



Shell in Nigeria

UNLOCKING NIGERIA'S ENERGY POTENTIAL: DEEP WATER

SNEPCo

Shell's main offshore activities in Nigeria are carried out by Shell Nigeria Exploration and Production Company Ltd (SNEPCo), a 100% Shell-owned company. SNEPCo was formed in 1993 to develop Nigeria's deep water oil and gas resources, a new frontier for the country's energy industry at the time.

SNEPCo holds interests in four deep water blocks, two of which it operates: OPL 118 (Bonga) and OPL 135 (Bolita). SNEPCo also has a 50% interest in the Zabazaba/Etan deep water oil and gas project operated by ENI's Agip and a 43.75% interest in the Erha deep water oil and gas project operated by Esso Exploration and Production (Deepwater) Limited.

SNEPCo pioneered the country's deepwater oil and gas production at Bonga, a project that increased Nigeria's oil capacity by 10% when it began producing in 2005. Bonga lies in water more than 1,000 metres deep across an area of 60 square kilometres. It has the capacity to produce more than 200,000 barrels of oil a day and 150 million standard cubic feet of gas a day.

Oil is exported globally from Bonga's giant Floating Production, Storage and Offloading (FPSO) vessel, which is the heart of the field's development. The Bonga field also supplies gas to the Nigeria Liquefied Natural Gas Company Limited (NLNG) at Bonny Island, from where it is exported as LNG to European and global markets.

Bonga

10%

**increase in Nigeria's
oil capacity** when Bonga
began producing in 2005



200,000

barrels of oil per day and
150 million standard cubic feet
of gas per day – production
capacity of Bonga

3

football fields,
the size of Bonga
FPSO's deck

90%

**of Bonga offshore
staff** are Nigerian





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Advanced technology and engineering

SNEPCo operations in the Bonga field, 120 km offshore in the Gulf of Guinea, have set new standards for the Nigerian oil and gas industry. The skills and technology used here have set Nigeria on a path to becoming a major offshore producer and to help meet rising energy demand long into the future

The Bonga FPSO is one of the world's largest. Three hundred metres long and the height of a 12-storey building, its deck is the size of three football fields. It receives crude from production wells on the seabed. The oil is processed onboard, stored and then sent to a single point mooring (SPM) buoy anchored nearby that is used to load it onto tankers for export. When fully laden with oil, Bonga weighs 300,000 tonnes and is held in place by 500-tonne anchors linked by 20 km of mooring lines.

Constructing Bonga was an international effort involving thousands of workers across the globe. Samsung Heavy Industries built the hull in South Korea. Tug boats then towed it 24,000 km via the Suez Canal to Wallsend in the north of England, where it was fitted with processing equipment modules before making its final journey to Nigeria where the last of the equipment was installed.

NIGERIAN COMPANIES HAVE PLAYED A KEY ROLE IN THE SUCCESS OF THE BONGA PROJECT AT EVERY STAGE OF ITS DEVELOPMENT.

Nigerian content

Nigerian companies have played a key role in the success of the Bonga project at every stage of its development. Three of the Bonga modules were designed and built in Nigeria. The foundation piles for the FPSO, the risers and the SPM buoy (at the time, the largest in the world for deepwater operations) were also built in Nigeria.

The project helped create the first generation of Nigerian oil and gas engineers with deep water experience. SNEPCo began training Nigerian operation and production engineers for Bonga in 1999 and by the end of 2013 some 90% of Bonga's core offshore staff were Nigerian.

Bonga also stimulated the growth of support industries vital to deep water projects. A modern onshore base for subsea equipment testing and maintenance was established at Onne in Rivers State, where a contracting company also built a facility to coat and insulate pipes – essential to withstand deep water conditions. These projects benefited the wider economy by boosting demand for a range of goods and services including boats, materials, floating hotels, helicopters and manpower, creating jobs and providing a range of training and maintenance services to the industry.

BONGA HELPED CREATE THE FIRST GENERATION OF NIGERIAN OIL AND GAS ENGINEERS WITH DEEP WATER EXPERIENCE AND STIMULATED THE GROWTH OF SUPPORT INDUSTRIES.

Safety

On 20 December 2011 SNEPCo temporarily shut down production from the Bonga field after a leak occurred on one of three export loading lines as oil was being transferred from the FPSO vessel to a loading tanker. A well coordinated clean-up operation was completed and SNEPCo carried out a full review of the Bonga crude oil offloading procedure. Additional controls to enhance early detection and management of any potential leak were introduced.