

# West Coast of Africa Well Intervention Market Overview

Sam Scarpa, Offshore Network

## INTRODUCTION

With oil reserves of 129.1 billion barrels, Africa holds 7.6% of the world's proven reserves. More specifically, the West Coast of Africa is home to the continent's two largest producing countries, Nigeria and Angola, while Equatorial Guinea, the Congo and Gabon have proven oil reserves not dissimilar to those found in the United Kingdom.<sup>1</sup>

While the West Coast of Africa has been on the radar of many well intervention contractors for a while, it is fair to say that workover and P&A activity has recently been ramping up all the way from Mauritania to Angola. A multitude of factors can be linked to this increase in well work projects, including:

- **Regulatory Imperatives:** As West African nations develop their oil & gas regimes, more scrutiny is being applied to operators to ensure they truly maximise the value of their assets during production and make sure that both financial and operational plans are put in place for safe P&A and decommissioning activities.
- **Oil Price:** As in other parts of the world, the current oil price has led to a decrease in drilling activity and is forcing operators to look at their existing well stock for ways of increasing production and maximising ROI.
- **Technology:** While investment is still being pumped into exploration projects throughout the region (BP announced a US\$1bn partnership with Kosmos in Mauritania and Senegal<sup>2</sup> and 8 of the top-20 discoveries in 2015 were in Africa<sup>3</sup>), regional and international operators are looking at innovative technologies that will lower the cost of well intervention and increase the efficiency of operations for existing fields.

This paper is designed to outline well intervention and P&A opportunities available to contractors in the West Coast of Africa by analysing regional levels of activity, operator well stock and major projects.

### Disclaimer:

*Whilst every effort has been made to ensure the accuracy of the information contained in this publication, neither Offshore Network Ltd nor any of its affiliates past, present or future warrants its accuracy or will, regardless of its or their negligence, assume liability for any foreseeable or unforeseeable use made thereof, which liability is hereby excluded. Consequently, such use is at the recipient's own risk on the basis that any use by the recipient constitutes agreement to the terms of this disclaimer. The recipient is obliged to inform any subsequent recipient of such terms. Any reproduction, distribution or public use of this report requires prior written permission from Offshore Network Ltd.*

1. BP Statistical Review of World Energy 2016, Energy Information Administration (USA) (EIA), Websearch, The LNG Industry GIIGNL Report, 2016 Edition, Rystad Energy
2. [http://www.oilreviewafrica.com/aaccpp/DigitalMagDownload/ORA\\_1\\_2017\\_Final.pdf](http://www.oilreviewafrica.com/aaccpp/DigitalMagDownload/ORA_1_2017_Final.pdf) p.36
3. <https://www.pwc.co.za/en/assets/pdf/oil-and-gas-review-2016.pdf>

# ZOOM IN ON PROJECTS



## [MAURITANIA] CHINGUETTI FIELD P&A

Discovered by Woodside Petroleum in 2001, the deepwater Chinguetti oilfield lies in 800m of water, about 80km west of the Mauritanian coastline and 90km from the capital, Nouakchott. The field was sold in 2007 and Petronas took over as the operator as part of a JV with Tullow Oil, SMHPM, Premier, and Kufpec. It was then announced in 2016 that due to low oil prices, options to decommission the field would be explored following discussion with the Government of Mauritania and relevant stakeholders. In June 2017, progress was made when PBJV was appointed to provide of a well intervention vessel, platform supply vessel and associated services for temporary P&A of 15 wells at both the Chinguetti and Banda fields.<sup>7</sup> More to follow...



## [NIGERIA] OYO-8 WELL LWI

The Erin Energy-owned Oyo Field is located approximately 75 km off the coast of Nigeria in water depths ranging from 200 to 500 meters. Production started in December 2009 however a sub-surface controlled safety valve recently failed to re-open following a planned production curtailment at the Oyo-8 well. Erin Energy then contracted the Island Constructor light well intervention vessel which mobilized from Norway in March 2016. After a successful intervention to open the valve, Erin Energy announced production had re-started at the Oyo-8 well.<sup>8</sup> The company anticipated production would return to its pre-shut-in levels of around 7,000 barrels of oil per day.



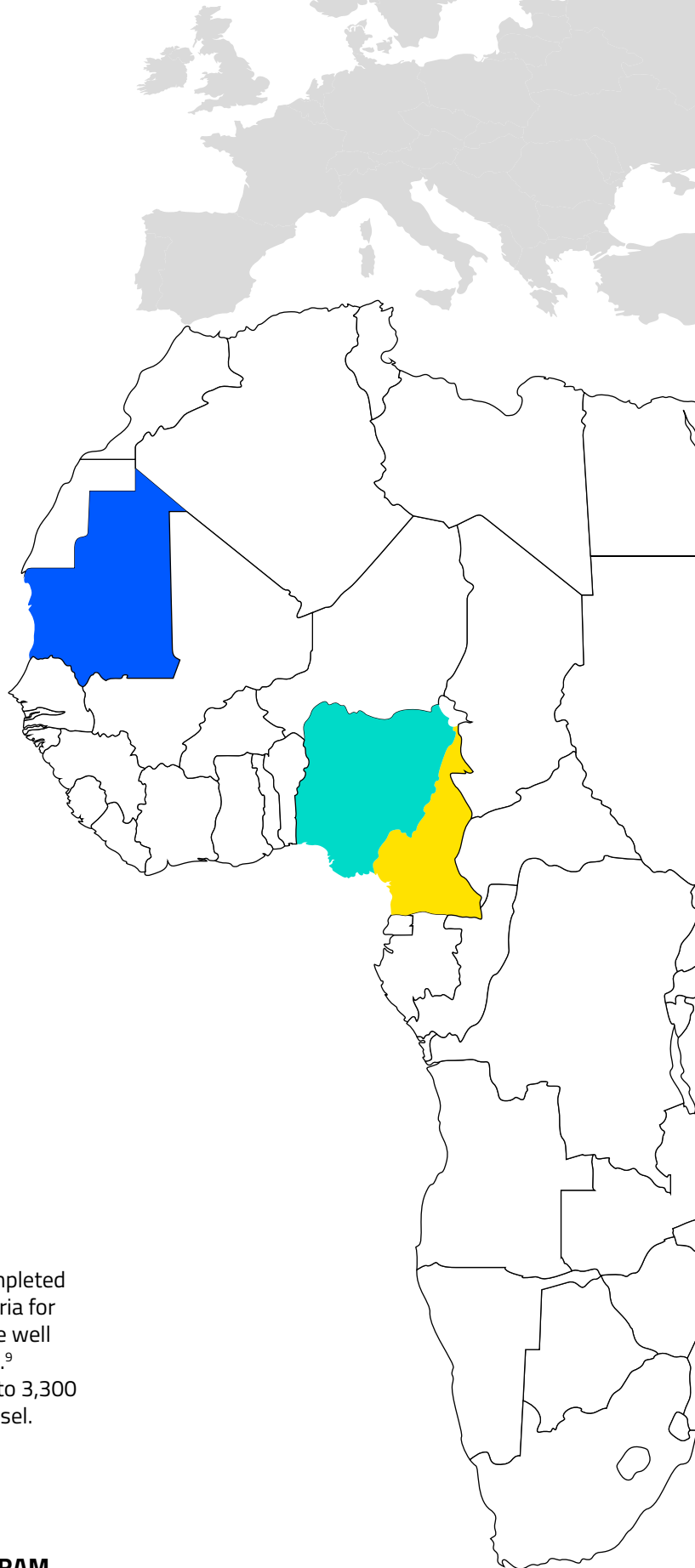
## [NIGERIA] BONGA RISERLESS SUBSEA LIVE WELL INTERVENTION

It was announced in May 2017 that the Cross Group had completed a 7-well live well intervention and P&A project offshore Nigeria for SNEPCO using its 7-1/16" 10,000-psi subsea convertible live well intervention package and dual open water coiled tubing lines.<sup>9</sup> The project took place at the Bonga field in water depths up to 3,300 feet using a Dynamic Positioning Multi-Purpose Support Vessel.



## [CAMEROON] PERENCO WELL INTERVENTION PROGRAM

Perenco is currently the largest operator in Cameroon with operations extending over 6 000 km<sup>2</sup> in the Rio del Rey and Douala basins. According to their website, the company maintains production and optimises recovery with several well interventions each year. In fact, "various teams are permanently dedicated to the work-over of wells, perforating new reservoirs, performing acid stimulation and optimising the water injection in the numerous reservoirs operated".<sup>10</sup>



- <http://www.offshore-mag.com/articles/2017/06/pbjv-to-handle-p-a-program-offshore-mauritania.html>
- <http://www.islandoffshore.com/media/news-archive/2016/island-constructor-assisting-erin-energy-back-on-track-in-nigeria>
- <https://www.linkedin.com/pulse/cross-group-completes-riserless-subsea-live-well-heath-jones/>
- <http://www.perenco.com/cameroon>

# ZOOM IN ON PROJECTS



## [SENEGAL/ GUINEA-BISSAU] M&A ACTIVITY

In March 2017, Chinese crude oil producer CNOOC took over operatorship of the offshore AGC Profond block located in the joint development zone between Senegal and Guinea-Bissau in water depths ranging from 1,400m to 3,700m. The farm out agreement with Impact Oil & Gas gives CNOOC a 65% participating interest in a Production Sharing Contract (PSC) and associated joint operating agreement.<sup>11</sup>



## [GHANA] OFFSHORE INVESTMENT

The UK'S export credit agency UK Export Finance has announced it will provide a loan of US \$400mn for the development of offshore gas fields in Ghana, its first direct loan for a project in Africa.<sup>12</sup>



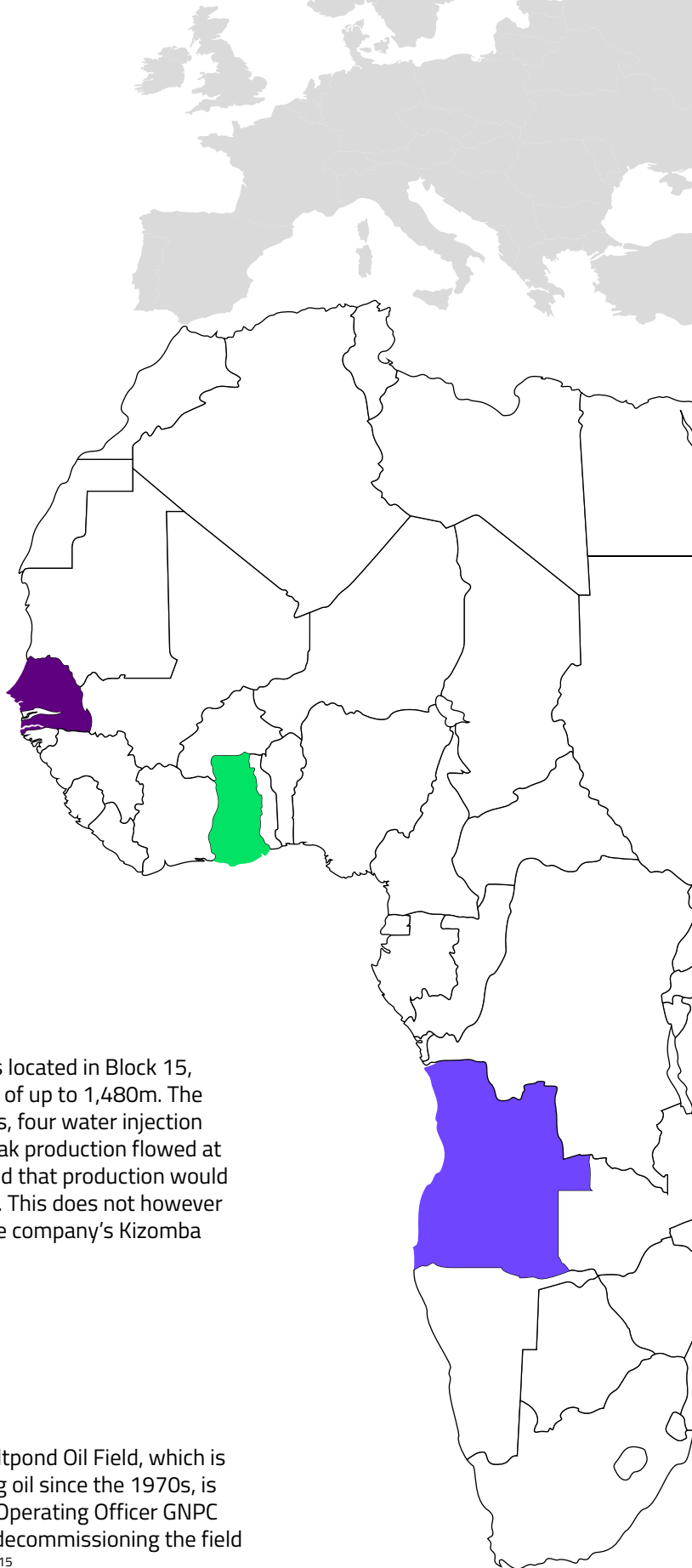
## [ANGOLA] XIKOMBA FIELD DECOMMISSIONING

Discovered in 1999, ExxonMobil's Xikomba deepwater field is located in Block 15, approximately 370km north-west of Luanda in water depths of up to 1,480m. The nine-well subsea development included four production wells, four water injection wells and a gas injection well.<sup>13</sup> Following first oil in 2003, peak production flowed at a rate of 90,000 bpd however in 2011, ExxonMobil announced that production would end and decommissioning of the wells/structure would start. This does not however mean the end of production in Block 15 since it also hosts the company's Kizomba sister developments.<sup>14</sup>



## [GHANA] SALTPOND OIL FIELD DECOMMISSIONING

Following a consistent production decline since 2015, the Saltpond Oil Field, which is located about 65 miles west of Accra and had been producing oil since the 1970s, is set to be decommissioned. In 2016, Michael Aryeetey, Chief Operating Officer GNPC explained that studies were underway to assess the cost of decommissioning the field and that the project formed part of GNPC's short term plans.<sup>15</sup>



11. <http://www.offshoreenergytoday.com/cnooc-takes-operatorship-of-west-african-block/>

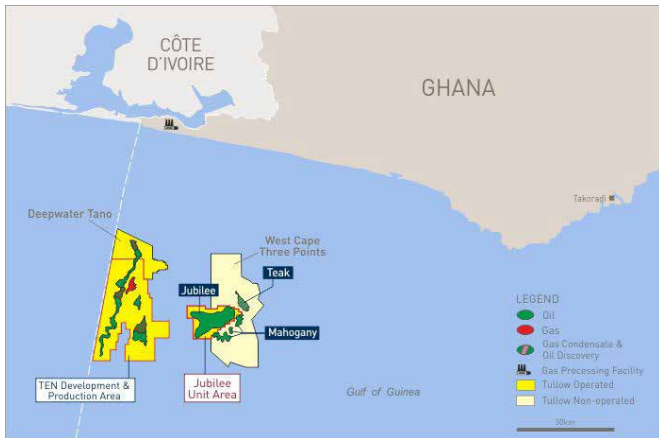
12. Oil Review Africa, Volume 12, Issue 1 2017, p.10

13. <http://www.offshore-technology.com/projects/xikomba/>

14. <http://www.petroleumafrika.com/angola-xikomba-fields-life-cycle-ends/>

15. <https://www.graphic.com.gh/business/business-news/saltpond-oil-field-faces-closure.html>

# ZOOM IN ON WELLS



## GHANA: JUBILEE FIELD

**LOCATION:** 60km offshore between the Deepwater Tano and West Cape Three Points blocks in Ghana

**DEPTH:** approx. 1,100m

**DISCOVERY:** Discovered in 2007 by the Mahogany-1 (M-1) and Hyedua-1 (H-1) exploration wells

**OPERATOR:** Tullow



## CAMEROON: RIO DEL REY

**LOCATION:** The Rio del Rey fields lie within the Rio del Rey Basin, which is an eastern extension of the prolific Niger Delta Basin.

**DEPTH:** 0-70 metres

**OPERATOR:** Perenco



## NIGERIA: BONGA NORTH WEST FIELD

**LOCATION:** Oil mining lease (OML) 118, approximately 120km off the Nigerian coast

**DEPTH:** More than 1,000 metres

**PRODUCTION:** The Bonga North West development began producing vital energy resources in August 2014<sup>16</sup>

**OPERATOR:** SNEPCo (Shell)



## EQUATORIAL GUINEA: ZAFIRO FIELD

**LOCATION:** Zafiro is located in the 500,000-acre Block B, 68km (42 miles) WNW of Bioko island, Equatorial Guinea

**DEPTH:** 420 - 850m

**DISCOVERY:** The Zafiro-1 discovery well was drilled in 1995

**OPERATOR:** Mobil Equatorial Guinea Inc. (ExxonMobil)

16. <http://www.shell.com/about-us/major-projects/bonga-north-west.html>

# CONCLUSION

---

The multitude of companies operating and investing offshore, combined with a lack of regional service providers in some countries, offers a chance to secure one of a kind projects from operators keen to make the most out their assets. The West Coast of Africa is therefore ripe for opportunities for regional and international contractors.

While mobilisation costs remain high, an increase in the scope of work brought about by collaboration and discussion between operators could mean an uplift in demand for a range of services including:

- LWI vessels
- Riserless technology
- Coiled tubing
- Downhole tools
- Rigs and vessels of opportunity
- Cementing technology
- Data logging tools
- Well integrity management systems
- Intelligent well services

Increasing well intervention activity in both shallow and deepwater fields during all stages of the assets' lifecycle could thus be the key to future profitable well intervention business development opportunities for contractors as well as an uplift in productivity for operators keen to extend the production life of profitable assets ahead of P&A.

## OFFSHORE NETWORK WOULD LOVE TO HEAR FROM YOU...



Offshore Network Ltd. is an independent business intelligence & conference provider catering specifically to the offshore oil & gas industry. We exist to facilitate a safe and efficient future for the exploration and production of oil & gas around the globe. We do this by uniting the most in-fluential figures in the industry to challenge the status quo and share cutting edge innovations.

This all happens at our industry leading conferences and through our original content. If you would like to contribute to this discussion or are interested in taking part in a future Q&A or article, please contact Offshore Network ([www.offsn.net](http://www.offsn.net)) today:



[info@offsnet.com](mailto:info@offsnet.com)



Join the Offshore Engineering Group on **LinkedIn**



**UK Telephone:** (0)203 411 9937  
**US Telephone:** 713-5706-576



Follow Offshore Network on **Twitter**