Eni in Angola

Eni has been present in Angola since 1980 and initiated oil production in 1991. Angola is a core country in the company's global oil & gas operations. In 2015, a production of 101 kboepd (thousand barrels of oil equivalent per day) was achieved, which amounts to approximately 6% of the Country's total production.

Areas of Operation

Eni has participating interests in Block 15/06 (36.84% interest) and Block 35/11 (30% interest) where it operates.

- Block 15/06 is located approximately 350 km North-West of Luanda and 130 km West of Soyo in a water depth ranging from 200 m to 1,800 m.
- Block 35/11 is in the Kwanza basin.

In addition the company has non-operated participating interests in:

- Cabinda North Block – located onshore Cabinda, operated by Sonangol P&P;
- Block 0 – located offshore of Cabinda, operated by Chevron;
- Block 3/05 and Block 3/05A – located in the Congo Basin, operated by Sonangol P&P;
- Block 14 – located deep offshore west of Block 0, operated by Chevron;
- Lianzi Development Area (14K/A-IMI) – located deep offshore in an area unitized with Congo Brazzaville, operated by Chevron;
- Block 15 – located deep offshore in the Congo Basin, operated by Exxon.

Claudio Descalzi: Living in the World

The principles created and established by Enrico Mattei remain part of Eni's genetic code. Of particular significance, reflected in both the company's global strategic thinking and its relationship with the communities in which it operates, is the importance of dialogue.

Such dialogues commence even before the company becomes established in a new territory and through the pursuit of dialogue it is possible to establish the conditions for living together. For Eni, living in the world means integration and sharing of mutual benefits. It also means the creation of a powerful engine that has made Eni’s worldwide development possible.

Sharing has allowed us to grow and to contribute to our host’s growth. We see it as imperative to develop relationships with people and with nations, environments and cultures with which we interact and in which we live. Eni has, over many years, developed an organisational culture, without parallel, which is designed to build lasting, long-term relationships with the territories in which we operate.

Enrico Mattei: It’s their Oil

"It’s their oil," said Enrico Mattei in 1957. Eni’s first Chairman is often remembered as “the man of the future” due to his ability to imagine what would come to pass and thus create a valuable legacy for those who would follow him.

He believed that energy resources belong first and foremost to the oil-producing countries and that the most profitable arrangements would arise out of shared interests of all the actors involved. Mattei’s great success lay in his passion for challenges, his strategic vision, his powers of innovation, respect for others, spirit of cooperation and confidence in new generations.

It was his firm conviction that dialogue and respect for cultures constitute the cornerstones for long term partnerships and mutual growth. From a perspective of forty years, it is possible to see that Mattei’s values have endured and his philosophy still forms part of Eni’s corporate philosophy. His guiding principles are today captured in the modern concept of sustainable development.
Block 15/06

The Production Sharing Agreement (PSA) of Block 15/06 was signed in November 2006. The current partners are Sonangol P&P and SD Fifteen Limited. Block 15/06 is the first Eni operated petroleum asset in Angola.

It is one of the most valuable assets in Eni’s portfolio and an example of the results that can be achieved due to our world-class competencies, vast knowledge in finding and recovering hydrocarbons and operational excellence.

A successful exploration campaign was conducted, discovering over 3 billion barrels of oil in place and 850 million barrels of reserves. These resources justified a phased development through two development projects: the West Hub and the East Hub. The West Hub produced its first oil in November 2014, marking a milestone in Eni’s upstream activities.

The West Hub Development achieved industry-leading time to market of only 44 months from the Declaration of Commercial Discovery. The application of a new model of modular development makes it possible to implement the production of discovered fields in the Block in different phases. Since its first oil, the West Hub project has in total produced more than 18 million barrels of oil by the end of year 2015.

The start-up of the East Hub Development, expected in 2017, will raise the overall production from Block 15/06 to the plateau of 180,000 boepd.

Exploration

During the first exploration phase, Eni had a commitment to drill 8 wells and undertake 3D seismic acquisition for 1,500 km2. The seismic acquisition operations started in early 2008 and were successfully completed in the same year, reaching a total of 3,200 km2. In April 2008, Eni announced its first commercial oil discovery (Sangos-1 well), followed by a second commercial discovery in August 2008 (N’Goma-1), both located in the North-West area of the Block. In September 2009, the third commercial discovery was made in the North-East part of the Block with the Cabaça-North well, which is located at a water depth of 500 m.

Drilling continued in the West area of the Block to maximize its potential and further discoveries were made in 2009 with the Cinguvu-1 and Nzanza-1 wells. Two further discoveries were made in 2010, Cabaça SE-1 and Mpungi-1. The work commitments agreed under the first phase of the Exploration Period were completed 18 months before the term provided under the PSA.

During this first phase, seven wells, out of 8 wells drilled, were declared to be commercial. Exploration activities continued with the successful discoveries of Cabaça SE-2 and Mpungi-2 wells in 2010, Vandumbu in 2012, Mpungi-4 in 2013 and Cinguvu-1 in 2014; this last discovery will be developed “with optimal time to market” by utilizing the existing West Hub facilities. During the first and second phases of the Exploration Period, 17 New Field Wildcat (NFW) and 8 appraisal wells were drilled, 5,200 km2 of 3D seismic were acquired and 10 wells were declared commercial.

An additional extension of the exploration license for three years was granted in December 2014 with 5 exploration wells and 1,000 km2 3D seismic as additional commitments.

In the subsequent period of the 3rd phase of exploration, the revaluation of prospects proceeded with a new 3D seismic survey of 1,000 km2 which started in the beginning of March 2016.

Development Activities: Block 15/06 West Hub

2010: In December 2010 the General Development and Production Plan (GDPP) for the West Hub Project (Sangos, Cinguvu and N’Goma fields) was approved by the Joint Venture Partners and presented to the Concessionaire.

2011: the execution of the project began with the arrival of the Floating Production, Storage and Offloading (FPSO) facilities for refurbishment in Singapore.

Development Activities: Block 15/06 West Hub

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2011: the execution of the project began with the arrival of the Floating Production, Storage and Offloading (FPSO) facilities for refurbishment in Singapore.
2012: the project entered in full execution with the Subsea Production System, Riser & Flowlines and Umbilicals contracts in place. The Vandumbu field was discovered and the Mpungi field appraisal was completed.

2013: the development of the Mpungi field was included in the West Hub Project, thus allowing reserves production anticipation, exploiting several synergies related to system engineering, equipment standardization, offshore installation operations and optimization of the use of the FPSO facilities.

2014: the Mpungi North and Vandumbu fields have been integrated in the existing development scheme of the West Hub Project, to leverage technical and contractual synergies. The optimized development plan now consists of four development areas (DAs), including the Sangos, Cinguvu, Mpungi Main & Mpungi North and Vandumbu fields. The development scheme foresaw 26 subsea wells, grouped and connected to the N’Goma FPSO, moored at around 1,250 m of water depth in the Sangos area.

2015: the near field discovery Ochigufu field will also be integrated in the West Hub development with the objective of increasing and maintaining the overall production plateau as long as practicable. It is worth noting that the West Hub is the first oil development that exploits reserves in one of the deep offshore blocks awarded in the 2006 licensing round, and that has achieved industry-leading time to market.

First Oil from Block 15/06 West Hub

2014: on November 30th, Eni produced its first oil from the West Hub development project with the Sangos field.

2015: on April 9th, the Cinguvu field started producing and was linked to the production facilities of the West Hub development.

2016: on January 7th, the Mpungi Main area started producing and was linked to the production facilities of the West Hub development. The Block is currently producing approx. 90,000 boepd, processed and stored on the N’Goma FPSO prior to export.

Development Activities: Block 15/06 East Hub

Subsequent to the successful exploration of the Western part of the Block 15/06, an exploration well has been successfully drilled (Cabaça North-1) on the Eastern part of the Block, with the discovery of relatively shallow layers (Upper Miocene - UM - reservoirs) characterized by heavy oil (approx. 22° API). Two further wells, Cabaça SE1-ST1 and Cabaça SE2, have been successfully drilled in May 2010 and August 2010 respectively resulting in the discovery of UM levels, similar to those discovered on the Northern part, and a Lower Miocene (LM) level characterized by an extended and well-connected reservoir with a lighter oil (34° API). The current development scheme envisages the development of a light oil reservoir.

In December 2013, the GDPP for the East Hub project was approved by the Joint Venture Partners and presented to the Concessionaire. The development plan envisages 9 subsea wells grouped in clusters and connected to the FPSO Armada Olombandi, moored in about 460 m of water depth. Once processed, crude oil will be stored in the facility’s storage tanks in the hull and offloaded in tandem configuration to the conventional ocean going oil tanker vessels. The first oil of the project is planned for Q2 2017. The main contractors working on the East Hub project are: Bumi Armada (FPSO), FMC (SPS), Angoflex (Umbilicals), Saipem (Risers, Flowlines & Installation) and Ocean Rig (Drilling & Completion) with the Poseidon Drillship.

Block 35/11

Eni acquired the operatorship of Block 35/11 in 2011, with a 30% participating interest. Joint venture partners are Sonangol P&P (45%) and Repsol Angola 35 BV (25%).

Exploration

Block 35/11 is a pre-salt Block and is located in the Kwanza Basin, 120 km West of Luanda, with a surface of 4,900 km² and water depths of 1,000 to 2,500 m. In 2012, Eni completed the 3D seismic acquisition of 4,825 km² in the Block.
Preparation for drilling started in 2013 and in 2014 the Ómbovo-1 well was drilled in a water depth of 176 m; despite the well discovered a good reservoir facies, it was declared as a non-commercial oil discovery. In 2015, studies were undertaken to determine the location for the second commitment well planned for 2016.

Non-Operated Ventures

Development of deep water and ultra-deep water projects in Block 15 (Eni 20%, Exxon Operator 40%, BP 20%, Statoil 15.5%) onshore to the Malongo export terminal. Additional discoveries in the 3 areas (Kuito, BBL T and Tombua Landana) and it is all sent again to a CPT platform, and started the production in 2009. As a further development, the Tombua Landana project in the Eastern section of the Block, included the drilling of 46 subsea wells, tied-back to Kizomba B and Mondo FPSOs with the drilling of 24 wells from both Mondo and Saxi and Batuque fields started in 2008.

The Kizomba satellites project was launched in 2008, comprising of phases 1 and 2. Phase 1 was related to the development of the Clochas and Mavacola satellite discoveries, connected to the Kizomba A and B FPSOs, with first oil in 2012. The development of the Kizomba, one of the most important deep waters within the Lower Congo Basin at about 80 km from the shore, were developed in two phases. In the first phase started in early 2006 with the Benguela and Belize fields which, from an initial production of ca. 90,000 boepd, reached approximately 200,000 boepd in 2008 once phase 2 related to the Tomboco and Lobito fields was completed. The BBLT structure, a compliant piled tower (CPT) with topsides facilities situated in approximately 200,000 boepd in 2008 once phase 2 related to the Tomboco and Lobito fields was completed. The BBLT structure, a compliant piled tower (CPT) with topsides facilities situated in ca. 400 m of water, was the first CPT installed outside the Gulf of Mexico and is one of the largest structures in the world.

Deep water operations in Block 15/06 West Hub project.

The Benguela, Belize, Lobito and Tumboco fields (BBLT), located in deep water, within the Lower Congo Basin at about 80 km from the shore, were developed in two phases. The project was approved in 2012 for the drilling of 4 producing wells and 3 water-injection wells with a subsea tieback to the existing platform BBLT in Block 14. The production started in October 2015 and reached the peak of 50,000 boepd during 2016.

Shallow water operations and new major capital projects developments in Block B (Eni 98%, Chevron Operator 99.20%, Sonangol P&P-4%, Total 10%).

The Block is divided into areas A and B and has together a total of 21 fields producing overall ca. 270,000 boepd. Area A has 15 fields with a total production of ca. 180,000 boepd, located in Takuila and Malongo, while area B has 6 producing fields with a total production of ca. 95,000 boepd.

Shallow water operations and new major capital projects developments in Block B (Eni 98%, Chevron Operator 99.20%, Sonangol P&P-4%, Total 10%).

The Block is divided into areas A and B and has together a total of 21 fields producing overall ca. 270,000 boepd. Area A has 15 fields with a total production of ca. 180,000 boepd, located in Takuila and Malongo, while area B has 6 producing fields with a total production of ca. 95,000 boepd.

A major capital project, Mafumeira Sul, was approved in 2012, and it is currently being executed as part of the Malongo terminal. Most of the production is sent to the onshore treatment plant in the Cabinda enclave for processing and it is exported from the Malongo terminal.
of subsea pipelines, 34 producing wells and 16 water injection wells.
The first production is planned for the end of 2016 and it is expected to reach a peak of 120,000 bopd on top of the 80,000 bopd from Malufumeira Norte. The project is a key supplier of natural gas to Angola LNG. In order to ensure the full supply of natural gas to ALNG, as of 2020 another major project is currently being evaluated, namely the Greater Longuiz Area (GLA) development, which is in area B at approximately 60 km from the coast.

Development of Gas Management infrastructures and Gas Flaring Down activities in Block 0 and Block 14
The construction of the Congo River Canyon Crossing Pipeline began in early 2015 and was completed in 2015. The pipeline is designed to transport up to 250 million cubic feet per day of natural gas from Angola’s Blocks 0 and 11 to the Angola LNG plant in Soyo. The development plan was related to laying 87 miles (140 km) of pipeline routed under the Congo River subsea canyons. The activities are ongoing for the transfer of operatorship to the national company Sonagas.

The Nemba Flaring Reduction project was completed in 2015, as a second stage after the start-up of the Nemba Enhanced Secondary Recovery in 2012. This project, through brownfield modifications on the existing South Nemba Platform and the installation of a new platform with compression facilities, eliminated ca. 20 mmol/day of routing gas flaring. The injected gas enhances the crude oil production and increases the ultimate gas recovery from the Nemba field for a later blow-down of the Nemba gas cap to the ALNG plant.

In Block 3-05A, the well Cac-101 was drilled in 2014, as part of the new development of the Cacu Gasaria project and the first oil was achieved in February 2015. The drilling of the Cac-101 and Gaz-102 wells is currently being evaluated. A concept definition study is also underway for the Punja discovery.

Angola LNG
The Angola LNG project is an integrated associated gas utilisation project including an onshore LNG processing plant, a marine terminal and loading facilities with future scope for non-associated gas development. The plant is located near Sao in the North of Angola and the onshore facilities occupy 184 hectares of land on the North side of the Kawanda Island.

The plant is designed to produce 5.2 million tones of LNG per year. The project charters a fleet of 7 LNG tankers on a long-term basis that are utilized to transport the LNG production.

The Angola LNG shareholders are Sonagas (22.8%), Chevron (36.4%), the Angolan government (31.7%) and Eni (10%).

The Angola LNG plant started up in 2015 with the first liquefied natural gas cargo delivered in June 2015. Following operational problems, the plant was shut down in April 2014.

Repair and debottlenecking works were completed and, after resumption of production, the first cargo was sold in an international tender in June 2015.

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Sustainable Value Creation
Eni’s excellent strategic positioning and competitive advantages leverage on an integrated business model for the creation of sustainable value founded on a wealth of distinctive assets, strategic guidelines and sustainable drivers deriving from crucial management choices consistent with the long-term nature of the business. Eni’s business model is supported by a framework of clear and straightforward rules of corporate governance and respect for the highest ethical standards and rigorous risk management.

The six drivers that guide Eni in delivering sustainable value are:

- excellence in conducting operations;
- innovation in developing competitive solutions to face complexity;
- know-how and skills sharing and equal opportunities for all Eni’s people;
- integration of financial and non financial issues in the company plans and processes.

Eni’s Approach to Sustainability
Being sustainable for Eni means conducting our operating activities while creating value for stakeholders and using resources in such a way as to avoid compromising the needs of future generations. We consider sustainability to be a driver in the process of continuous improvement that guarantees results over time, while reinforcing business performance and reputation.

Eni is committed to taking actions aimed at promoting the respect for people and their rights, the environment and the broader interests of the communities in which we operate. We conduct our activities by creating relationships that are based on fairness and transparency and continuous dialogue with stakeholders in order to pursue shared objectives for the creation of value and opportunities for sustainable development and being aware that dialogue and shared objectives are the way to create reciprocal value.

Sustainable Value Creation

- excellence in conducting operations;
- innovation in developing competitive solutions to face complexity;
- know-how and skills sharing and equal opportunities for all Eni’s people;
- integration of financial and non financial issues in the company plans and processes.
Sustainability in Angola

The sustainability model is a key element of Eni’s presence in Angola and provides guidance for the conduction of the company’s diverse activities.

The governance structure is based on:
• the application of the company regulatory system and reference framework, to manage its activities according to the highest standards and international guidelines including those referred to the respect of human rights;
• the adoption of an integrated management system for health, safety and environment, founded on international standards and best practice, local law and requirements, and certification to ISO 14001 and OHSAS 18001 standards;
• the promotion of local content, in particular, engaging Angolan businesses as suppliers for Eni’s operations, and promoting sustainable development projects for communities in various sectors including health, education, environment and infrastructure;
• environmental protection through a zero-flaring target, a zero-cuttings discharge practice and preventive actions for the avoidance of oil spills.

People in Eni Angola

People are of the most important value to Eni Angola and the commitment and expertise of staff is an important aspect for achieving the objectives of the company.

Eni Angola is committed to:
• developing the technical and non-technical skills of workers;
• enhancing motivation, passion and commitment of staff;
• embracing team work;
• training new professionals and young graduates;
• providing a professional development plan for all employees;
• safeguarding and promoting human rights and creating a safe work environment;
• creating a work environment in which diversity and culture are regarded as sources of mutual enrichment, as well as key factors for business sustainability.

The total manpower of the company by the end of 2015 was of nearly 429 employees and local resources represented 51% of that total workforce.

Local Procurement

Eni Angola promotes opportunities for local businesses through the procurement of goods and services in the country. Achieving a high level of local procurement through local manufacturers and service providers was one of the key objectives for the West Hub and East Hub projects, in an effort to support the growth of the local industry, thus creating new businesses and job opportunities. 89 local suppliers have been contracted by Eni Angola in 2015, with the percentage of National Content Contract Value of over 46%. In addition, 50 local suppliers were evaluated by a qualification process during 2015.

With the aim of providing continuous opportunities for local suppliers, in accordance with the projects’ needs and procurement requirements, the market intelligence process has been enhanced.

As a result, small and medium local suppliers have been qualified for tender bids to provide goods and services to support the activities of Block 15/06.

A multidisciplinary team has been developing a local yard assessment campaign to identify potential suppliers in the local marketplace to participate in the tender bids for work packages related to the projects. A resourcing process is in progress with several suppliers identified and qualified to perform services on the West Hub and East Hub projects. A team from Eni Angola has conducted audits to local businesses that provide support services for Block 15/06 to assess the compliance towards the SA 8000, an auditable certification standard for assuring and improving suppliers’ social performance, mainly in the workplace, based on the principles of international human rights norms and conventions.
Local Community Development

Eni Angola, through its operations and non-operated activities, and the support of Eni Foundation, has been conducting a series of community investment projects in the fields of health, education, environment and infrastructure, for the benefit of communities across Angola including Cabinda, Soyo, Luanda, Malange, Huambo, Lubango and Namibe.

Based on a Health Needs Assessment and in the framework of a Partnership agreement, Eni Foundation implemented a Community Health Initiative in the Municipality of Kilamba Kiaxi which was completed in 2012.

The main activities implemented by the project were:

- a Municipal Referral System of Maternal and Child Health improved by the institution and the construction of a Maternal Department in the main Hospital of Kilamba Kiaxi (also of referral for other municipalities), the institution and construction of the referral Nutritional Center and the provision of capacity building and technical assistance for the medical and nursing staff of the same Hospital;
- the improved functionality of 10 Health Centers through the capacity building on Primary Healthcare (PHC) services, revamping of infrastructures, supply of equipment and furniture;
- the building of 2 new Health Centers in line with the Ministry of Health (MoH) Plan of expansion of the Health Service System to the increased population of the Urban Area;
- the institution of the Emergency Transport Service of the Municipality by the supplying of 6 ambulances (1 for each communal); the technical assistance on system management.

In 2015 through its activities in Block 15/06, Eni Angola, thanks to the collaboration with the same ODP Hospital, has also implemented an initiative of Capacity Building for Health Professionals that aimed at enhancing the capabilities of health professionals through training courses in several disciplines: Nursing, Gynecology, Neonatology, Pediatrics, Malnutrition, Laboratory Analysis, Radiology and Epidemiologic Vigilance. 529 health professionals were trained up until year end 2015, including doctors, paramedics and community health agents.

This project intended to contribute to the implementation of the Health Development Plan (HNDP) 2012-2025 of the Government of Angola, by prioritizing the improvement of the competencies of health professionals.

This project also aimed at contributing to the achievement of the United Nations Global Goals for Sustainable Development, namely n. 3 (“good health”).

Environmental Sustainability in Operations: Zero-Discharge Policy

Eni Angola was the first operator in Angola to apply a Zero-Discharge policy for all waste waters and Oil Based Mud (OBM) drill cuttings. Although the Angolan Zero-Discharge Law (Decree 977/14) did not require compliance until July 2015, Eni Angola has been collecting all waste water (slops) and OBM drill cuttings generated by its drilling operations in Angolan waters since 2011. The process involves the collection of all waste water, cleaning water and deck rain water onboard the drilling rigs into a dedicated tank. This water is transported to shore where it is properly treated by a local treatment company. Reusable liquids are recycled and hazardous materials are properly disposed of. All OBM drill cuttings are collected onboard the drilling rigs in cuttings skips. The skips are transported to shore where the cuttings are treated by a Thermal Desorption Unit, operated by a local treatment company. Eni Angola makes regular visits to the waste treatment facilities to ensure the correct treatment of all waste and receives monthly reports from the treatment companies about all the wastes treated.

Enviromental and the East Hub development

Eni Angola endeavors to reduce the environmental footprint of the project through the following actions:

Water Management:
- produced water will be re-injected into reservoir with disposal to sea only during emergency conditions and according to statutory limits;
- waste liquids from process systems are drained and collected in the close drain system and recovered hydrocarbon is mixed back to the process streams;
- sanitary waste water is managed through a dedicated Sewage Treatment Plant.

Gas Management:
- the associated gas is used as fuel gas and the surplus is re-injected into the reservoir; Flaring is considered only in special temporary situations (like emergency, start-up commissioning phase, restart after unplanned shutdown); according to the “zero-flaring” policy.

Solid Waste:
- hazardous and non-hazardous solid wastes are sent onshore for treatment/disposal (sand included).

The FPSO is double hull to minimize the risk of accidental spills.
Eni at a Glance

Eni is an integrated energy company, engaged in oil and natural gas exploration, field development and production, as well as in the supply, trading and shipping of natural gas, LNG, electricity, fuels and chemical products.

Through refineries and chemical plants, Eni processes crude oil and other oil-based feedstock to produce fuels, lubricants and chemical products that are supplied to wholesalers or through retail networks or distributors.

Eni’s strategies, resource allocation processes and conducting of day-by-day operations underpin the delivery of sustainable value to all of our stakeholders, respecting the Countries where the company operates and the people who work for and with Eni. Integrity in business management, support the Countries’ development, operational excellence in conducting operations, innovation in developing competitive solutions and renewable energy sources, inclusiveness of Eni’s people and development of know-how and skills, integration of financial and non-financial issues in the company’s plans and processes drive Eni in creating sustainable value.

These elements lead to wise investment choices, prevention of risks and the achievement of strategic objectives in the short, medium and long term.

In 2015 Eni confirmed its presence in the Dow Jones Sustainability indices and in the FTSE4Good index.

Main Figures for 2015

- Adjusted operating profit: € 334 mln
- Cash flow from operations: € 12.2 bln
- Dividends paid per share: € 0.8
- Leverage: 0.31
- Estimated net proved hydrocarbon reserves: 6.89 bln boe
- Hydrocarbon production: 1,760 kboe/d
- Worldwide gas sales: 90.88 bcm
- Retail oil products sales in Europe: 8.89 mmtonnes
- Electricity sales: 34.88 TWh
- Service stations in Europe: 5,846