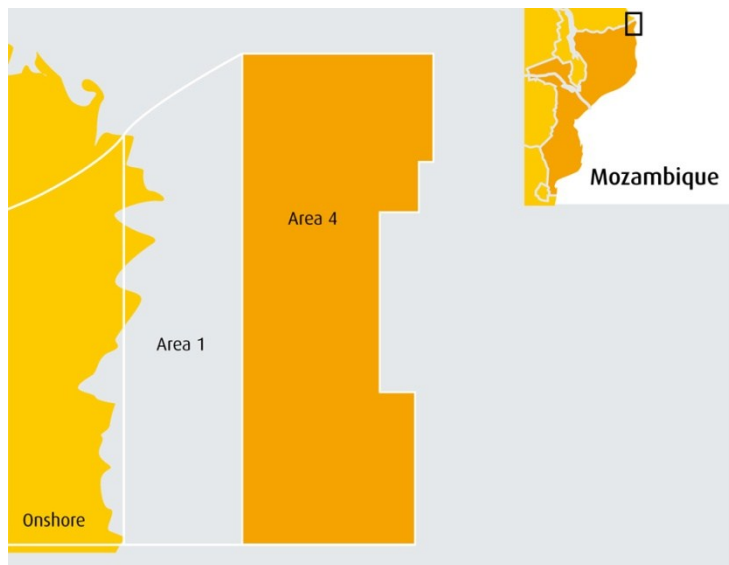
Resources and targets

High potential exploration assets

Delivering world class development projects

Development options being analysed according to SEE approach

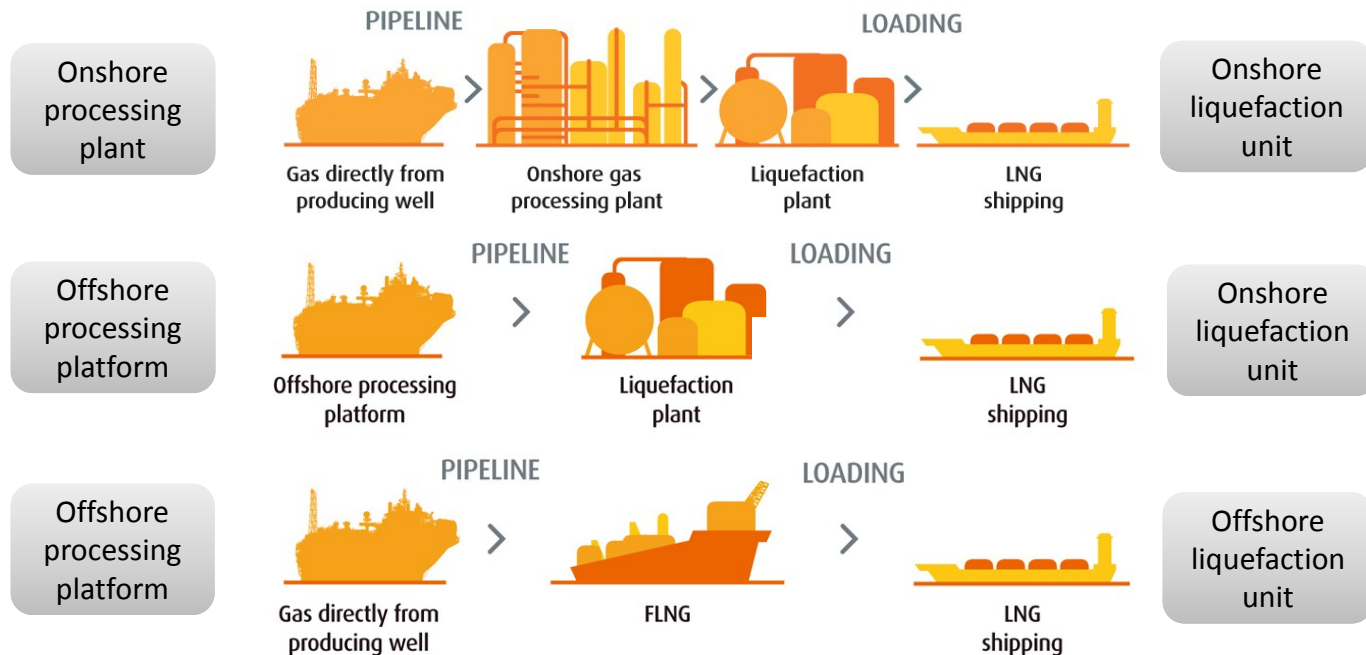
Area 4 location



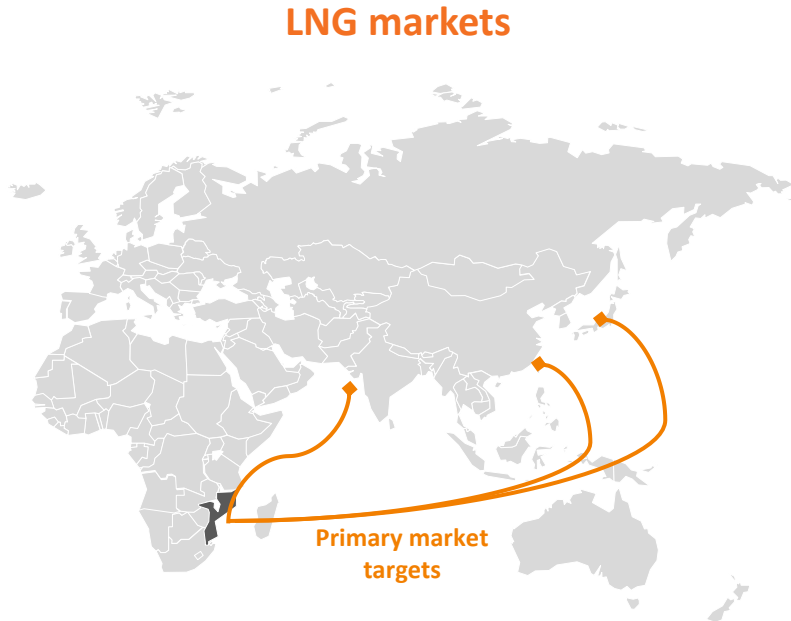
- Distance to onshore just 40 km
- Multi-train LNG train development scenarios are being developed
- Unitisation discussions with area 1 shall take place in near future
- Flow rates expected to be up to 4 Mln m³/d (150 mmscf/d) during production phase
- High quality reservoir enhances flow and recovery rates, with impact on capex needs

Development concept solutions being studied

Natural gas development options



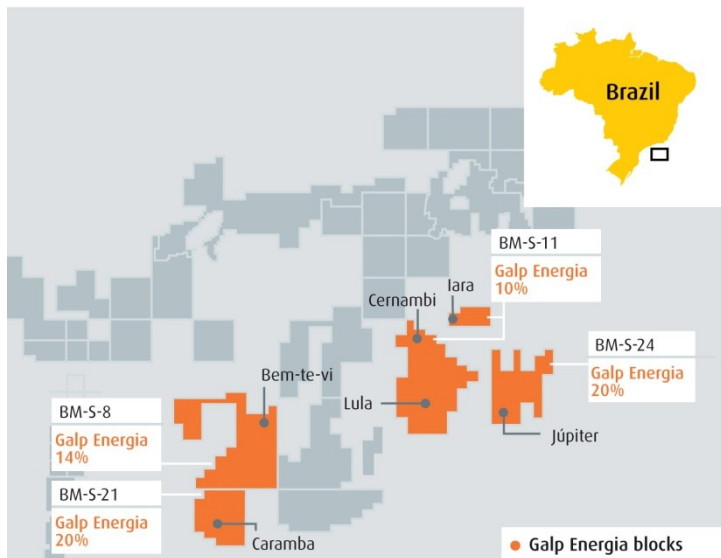
Location near interesting LNG consumption markets



- Global LNG market expected to double to c.400 Mtpa in 2020
- Interesting geographical location to target the growing demand from Asian market
- Leverage on partners and in-house Angolan and Brazilian experience to develop and market natural gas
- Gas commercial production expected to start by 2018

Pre-salt province revealed key success characteristics

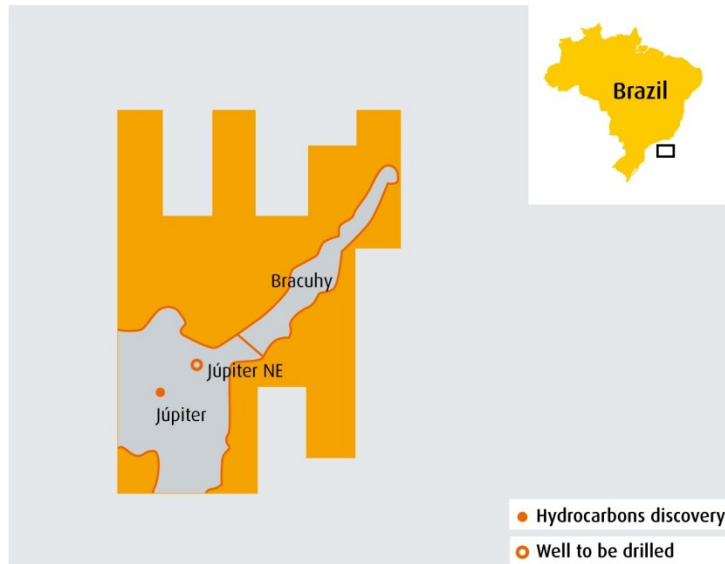
Pre-salt Santos basin



- Galp Energia benefited from being within the first movers into the pre-salt area
- Seven discoveries within pre-salt layer in four blocks
- Presence since 2000 starting to materialize
- Significant upside potential from forthcoming appraisal and development activities

Potentially material appraisal activity underway in Júpiter

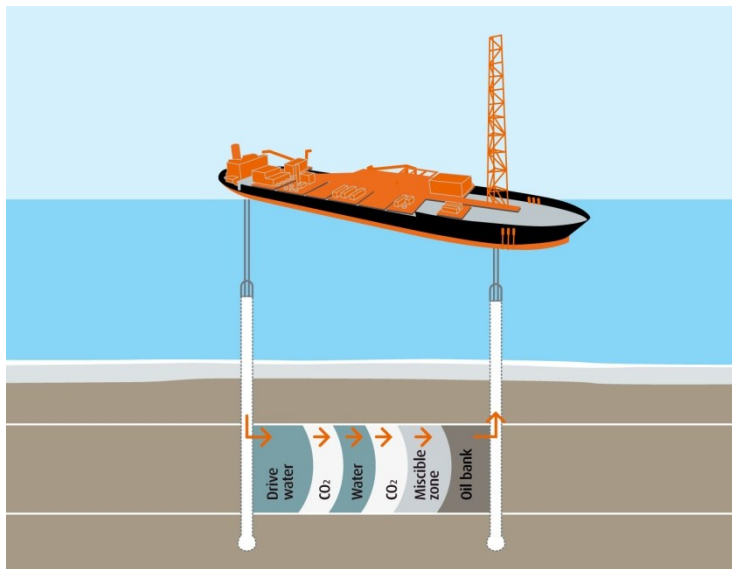
BM-S-24



- Gross 3C contingent resources above 5 bln boe¹, of which 1/3 oil, 1/3 condensates and 1/3 natural gas
- High CO₂ content and to be studied by Jupiter NE appraisal well
- EWT in Júpiter area expected for 2015
- Expected DoC until February 2016

CO₂ monetization as a potential upside

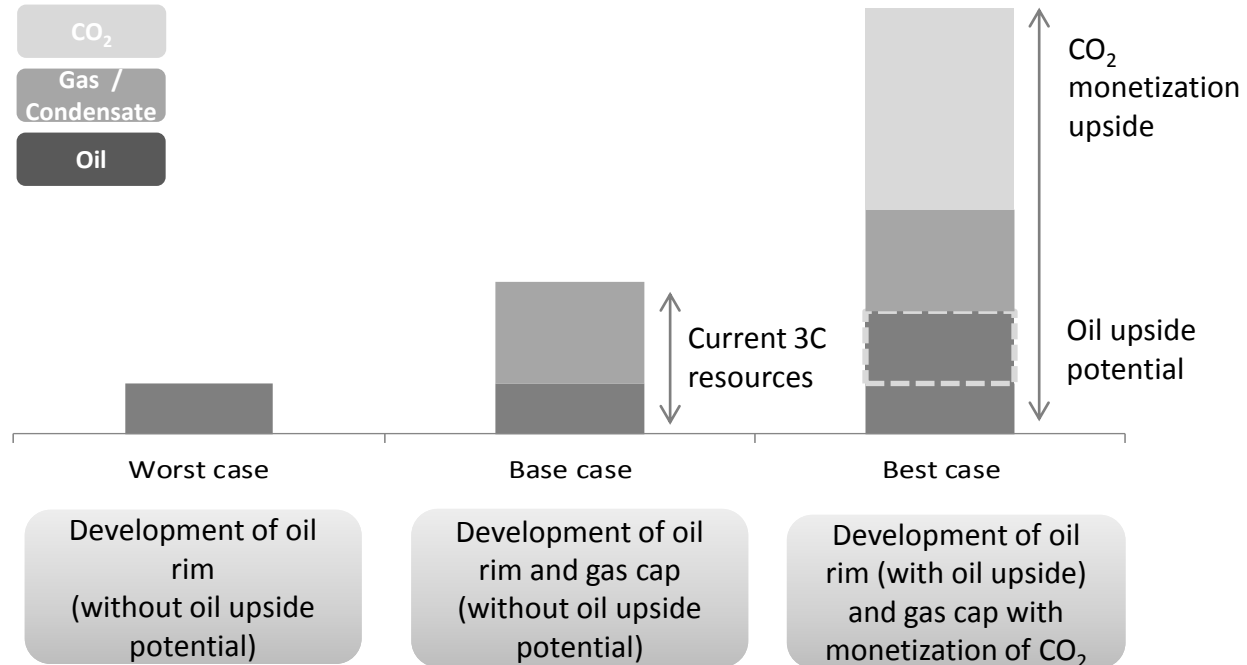
CO₂ injection in reservoir



- Enhanced oil recovery through CO₂ injection in carbonate reservoirs proved to improve recovery efficiencies
- Opportunity to act as a regional supplier of CO₂ to pre-salt clusters to EOR development
- Pre-salt facilities (Subsea and Surface) are being designed with flexibility to import gas and to perform CO₂ injection

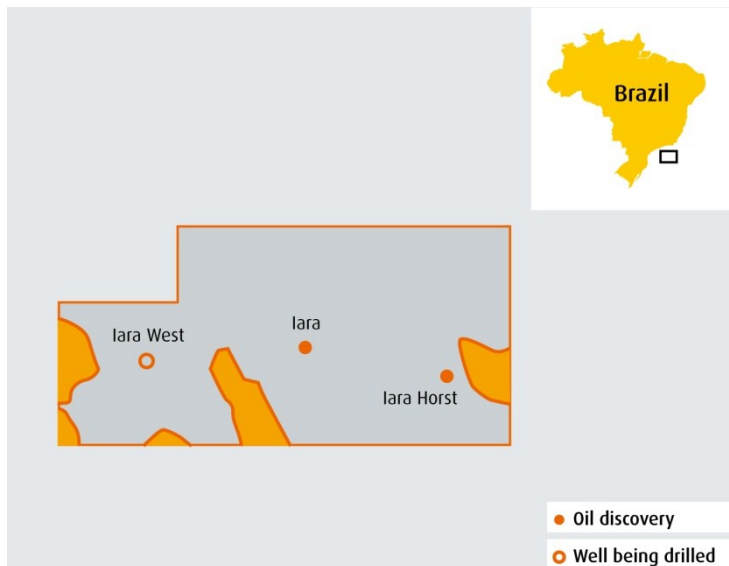
Júpiter development is viable and with material upside

Júpiter resources development



Appraisal activities confirmed lara's potential

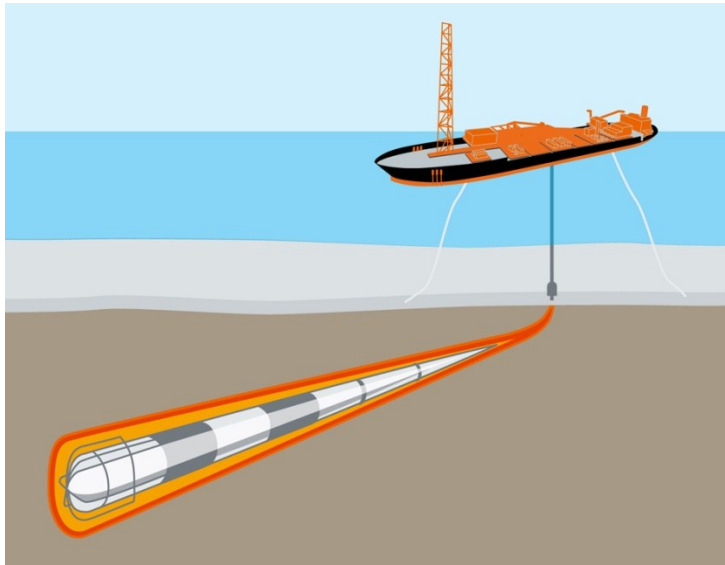
lara field



- Two wells drilled so far found a reservoir of oil with high quality
- Reservoir rocks composed of microbial carbonates from sag and rift sections
- Formation tests on lara Horst registered good quality data
- 3-4 bln boe with upside potential

Drilling performance with high angle wells encourages application in Iara

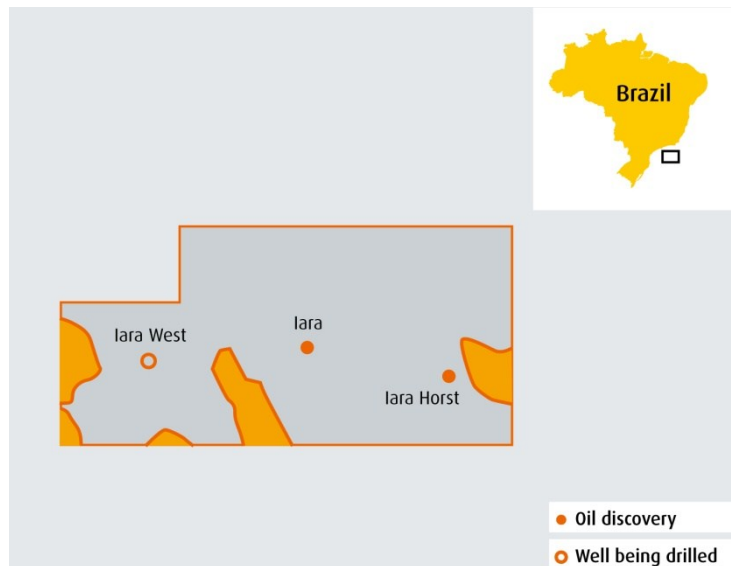
Drilling optimization



- Potential upside through multi-lateral and horizontal drilling on development phase in a cost effective manner
- Technology being tested currently in Lula field
- Potential for upward revision of recoverable resources

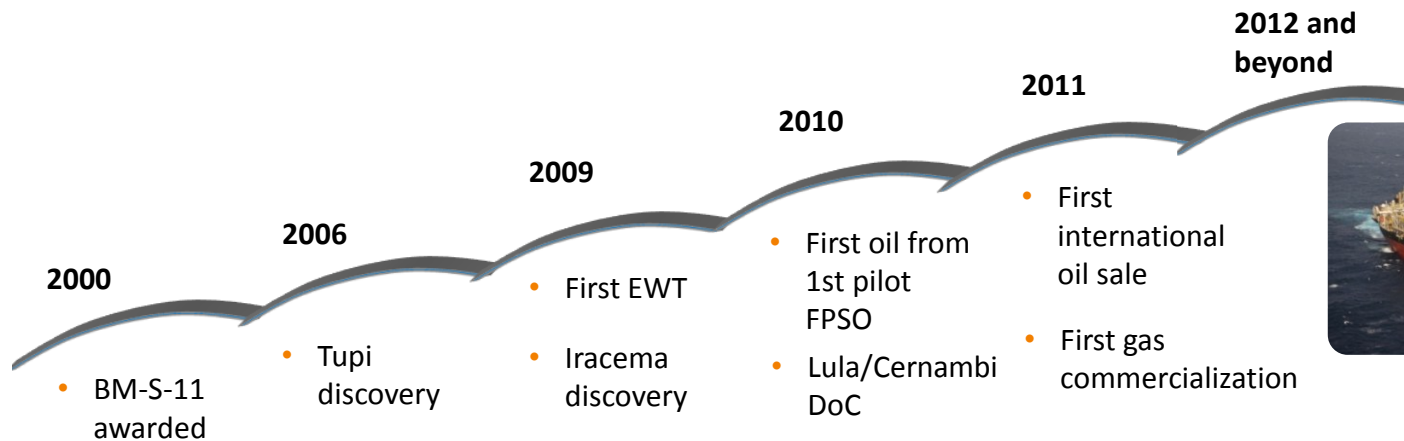
Development of lara being studied

lara field



- lara West currently being drilled with results expected during 2Q12 targeting a structure with potentially better reservoir characteristics
- Intensive activity gathering information to prepare the development plan
- EWT planned in the sequence of lara West results
- Expected DoC by December 2013

Lula/Cernambi project has been a successful journey



Significant progress achieved in 2011

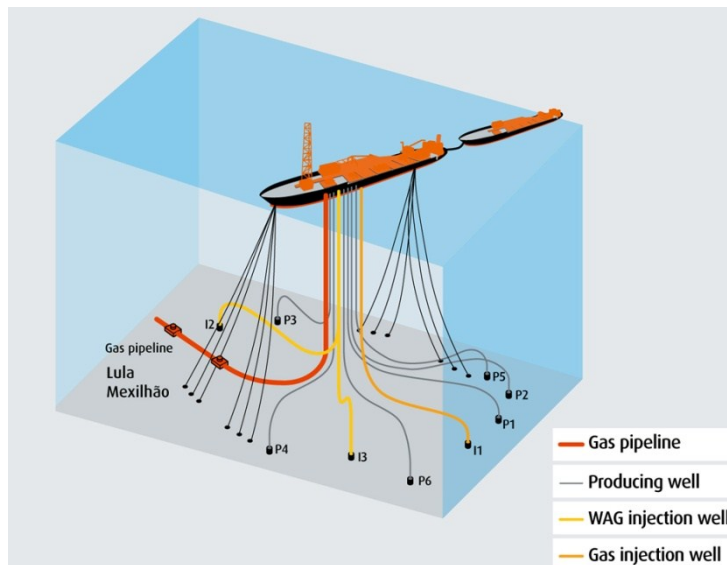
FPSO BW Cidade de São Vicente



- Appraisal activity during 2011 revealed better reservoir characteristics than initially expected
- Initial flow capacity above expectations
- EWT in Lula NE confirmed the productivity achieved in previous tests
- Currently performing the 1st EWT in Cernambi South area

Fast development of a world-class project

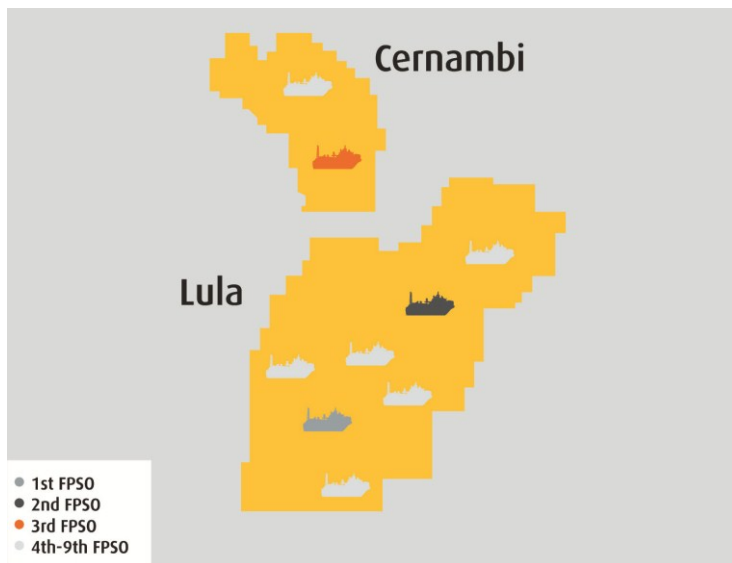
Lula-1 project



- Lula – 1 project to reach full capacity in March
- Four producing wells and one gas injection well to be in place at the end of March
- Two WAG injection wells to be connected to FPSO Cidade de Angra dos Reis in 2012
- Ready to connect highly deviated well (P8H) in 2013

Infrastructure secured to support project development

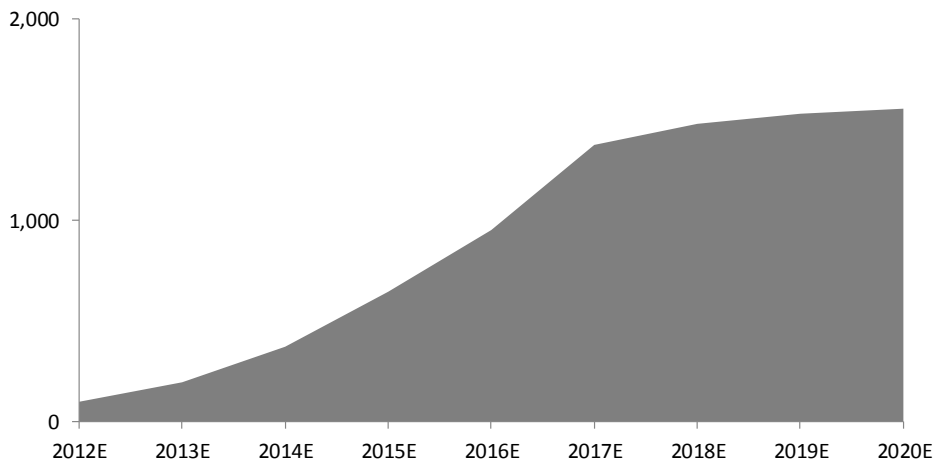
FPSO deployment in Lula/Cernambi



- 2nd and 3rd production units being converted and expected to be on stream by 2Q13 and 2014 respectively
- Works for the deployment of the six hulls already started at Rio Grande shipyard
- FPSO deliveries on time to support the fast development of Lula/Cernambi project
- Six rigs permanently allocated to BM-S-11 by YE2011

Lula/Cernambi production of c.1,500 kboepd in 2020

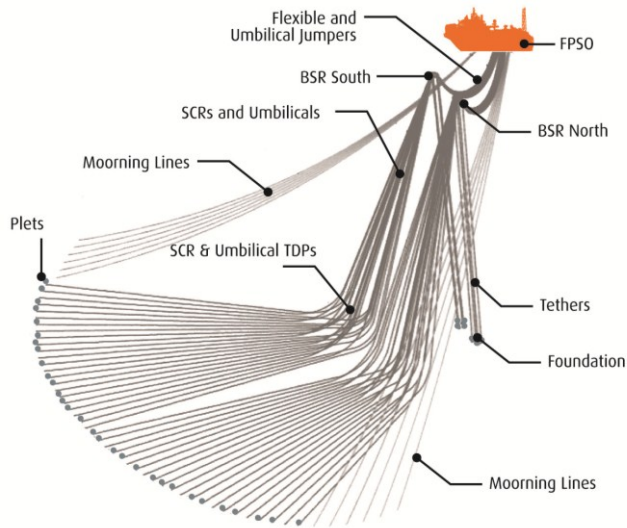
Lula/Cernambi production profile (kboepd)



- Production profile based on current technological achievements
- Better reservoir characteristics allowed the upwards revision of production target
- Knowledge acquired with Lula-1 will be key in accelerating the development of subsequent producing units

Significant and reachable upside potential on Lula/Cernambi project

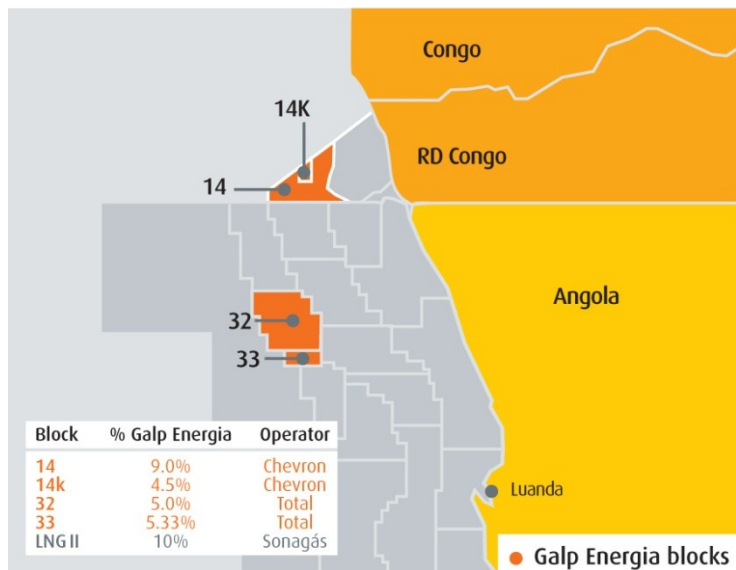
Subsea equipment



- WAG alternative ready to be tested in Lula-1 from 2012 onwards
- Each 1 p.p. increase in recovery factor results in an incremental c.300 Mboe of recoverable volumes
- Potential for further capacity de-bottlenecking through sub-sea equipments
- Potential for further economies of scale

Angola is currently a development story

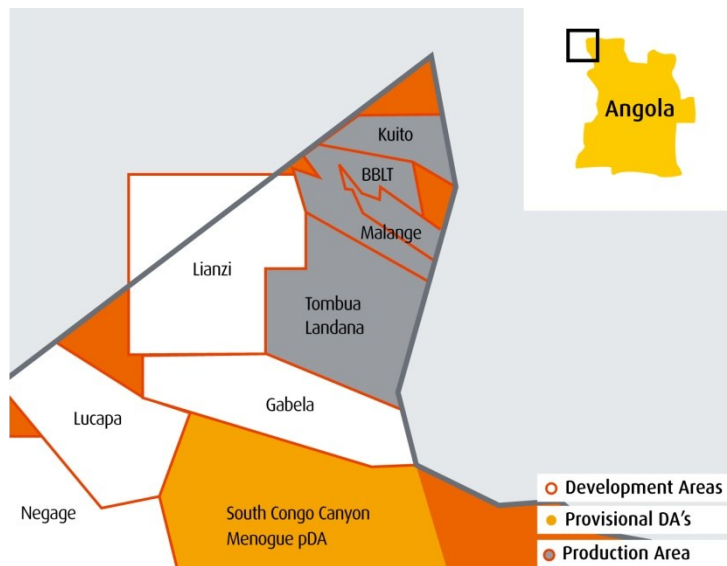
Angola blocks



- Presence in Angola rewarded with 26 discoveries
- Three fields already under production: Kuito, BBLT and Tômbua-Lândana
- Current projects already reached peak production
- Further production increase will be driven by new projects already identified

Five areas still to be developed

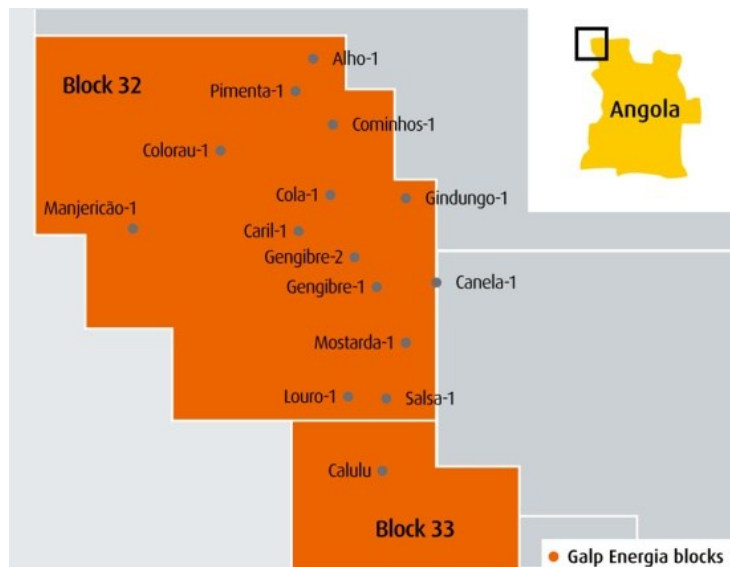
Blocks 14/14K



- Kuito, BBLT and Tômbua-Lândana reaching mature phase
- Lianzi, Malange and Lucapa first oil expected to occur between 2014 and 2017
- Development scenarios based on both tie-backs and new FPSO production unit
- World-class technical breakthroughs: Congo river crossing gas export project and Lianzi DEH flowlines application

From exploration success into development stage

Blocks 32/33



- First oil expected by 2016
- Two FPSO expected to be in place by 2017 with an aggregated capacity of c.200 kbopd
- 14 discoveries and 12 development areas identified
- Going ahead with the evaluation programme in block 33

Development of world class projects on track to achieve 300 kboepd by 2020

- Mozambique development project being studied with first gas expected by 2018
- Brazil gaining momentum and driving production growth
- Significant upside through testing different techniques in pre-salt Santos basin
- Angola development projects being prepared to support production increase

Acronyms

#	Number	GWh	GigaWatt hour
\$	United States dollar	HSE	Health, Safety and Environment
%	Percentage	IPO	Initial Public Offering
2D	Two dimensional seismic	Kboepd	Thousand barrels of oil equivalent per day
3D	Three dimensional seismic	Kbpd	Thousand barrels per day
API gravity	American Petroleum Institute gravity	Km²	Square kilometre
BBLT	Benguela, Belize, Lobito, and Tomboco	LNG	Liquified Natural Gas
Bbl	Barrel	LTIFR	Lost time injury frequency rate
Bcm	Billion cubic metres	Mln	Million
Bln	Billion	MW	MegaWatt
Boe	Barrel of oil equivalent	Mmscf/d	Million standard cubic feet per day
c.	Circa	NG	Natural Gas
CAGR	Compound Annual Growth Rate	OWC	Oil-water contact
Capex	Capital expenditure	POS	Probability of success
CO₂	Carbon Dioxide	p.p.	Percentage point
DA	Development area	R&M	Refining & Marketing
DEH	Direct electrical heating	RCA	Replacement Cost adjusted
DoC	Declaration of commerciality	SAM	Sustainable Asset Management
E/A	Exploration well /Appraisal well	SEE	Social, Environmental and Economic impact
E&P	Exploration & Production	SXEP	STOXX Europe 600 Oil & Gas
EBITDA	Earnings before interest, taxes, depreciation and amortization	Tcf	Trillion cubic feet
EOR	Enhanced oil recovery	Ton	Tonne
EWT	Extended Well Test	WAG	Water Alternating Gas
FLNG	Floating liquefied natural gas	WI	Working interest
FPSO	Floating Production Storage Offloading	YE	Year End

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