

Our aim is to build a sustainable operating company in Angola that contributes to the social and economic development of the country

By the end of the next decade BP will have invested \$30 billion in Angola. BP has been in Angola since the 1970s, and in the 1990s the company acquired interests in four deep-water offshore blocks some 200km north west of Luanda. In 2011 BP acquired interests in five new deep and ultra-deep water blocks in the Kwanza and Benguela Basins to the south of the capital making the Angola Region one of the most important assets in BP's exploration and production portfolio. To date BP has invested more than \$25 billion in its Angola assets and will be investing in excess of a further \$25 billion in exploration and development in Angola over the next 15 years.

Currently BP operates Block 18 (50%), Block 19 (50%), Block 24 (50%) and Block 31 (26.67%).

BP's other interests offshore Angola are:

- Block 15 (26.67%) – operated by Esso Exploration Angola.
- Blocks 17 (16.67%) – operated by Total E&P Angola.
- Block 20 (30%) – operated by Cobalt International Energy.
- Block 25 (15%) – Operated by Total E&P Angola
- Block 26 (40%) – operated by Petrobras.
- Angola LNG (13.64%) – operated by Sociedade Operacional Angola LNG, SA.

BP Angola's current net average production is around 180,000 barrels of oil per day (180 mbd), from Block 31 and our partner operated assets in blocks 15 and 17. The average gross production from Block 18 is at around 170 mbd and Block 31 is around 170 mbd. First gas in 2Q 2013. The project will restart in the beginning of the third trimester of 2014.

BP Angola currently employs around 1100 staff based in Angola, of whom almost 70 % are angolan.



OPERATED ASSETS

BLOCK 18

- **Partners:** BP (50%), SSI (50%)
- **Area:** 5,000 sq.kms
- **Water depth:** 1,200 m -1,600 m
- **Fields:** The Greater Plutonio development, some 160kms offshore, consists of five fields: Cobalto, Plutonio, Paladio, Cromio and Galio. Three additional fields (Cesio, Platina and Chumbo) form a future development
- **Installed capacity:** 180,000 bpd (gross)

BLOCK 19

Operated by BP

- **Partners:** BP 50%, Sonangol P&P (40%), CEPSA (10%)
- **Area:** 4,900 sq. kms
- **Water depth:** varies from ~500 m – 1,800 m
- **Fields:** None – exploration phase
- **Daily production:** None

BLOCK 24

Operated by BP

- **Partners:** BP (50%), Sonangol P&P (50%)
- **Area:** 4,470 sq. kms
- **Water depth:** varies from ~600 m – 1,800 m
- **Fields:** None – exploration phase
- **Daily production:** None

BLOCK 31

- **Partners:** BP (26.67%), Sonangol EP (25%), Sonangol P&P (20%) Statoil Angola AS (13.33%), SSI 31 (15%)
- **Area:** 5,349 sq.kms
- **Wells:** 40
- **Water depth:** 1,500 m - 2500 m
- **Fields:** PSVM, the first project in Block 31 some 321kms from Luanda comprises the Plutão, Saturno, Venus and Marte fields and is one of the deepest development projects in the world
- **Installed capacity:** 170,000 bpd (gross)

NON-OPERATED ASSETS

BLOCK 15

- **Partners:** Esso Exploration Angola (40%), BP (26.67%), Statoil (13.33%), ENI (20%)
- **Area:** 5,500 sq.kms
- **Water depth:** 1,000 m – 1,400 m
- **Fields:** Block 15 comprises the Xikomba, Kizomba A, Marimba North, Kizomba B, Kizomba C, Mondo, Saxi Batuque, Clochas-Mavacola and Kizomba satellites. FEED commenced in 2011 is targeting the development of the Bavuca, Kakocha and Mondo South fields, with First Oil targeted for 2015
- **Daily production:** 340,63 bpd (gross)

BLOCK 17

- **Partners:** Total Exploration & Production Angola (40%), BP (16,67%), Statoil (23,33%), Esso Exploration Angola (20%)
- **Area:** 5,000 sq.kms
- **Water depth:** 1,200 m – 1,700 m
- **Fields:** Girassol, Jasmin, Dália, Rosa, Pazflor (Acácia, Zinha, Perpétua, Ortência) and CLOV (Cravo, Lírio, Orquidea, Violeta). The Clov project, the fourth FPSO on the block, is under implementation and will develop the Miocene and Oligocene reservoirs at a plateau oil rate of 160,000 bpd
- **Daily Production:** 571,31 bpd (gross)

BLOCK 20

- Operated by Cobalt International Energy
- **Partners:** Cobalt International Energy (40%), BP (30%), Sonangol P&P (30%)

BLOCK 25

Operated by Total (TEPA)

- **Partners:** Total (35%), Sonangol P&P (30%), Statoil (20%), BP (15%)
- **Area:** 4,842 sq. kms
- **Water depth:** varies from ~300 m – 2,100 m
- **Fields:** None – exploration phase
- **Daily production:** None

BLOCK 26

Operated by Petrobras

- **Partners:** Petrobras (40%), BP (40%), Sonangol P&P (20%)
- **Area:** 4,838 sq. kms
- **Water depth:** varies from ~200 m – 2,600 m

- **Fields:** None – exploration phase
- **Daily production:** None

ANGOLA LNG

- **Partners:** BP (13.6%), Chevron (36.4%), Sonangol (22.8%), Total (13.6%), ENI (13.6%)
- **Production:** First gas in 2013. The project will restart in the beginning of the third trimester of 2014.

The Kwanza and Benguela pre-salt basins

On December 20, 2011 production sharing agreements were signed, awarding BP Angola the operatorship of blocks 19 and 24, and non-operating interests in blocks 20 and 25. BP had previously taken a 40% stake in Block 26, confirming its access to five new offshore blocks in the Kwanza and Benguela basins with a total acreage of 24,240 sq.kms.

This gives BP a leading position offshore Angola, with interests in nine blocks totalling some 32,650 sq.kms. The potential of these acquisitions is underpinned by the geology of the basins, which is thought to mirror Brazil's hydrocarbon-rich pre-salt play.

PEOPLE

BP Angola employs some 1100 staff and 236 contractors mainly in Angola and UK. Almost 70% of the Angola based staff are nationals.



Training and Development BP is fully engaged in the development of its workforce capability in Angola, which includes:

- The Challenger development programme, which aims at developing graduates into experienced professionals.
- Some 38 Angolan professionals are based in the UK and USA on development assignments.
- BP's technician training programme, which aims to prepare operations technicians to work on the offshore facilities.
- Under a scholarship protocol students attend the Middle East Technical University in Turkey, and education establishments in South Africa and the UK.

OPERATING MANAGEMENT SYSTEM

Wherever BP operates our goals are clear: **No accidents, no harm to people, no damage to the environment.**



The BP Operating Management System (OMS) is a fully integrated system which addresses the whole range of our operating activity, integrates all BP's operating standards and requirements, and is consistent with legislative and regulatory requirements.

Creating sustainable competitive advantage through operating excellence is a journey that will require improvements in all aspects of the Elements of Operating, i.e. improvements in plant, process, people and performance, through a systematic application of an annual performance improvement cycle.

Group Essentials, which covers risk mitigation, legal and regulatory compliance, conformance with BP requirements and rigorous application of basic operating knowledge will help BP entities deliver safe, compliant and reliable operating activities. They also create a platform for sustainable improvement, allowing us to capture additional value through efficiency. Ultimately this delivers sustainable excellence in operating.

By addressing all the Elements of Operating, the OMS seeks to bring a balanced approach to operating. Successful implementation of OMS will help to deliver:

- Clear roles and responsibilities for the workforce.
- Clear accountabilities and unambiguous goals.
- A competent workforce that understands entity priorities and feels supported and valued.
- Compliance with applicable legal and regulatory requirements, and conformance to Group Essentials and Group Defined Practices.
- Effective personal and process safety management.
- Continuous risk reduction and disciplined behaviour at all levels to challenge and eliminate unsafe acts and conditions.
- Entities with the resources and capability to implement the entity plan and systematically improve our operating processes and activities.

- Leadership that listens and responds openly to our workforce and stakeholders.
- Respect for expertise at all levels within BP.
- Continuous improvement, learning from ourselves and others to improve the leadership, capability and capacity of our organization.
- Customer and stakeholder expectations being met or exceeded.

BP AND THE ENVIRONMENT

BP is engaged in various activities to increase our knowledge of the marine environment in Angola.

In February 2009 BP deployed two subsea monitoring platforms (DELOS-Deep-ocean Environmental Long-term Observatory System) in Block 18, situated at a depth of 1,400m, serviced by remotely operated vehicles (ROV) that will provide insights into the impact of offshore activities over the next 25 years.

Thus they contribute to increased understanding of the mechanisms linking climate change to deep water ecology and provide a long-term source of data for scientific research, such as:

- measurement and monitoring of deep-sea biological communities;
- marine research to understand the pace of recovery from any impacts;
- differentiation between natural and man-made changes.

The DELOS (Deep-ocean Environmental Long-term Observatory System) project is an initiative in partnership with Sonangol, SSI and several international universities and scientific institutions, including the Angolan Institute for Fisheries Research.

Overcoming the initial operational difficulties faced by the new technology, a proper analysis of the results to date was conducted and it was found out that there were no big differences in the natural environment. During seismic and other surveys BP Angola under takes marine mammal observations to identify various species, their movements and behaviour. These observations have been collated in a report that is available for use on all our rigs and supply vessels. We are working in a joint partnership to improve the understanding of deep water environments in Angola where there is ongoing exploration and production.

Environmental Management System

The Environmental Management System (EMS) adopted by BP gives the company operational control over the key environmental aspects of activities.

ISO 14001

BP Angola achieved ISO 14001 certification in 2001 and was re-certified in 2004, 2007, 2010 and 2013. The current certification is valid until 2016.

ENVIRONMENTAL MANAGEMENT SYSTEM AND ISO 14001

Our health, safety, security and environment (HSSE) policy sets out our aspirations for HSSE performance in our operations. Potential environmental impacts from our activities fall mainly in the following areas:

- Waste generation, management and disposal: hazardous and non-hazardous waste produced from operations at our FPSOs, rigs and logistics sites.
- Operational discharges: these include drill cuttings resulting from drilling activities. Mud or drilling fluids may adhere to the cuttings and when disposed at sea may settle down and deposit on the seabed. The main process discharge from the FPSO is warm seawater with traces of biocide from the seawater cooling system. From time to time, produced water may also be discharged, depending on the volumes produced and the status of the facilities.
- Air emissions: these are generated mainly from the combustion of fuels in power generation for drilling, marine vessels and the FPSO, well clean-up, testing operations and flaring.
- Accidental spills: if an incident occurs and oil or chemicals are released to the environment, those substances have the potential to pollute the waters and land, affecting flora and fauna as well as other users who depend on these resources.
- Underwater noise generated by our activities: as a result of VPS (Vertical Seismic Profiling) during the acquisition logging process. The noise induced in the

water column can affect marine fauna. Potential effects on marine mammals and turtles are of particular concern.

To manage these impacts, BP Angola operates an environmental management system (EMS) which meets the requirements of the international standard ISO 14001:2004. The system is externally certified and covers the Greater Plutonio production operations, all seismic, drilling and supply base activities in BP Angola and onshore office facilities.

The system provides a systematic approach to manage environmental impacts and seeks to ensure that every practical step is taken to minimize those impacts.

Oil Spill Response

We have been enhancing our oil spill preparedness and response capability following the Gulf of Mexico oil spill. Initiatives have included the development of offshore and coastal environmental and socio-economic maps, integrated into a geographic information system (GIS) database, to identify sensitivities along the Angolan coast where there is potential for oil spill impact.

We will be building on this work in collaboration with the Angolan Committee of Exploration & Production Association (ACEPA).

BP was involved in the identification of key environment and social sensitivities and land mine areas along Angola coastline from Cabinda to Luanda and we have also updated our oil spill modelling results – examining where oil spilled offshore might reach land, and how long it may take to reach the shore.

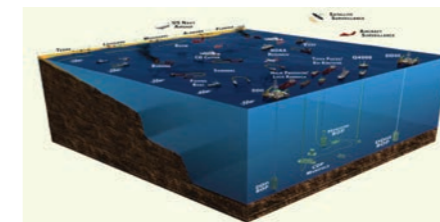
BP shared the Gulf of Mexico learnings with governments, oil industry partners and service companies all over the world, including in Angola.

Well Capping Device

After the Gulf of Mexico oil spill, a new procedure to cap deep-sea wells in an emergency has been successfully trialled by the BP Angola subsea operations team. The capping device, based on a standard Greater Plutonio Christmas tree assembly, was fabricated and assembled by Cameron and FMC at the Sonilis base in Luanda.

The plan provides for the capping device to be placed on top of over a blowout preventer (BOP) from which the top part (the lower marine riser package) has been removed. It required the manufacture of a special extension mandrel by Cameron, which was then assembled with a standard FMC connector. This was then installed into the bottom of a Greater Plutonio Christmas tree to provide the required clearance with the top of the BOP.

The capping plan is just one part of a wider BP response to the Macondo blowout. Currently, all wells drilled in Angolan comply with the standards introduced under the interim guidelines and BP's engineering technical practices.



CORPORATE AND SOCIAL RESPONSIBILITY

BP Angola's community and social investment strategy aims to contribute to the wellbeing and productivity of Angolan society, as well as promoting economic growth, job creation, poverty reduction and environmental conservation.

BP sponsored social investment initiatives are aligned with BP, Community and Government Priorities.

Education

- Post Graduate Degrees (LLM & MBA) in Oil and Gas.
- Support to University Agostinho Neto (UAN) faculties of science and engineering.
- Geographic Information System course (with the Science faculty of UAN).
- Community development internships.
- Support for Teacher Training Institute (ISCED).
- Dynamic Reading Contest.
- PUNIV de Huambo construction.
- Bairro Popular School construction..
- EMAUS school construction.
- Cazenga community library construction (Angolan Scouting Association).
- School Parliament (Search for Common Ground).
- Magistrates training in human rights (International Bar Association).

- Community dialogue centres in Luanda schools (Search For Common Ground).

Social Inclusion and Poverty Reduction

- Support for the San communities in Cunene and Kuando Kubango (OCADEC & ACADIR).
- Cunene community agriculture and irrigation programme (MAFIKO).
- Braille trainer seminars for blind war veterans (AACAG).
- Support for AACA & CAMEHA girls' homes.

Angolan Paralympic Committee Sponsorship

- Athlete Ambassadors for BP.
- Wheelchairs for basketball.
- Equipment for athletes.
- Support for Paralympic athletes preparation in South Africa.
- Support for the Angolan teams in the 2016 Rio Olympic and Paralympic Games.

Enterprise and Institutional Development

- Supplier training initiative (CAE) closed in 2011.
- Greater Plutonio microcredit initiative (ADRA & Banco Sol).
- Soyo microcredit (Kixicredito).
- Petro Atlético do Huambo Football Club support.

Health & Safety

- Reproductive health and sex education in Bula Matadi (Child Fund Angola).
- Water wells and filters for Huambo, Bié and Dande (Development Workshop).
- Rehabilitation of Jesus Salva clinic, Luena.
- Support for Nossa Senhora de Paz medical centre (Divina Providencia).
- Support to Cubal Mission Clinic.
- Don't Drink and Drive campaign (DNVT & Sete Caminhos).
- Motorcycle safety and helmet wearing campaign.

Environmental Conservation

- Marine turtles research and conservation (UAN faculty of science).
- Green Namibe tree planting and environmental education in Namibe.
- Green Luanda tree planting and environmental education in Luanda.
- Cuvelai River System study.
- DELOS (sub-sea monitoring system).

