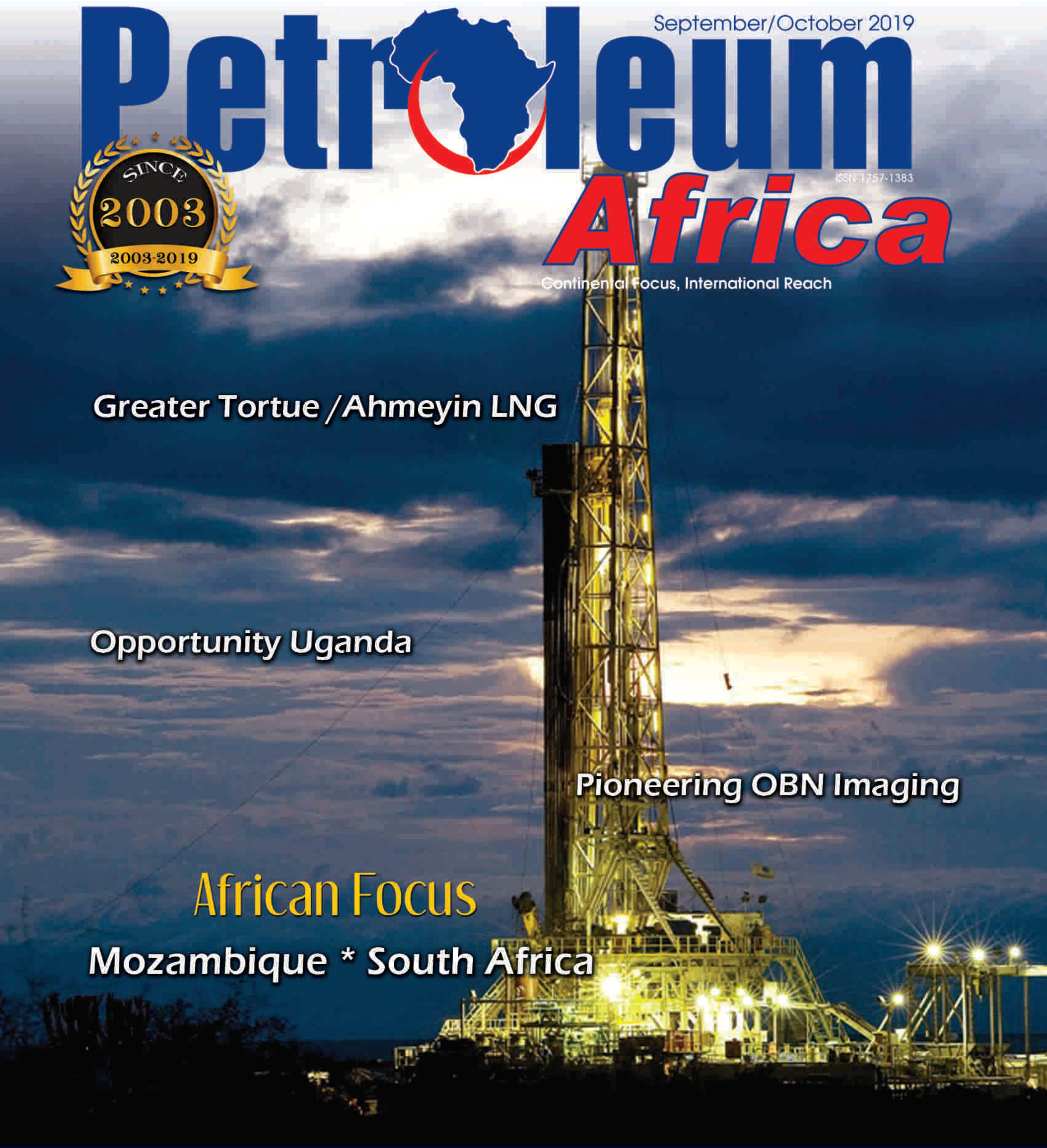
Petroleum Africa

September/October 2019
ISSN 1757-1383

Continental Focus, International Reach

Since 2003
2003-2019



Greater Tortue /Ahmeyin LNG

Opportunity Uganda

Pioneering OBN Imaging

African Focus

Mozambique * South Africa

www.petroleumafrica.com

Accra * Bonn * Cairo * Genoa * Lagos * London * Houston * Moscow * Nairobi


CTICC
THE FUTURE IS HERE
It's been said that the best way to predict the future is to create it. The CTICC offers the ideal platform to do just that. Every aspect of the centre's offering has been considered – from the more than 140 000m² of flexible space across two state-of-the-art buildings to world-class technology, delicious cuisine, and service-driven staff. Turn your knowledge and vision into potential with events that shape your future at the CTICC.
Call +27 21 410 5000, email sales@cticc.co.za or visit www.cticc.co.za and connect to possibilities.
NURTURE OUR WORLD
we are a green conscious convention centre
Experience Extraordinary
Cape Town International Convention Centre

September/October 2019 | Vol. 16 Issue 5

Contents

Greater Tortue Ahmeyim LNG Development

Source: BP

New Products & Services

Technology and Solutions

Monthly Focus

Downstream Focus

Local Impact

Policy & Legislation

African Focus

Deepsea Stavanger 2 offshore Mozambique

Source: Africa Energy Corp

DEPARTMENTS

ON THE COVER

Uganda's Kingfisher by night.

Source: Petroleum E&P Department, Ministry of Energy and Mineral Development, Uganda

MOVING ON


T. Boone Pickens

American business magnate, oil tycoon and financier T. Boone Pickens passed away on Sept 11. A trained geologist, Pickens started his oil career with Phillips Petroleum before starting his own company, Mesa Petroleum, in 1956, which grew into one of the largest independent oil companies in the world. He became well known for many of the numerous oil company takeovers during his illustrious career. Pickens was 91 at the time of his passing.

Chris Tong has retired as a director of Kosmos Energy as of September 18. Steven Sterin, a current director of Kosmos and member of the company's Audit Committee has replaced Tong as Chairman of the Audit Committee, effective immediately.

Following the acquisition of Petronor by African Petroleum, changes have been made to the board. The new board of directors consists of Eyas Alhomouz (Chairman), Dr. David King, Jens Pace, Stephen West, Bjarne Moe, Timothy Turner, Joseph Iskander and Knut Søvold. Changes were also made changes to its executive management. The new management will see Jens Pace as CEO, Stephen West is CFO, Michael Barrett exploration director, Knut Søvold is COO, Gerhard Ludvigsen is business development manager and Claus Frimann-Dahl is chief technical officer.


Jim Darroch

WFS Technologies appointed a new chief technology officer – Jim Darroch. He has a host of experience, most recently with Honeywell. Prior to Honeywell, Darroch spent several years at Artesyn (formerly Emerson) as senior director and VP of Engineering.

Centurion Law Group appointed US-trained Nigerian attorney Onyeka C. Ojogbo to lead its team and operations in its newly opened office in Germany. In her new role, Ojogbo will be handling a growing portfolio of clients coming from Germany and Western Europe, and will work on further attracting investments from European energy companies into Africa.

Benedict Peters, chairman and CEO of Nigerian firm Aiteo, will serve on the board of advisors of the US Chamber of Commerce's US-Africa Business Center.

Energy rental and service company, Tiger Rentals announced the appointment of Paulo Silva Curto as business development manager for the Middle East. Curto has over 15 years' experience working in international business, most recently he was Tiger's general manager for sub-Saharan Africa.

Neconde Energy has a new head of gas ventures, Chichi Emenike. Emenike has a host of industry experience working with such firms as ExxonMobil and Sun Trust Oil Company. Prior to joining Neconde, Emenike was head of business and commercial operations at Falcon Corp.


James Mataragio

Tanzania's president, John Magufuli, has reinstated James Mataragio as managing director of the country's state-run oil and gas firm, TPDC. Mataragio had been suspended since August 2016.

The Supervisory Board of OMV Aktiengesellschaft reappointed Rainer Seele as its chairman of the executive board and CEO of OMV. Seele's reappointment extends his term to June 2022 with an option to extend for one additional year. Johann Pleininger, chief upstream operations officer, was also reappointed as executive board member and deputy chairman of the board.

The Chinese government has shuffled the chairman and chief executive of state-owned oil giant China National Offshore Oil Corporation (CNOOC), Yang Hua, to a new position. Yang's new post will see him become general manager of China's chemical manufacturer and trader Sinochem.

Eugene Woychyshyn was appointed as VP of Finance and CFO of NXT Energy Solutions Inc. Woychyshyn's appointment was effective immediately. He has been the company's interim CFO since December 2018 and its controller since November 2017.

Xodus Group has two new principal consultants to its subsea integrity management team. Djamal Hamel has been appointed to the role of principal consultant, having previously worked within a senior pipeline position for six years at Spirit Energy, as well as engineering roles at Wood, Subsea 7 and Technip. The second appointment saw Chris Overton joining the company as a principal consultant, following seven years as senior pipeline integrity engineer at Repsol Sinopec.


Hunter Stept


Brad Richards

AMETEK SMP Wallingford appointed Hunter Stept as process engineer at its Specialty Metal Products division in Wallingford. AMETEK SMP also appointed Dr. Brad Richards as product manager, Powders.

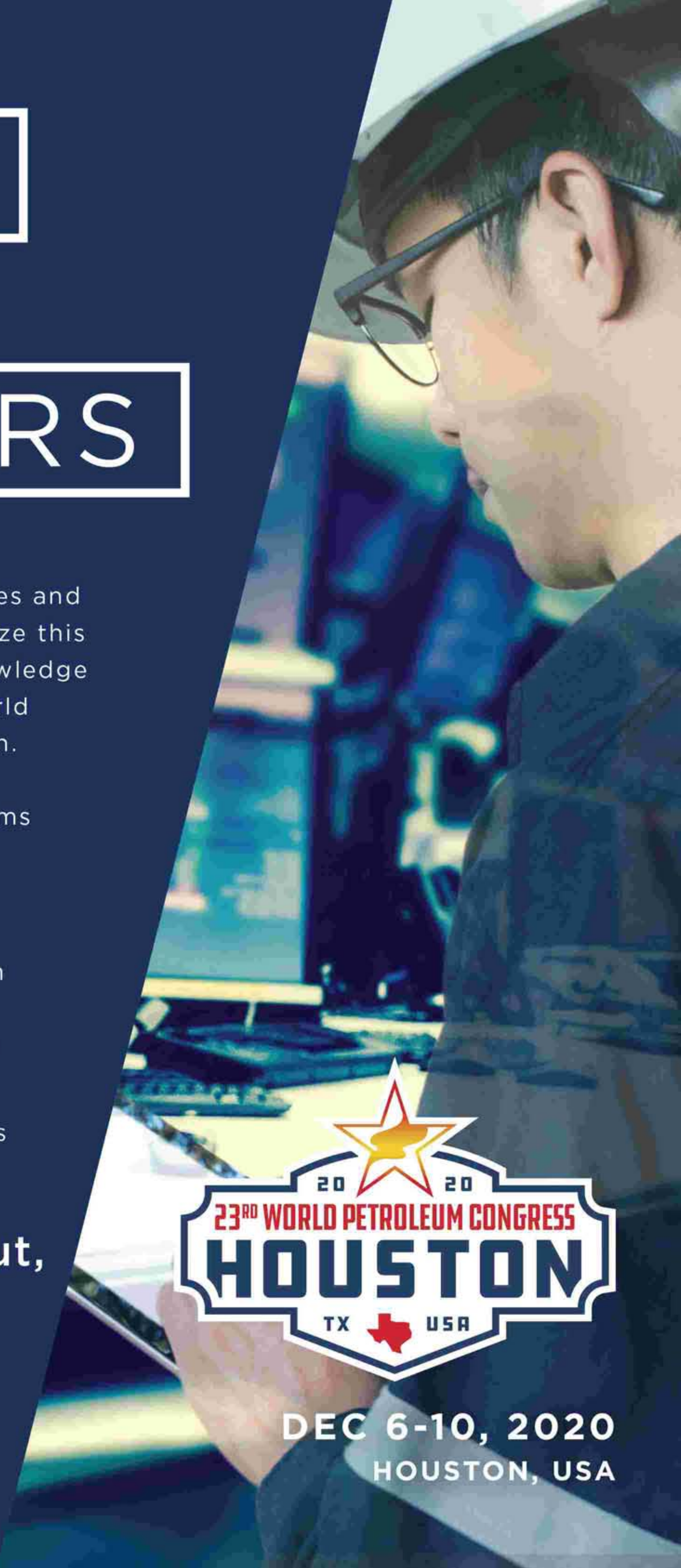
Maria Moraeus Hanssen, COO and Deputy CEO of Wintershall Dea, will leave the company as of December 31 to pursue other opportunities. Until that time, she will continue in her present role providing board-level leadership of the EMEA business units and the merger integration. A recruitment process for her successor is underway.

FAR Ltd appointed Timothy Woodall as an executive director of the company. The appointment was effective September 1. Woodall brings over 30 years' experience in the financial sector with a focus on the oil and gas industry.

Petrolia NOCO AS appointed Linn Katrine Høie as managing director for the company. Høie will be responsible for taking the company forward in the next stage of its growth. She comes to Petrolia NOCO with broad experience from the energy sector, most recently working with digitalization of field development for Aker BP.

Dr. Stuart Lake has joined Invictus Energy as the non-executive chairman, this was effective August 1. Dr Lake has over 34 years industry experience, most recently as CEO of AGM Petroleum. He was also CEO at African Petroleum Corp.

To include a corporate personnel announcement in Moving On, write to *info@petroleumafrica.com*. Preference will be given to Africa-specific appointments and to those companies who have interests within the continent; all others will be included on a space available basis.



CONTACT US

Petroleum Africa Magazine is a Texas, United States-registered company.
PO Box 1571 Montgomery, TX 77356

MESSAGE
FROM THE EDITOR

As we are all aware, China has expanded into emerging markets the world over and African nations are no exception. Countries in Africa are receiving significant Chinese investments into their economies across numerous sectors. In the year 2000, China's investment in the continent was at about $10 billion; fast forward to 2019 and that figure sits at a staggering figure of over $200 billion and makes China Africa's largest trading partner.

Africa now boasts six of the world's fastest growing economies, and China, in part, has been a catalyst to this development. Cote d'Ivoire, Ethiopia, Ghana, Rwanda, Senegal and South Sudan make up Africa's presence in the global Top 10. It will come as no surprise, then, that China is the top import partner for four of the six countries and comes in second with Senegal and third with South Sudan. According to a *Financial Times* (FT) report, China surged to become Ghana's top trading partner, with "bilateral trade rising from less than $100 million in 2000 to $6.7 billion in 2017."

China's investments are attractive to African governments as they come mostly with no strings attached unlike deals made with Western investors who attach a long check list of requirements. Often when making deals with China, African governments turn a blind eye to their own local content requirements, and Chinese workers perform a good deal of the work. Also attractive to African governments is that deals with the Chinese affords them the opportunity to avoid bureaucracy related to transparency issues, especially in the extractives industry. In short, there are far fewer strings attached to Chinese investment.

This Africa-China love affair may be hitting some snags, however. As these economies mature, and as new Chinese-led projects come to fruition, Africans are increasingly taking note of some of the pitfalls in the partnerships as compared to those with western nations. On the other side of the coin, China might become a bit more cautious with its investments as not all projects are panning out as planned; Ethiopia and Ghana serve as examples.

One such example can be seen in Ghana where there has been a backlash against the Chinese, especially in the gold mining industry, with locals unhappy that the contractors are getting an unfair share of their national wealth. A campaign of harassment and attacks on Chinese workers broke out resulting in many Chinese deaths. Further, much resistance has been forthcoming regarding a recent lucrative deal which would have Chinese companies mining for Bauxite in an environmentally sensitive area. President Nana Akufo-Addo, in an effort to ease tensions, said that "that all mining done in the area would be carried out using the most current industry best practices," adding "what is important for us is to keep our eyes on both goals," referring to economic gain as well as safe extraction.

Chinese investments have hit some stumbling blocks in Ethiopia as well. Ethiopian Prime Minister Abiy Ahmed in September 2018 said that China had agreed to restructure the repayment period for some of its loans from 10 to 30 years; a deal that China had little choice in accepting. In February 2019 Abiy told parliament that his government has successfully renegotiated the repayment period for 60% of its external debt, which stood at over $26 billion. China was stuck between a rock and a hard place of sorts. According to a FT report, China's main project insurer, China Export and Credit Insurance Corp, said it had lost more than $1 billion on the Ethiopian-Djibouti railway alone, just one instance of a project straying from the planned outcome.

While Chinese investment into African nations is not going away, it does appear that both sides are going to enter into agreements with more caution; the Chinese to protect their investments, and the Africans to protect their environments and jobs for their citizens. This new transition provides an opening for the west to maybe revisit some opportunities they were previously not on the short-list for.

In this issue, be sure to look at the in-depth coverage of the Senegal-Mauritania Greater Tortue/Ahmeyin LNG Project in our Downstream Focus. In our new section, Policy & Legislation, read more on Senegal's recent petroleum legislation. South Africa and Mozambique fill the pages of this issue's Africa Focus where the latest updates are reviewed. And in our Technology feature, CGG discusses the benefits of the latest OBN imaging technology opening doors to a new era of subsalt imaging. As always, your comments and suggestions are welcome and can be sent to *info@petroleumafrica.com*.

Dianne Sutherland
Chief Editor


PROGRESSIVE
"We were really impressed with Progressive. Their professionalism, knowledge and experience of oil & gas shone through from the first meeting. This understanding of our industry enabled Progressive to provide recommendations and resolutions to challenges so that we really got the most out of our SunSystems solution."
Robert Wilde, Finance Director, Impact Oil and Gas
Finance, supply chain and asset management solutions
Offices in Aberdeen, London and Lagos
IBM Silver Business Partner
infor Gold Channel Partner
Visit progressive-tsl.com to find out more

Protests Continue in Algeria

Although long-term president Abdelaziz Bouteflika stepped down in April after continued calls for him to leave office by the general public, the demonstrations have not stopped. Algerians are continuing their protests, calling for more of the political elites to leave office. They are also demanding presidential elections be scheduled.

Source: US Navy- Mate Johnny Bivera

General Ahmed Gaïd Salah

While General Ahmed Gaïd Salah, Army Chief of Staff, has stated that the presidential election will be held in mid-December, Hirak (the people's revolution) and opposition parties are becoming increasingly insistent that the election be scheduled sooner rather than later.

Meanwhile, Acting Head of State Abdelkader Bensalah and Karim Younès are trying to find a happy compromise, not an easy task considering Salah is steadfast in his resistance to moving the election up, and has made his displeasure toward the protesters known.

More Migrants Die in Libya

Over the last few months, a number of migrant deaths have occurred in Libya, according to the International Organization for Migration (IOM). In July, 53 migrants, among them six minors, were killed in an airstrike on the Tajoura detention center. That facility remains operational to this day, despite persistent calls to end the arbitrary detention of migrants, according to IOM.

In September, a Sudanese migrant died from a bullet wound, hours after being returned to shore by the Libyan Coast Guard. The tragedy occurred at Abusitta Disembarkation point in Tripoli as many of the 103 migrants returned to shore were resisting being sent back to detention centers. IOM staff, who were on the scene to provide aid to migrants, reported that armed men began shooting in the air when several migrants tried to run away from their guards.

Some 5,000 migrant women, children, and men remain detained in inhumane conditions in Libya. Over 3,000 are detained in areas of active conflict where they are at heightened risk.

Xenophobic Riots Break-out in South Africa

At least five people were killed in the latest outbreak of xenophobic riots in South Africa in early September. Rioters are targeting foreigners and their businesses, with fires and looting a frequent occurrence. The police arrested more than 80 people and confirmed five deaths as riots in Johannesburg and the capital Pretoria took place.

This wave of unrest in the country is raising fears of a recurrence of violence aimed at foreigners in 2015 in which at least seven people were killed. Before that, some 60 people were killed in a wave of unrest around the country in 2008. Regional leaders have expressed concerns for the safety of their nationals whom have immigrated to South Africa and are the target of the violence.

In the wake of the xenophobic climate in South Africa and resultant riots, a team of Presidential Special Envoys from South Africa made a visit to Nigeria, Niger, Ghana, Senegal, Tanzania, the Democratic Republic of Congo and Zambia to deliver a message of solidarity from President Cyril Ramaphosa. The Special Envoy consists of South Africa's former Minister of Energy, Jeff Radebe, Ambassador Kingsley Mmabolo and Dr. Khulu Mbatha, a veteran of the African National Congress.

The group of Presidential Special Envoys delivered a message of solidarity from South Africa's President Cyril Ramaphosa to the heads of state as a means to assure them that the government is committed to addressing xenophobic attacks which sparked in the Gauteng province.

"The Special Envoys are tasked with reassuring fellow African countries that South Africa is committed to the ideals of pan-African unity and solidarity. The Special Envoys will also reaffirm South Africa's commitment to the rule of law," said an official statement by The Presidency of the Republic of South Africa.

Special Envoy Radebe met with Nigeria's President Muhammadu Buhari, President Nana Akufo-Addo of Ghana, and Senegal's President, Macky Sall.

Tunisians Take to Polls, Run-Off Scheduled

On September 15 Tunisians participated in the first round of presidential elections, the second "free" polls which have been held since the so-termed Arab Spring that started in the North African nation. The field was large with 26 candidates, including two women, running in the election.

Source: AlQalam TV Tunisia

Kaïs Saïed

The seven populist candidates took approximately 55% of the vote, whereas none of the modernist candidates won much more than 10% of the vote. Law professor Kais Saied won the first round with 18.4%. Jailed media magnate Nabil Karoui, who remains detained, came in second place with a strong 15.6%.

The candidate from the Islamist party Ennahda, Abdelfattah Mourou, was unable to garner enough votes to move to the second round of voting. Ennahda said it will support the outsider Kais Saied in the presidential runoff against Nabil Karoui.

Mugabe Dies in Singapore Hospital at 95

Former Zimbabwean president Robert Mugabe died on September 6 at the age of 95, at Gleneagles Hospital in Singapore. Mugabe had been receiving treatment at the Singapore hospital since April.

Mugabe held the presidency for almost four decades at 37 years, and was one of Africa's most controversial leaders. He was deposed in 2017 having been given an ultimatum by the ruling ZANU-PF to either resign or face impeachment. This pressure largely came due to his firing of First Vice President Emmerson Mnangagwa and fears that his much younger wife, Grace Miugabe, was being groomed to take over as president.

Coming to power as a hero for his fight against the former white masters of colonialism and African nationalism stance, he later digressed into an authoritarian. He was known for his brutalism against political rivals with many deaths attributed to his orders. At points during his rule, the economy was driven into the ground and the citizenry faced starvation.

Demonstrations Rock Egypt Once Again

From September 20-21, Egyptians took to the streets in Cairo and other major cities calling for the resignation of President Abdel Fatah al-Sisi. The protests were in response to an online call for demonstrations against government corruption by businessman and actor Mohamed Ali. From his self-imposed exile location in Spain, Ali instigated the protests after he began posting videos accusing Egyptian officials of squandering billions of Egyptian pounds. His first video on September 2 garnered 1.7 million views on his Facebook page alone.

Security forces and riot police used tear gas on the crowds on day 1, and reports have it that on day 2 of the protests, rubber bullets and live ammunition in addition to the tear gas were used to disperse the crowds. Hundreds of protestors were reportedly arrested in 12 locations throughout the country.

The government also issued warnings to media to be careful in their coverage of the crisis.

They also blocked access to various international news organizations who covered the developments and access to some social media outlets has been blocked or limited.

Africom Commander Visits Sahel, Reinforces Regional Commitment and Support

General Stephen Townsend, commander, U.S. Africa Command (Africom), made a visit to several Sahel nations including Burkina Faso and Mali. During his visits he met with President Roch Marc Christian Kaboré and several other Burkinabe and allied military leaders as part of a larger West Africa regional visit.

Meetings focused on building a comprehensive understanding of U.S. and partner nation activities in the Sahel, particularly in Burkina Faso. Within the last 12 months, there has been an increase in violent extremist attacks in the northern part of the country near the tri-border with Mali and Niger. It was important for the commander to gain an increased understanding and assessment of the situation.

In Mali, he met with President Ibrahim Boubacar Keïta and senior Malian military leaders to discuss defense and security-related issues related to the complex and evolving threat environment in the Sahel.

Townsend also met with leaders of the G5 Sahel Joint Task Force. This African-led organization is comprised of five neighboring countries that respond to transnational security, humanitarian, and development challenges in the Sahel.

In its first year, the nascent G5 Sahel Joint Force continues to grow and make operational strides. "The G5 Sahel force has a tough mission," said Townsend. "Our continued assistance and partnership will help them, the Malian security forces and our other partners as they work to achieve it. It is important to contain the spread of terrorism in this region."

U.S. military funding to the G5 Sahel Joint Force provides equipment, training, and advisory support to allow G5 members to


Source: Africom

General Stephen Townsend visits Africa

operate, protect, and maintain mobile infantry forces in their fight against violent extremist groups in the region. In addition to the Joint Force support, AFRICOM provides bilateral assistance to strengthen the military, justice, and law enforcement capabilities of its G5 partners.

During August, Townsend made a visit to East Africa, meeting with troops, and other representatives of the country's department of Defense as well as embassy and other officials. This was his first visit to Africa since taking command of Africom in July.

Welaptega Completes BP Mooring Inspection in Angola

Welaptega used its pioneering optical chain measurement system (CMS), complete with new automated edge tracking software, to execute a mooring inspection campaign for BP offshore Angola. According to Welaptega, the inspection campaign was conducted under very challenging subsea conditions.

Source: Welaptega

The project saw Welaptega use its new edge tracking data system and its patented CMS technology to inspect the mooring system of BP's *PSVM FPSO*, which is situated in Block 31 offshore Angola. The PSVM project is the deepest deep-water project in Africa.

Using its innovative CMS for data collection, Welaptega was able to provide accurate measurements in difficult operating conditions, which are known to create significant challenges for reliable and accurate data collection on mooring systems offshore Angola.

The CMS is made up of four video cameras (depth rated for 3,000 meters), integrated LED lighting control, and a topside digital recording system that collects high quality video of the measurement locations. The new edge tracking software then allows the data to be processed and measurement results delivered offshore.

Gbetiokun Drilling Operations Complete

Eland Oil & Gas, through its JV subsidiary, Elcrest Exploration and Production Nigeria, completed the drilling phase of the Gbetiokun-4 development well. The OES Teamwork rig successfully completed drilling operations on the Gbetiokun-4 well; the first well to be drilled on the Gbetiokun field following approval of the Field Development Plan (FDP) on July 3 by Nigeria's Department of Petroleum Resources.

Analysis of log data indicates that the well has exceeded pre-drill expectations, encountering high-quality oil-bearing reservoirs close to prognosed depths. In all, approximately 345 net ft true vertical depth (TVD) of oil-bearing sand was encountered across multiple reservoirs. During the drilling phase, a 60 ft core was cut in the E5000 reservoir, with 100% recovery, which will facilitate further detailed reservoir characterization, reservoir management and optimize life of field.

The well will now be completed as a dual oil producer on the E5000 and E7000 reservoirs, which have total net pay thicknesses of approximately 63 ft and 49 ft TVD respectively. The secondary target reservoir, E3000, which encountered 48 ft TVD of net pay will also be perforated and placed behind a sliding sleeve ready for production at a later time.

Completion of the Gbetiokun-4 well was expected at the end of September with production commencing through the recently commissioned EPF immediately thereafter. The EPF is already online and handling production from previous wells. The Gbetiokun-1 and Gbetiokun-3. Gbetiokun-4 should increase throughput from the current 11-12,000 bpd (gross) to approximately 16-17,000 bpd (gross).

Following completion of the Gbetiokun-4 well the OES Teamwork rig will commence operations on the Gbetiokun-5 development well which is scheduled to provide additional drainage points on the D9000 and E2000 reservoir zones.

Pakistan Interested in Libyan Oil and Gas Sector Cooperation

Libya's National Oil Corporation (NOC) chairman, Eng. Mustafa Sanalla met with the Pakistani Ambassador to Libya, His Excellency Sajid Iqbal, on August 26. The two parties emphasized the special relationship between the two countries and the potential for enhanced cooperation, especially in the oil sector.

Ambassador Iqbal conveyed Pakistan's desire to explore cooperation opportunities in the Libyan oil and gas sector, particularly with regards to seismic surveying and human resources development. Chairman Sanalla welcomed the proposal and affirmed NOC's determination to implement significant investment projects in the forthcoming period aimed at sustainably increasing production, calling on interested stakeholders to play an active role in projects through the tender process as advertised on the corporation's official website.

The meeting was also attended by Mohamed Boulaaj, manager of NOC's General Human Resources Department, and Salah Ben Ali, manager of NOC's International Cooperation Office.

ENI Starts Production of Baltim South West Field

ENI announced the successful commissioning and start-up of production at the offshore Baltim South West gas field in Egypt. Discovered by ENI in June 2016, the field goes on-stream in record time, just 19 months after the final investment decision was approved in January 2018. This result further confirms the success of the strategy adopted by ENI and the company's capability in pursuing a fast track approach to development projects.

Source: ENI

The field is located in shallow waters 12 kms off the Mediterranean coast of Egypt in the Baltim South development lease. It lies 10 km from the Nooros field, but still within the Great Nooros area. This is an area in which ENI first recognized great gas production potential and where it is conducting other new exploration projects.

With the start-up of the first well, BSW1, the field is now producing with an initial rate of 100 million standard cubic feet per day (scf/d) from a new offshore platform connected to the existing onshore Abu Madi Gas Plant through a new 44-km long, 26-inch diameter pipeline.

The development program foresees the drilling of a further five wells with the objective of achieving a production target of 500 Mmscf/d by the second quarter of 2020. Volumes produced by Baltim South West will further contribute to Egypt's natural gas export capacity. The overall gas potential from the Greater Nooros Area is approximately 3 Tcf of gas in place, of which about 2 Tcf are in the Nooros field and the remainder in Baltim South West.

ENI, through its subsidiary IEOC, has a 50% interest while BP holds the remaining 50% interest of the contractor's stake in the Baltim South development lease. The project is executed by Petrobel, the operating company jointly held by ENI and the state firm Egyptian General Petroleum Corp. (EGPC) on behalf of Medgas, jointly held by ENI, BP, and EGPC.

Solo Oil to Dispose of Burj Holding in Nigeria

Solo Oil, a natural resources investment company focused on acquiring a balanced portfolio of production, development and exploration assets, announced that it has signed a sale and purchase agreement to exit its 20% investment in Burj Petroleum Africa Ltd. (Burj), a company which had applied for various undeveloped fields in the 2014 Nigerian Marginal Fields Bid Round.

Solo will divest its interest in this non-core asset to Burj Petroleum Corporation, an existing shareholder in Burj, subject to no other shareholders in Burj exercising their pre-emption rights in relation to the proposed sale by Solo. In doing Solo will so relinquish any future costs associated with Burj. It is anticipated that the deal will complete at the beginning of October.

Nigeria to Lower its JV Stakes in Bid to Attract Investment

In an attempt to attract more foreign investment into its oil and gas sector, Timipre Sylva, Nigeria's new oil minister, said he wants to reduce the government's stake in its JV businesses with foreign companies.

Sylva, who was appointed in mid-August to replace Emmanuel Ibe Kachikwu, has a number of plans and goals for the industry; lowering the government's stake to 40% from 55%-60% is one of them. Other goals include raising production to 3 million bpd and cutting production costs by at least 5%.

SDX's MSD Well Hits Oil in West Gharib

SDX Energy's MSD-19 development well on Egypt's West Gharib Concession has been deemed a discovery. In a statement, the company said the well encountered a commercial oil accumulation.

The well was drilled to a total depth of 4,665 ft and encountered approximately 135 ft of net heavy oil pay across the Asl Formation, with an average porosity of 24%. The well was completed as a producer, connected to the central processing facilities at Meseda and brought online at an average stabilized rate over five days of approximately 315 bpd.

Mark Reid, CFO and Interim CEO of SDX, commented, "We are pleased to announce a further drilling success with our MSD-19 well in the West Gharib Concession, which follows the positive result in the Rabul-7 well in June. The well was brought online in a timely and cost-efficient manner and will provide further support to our 2019 production guidance for this asset of gross 4,000-4,200 bpd. Further development wells are planned for the concession in the next 18 months, with the final location of these wells being dependent on government approvals. A further update on future drilling will be provided to the market in due course."

OPL 310 Sees Extension to Operators

Nigeria's Ministry of Petroleum has approved Lekoil and Optimum Petroleum Development Company's request to extend the exploration license on the OPL 310. The extension is for three years, subject to the partners paying an extension fee of $7.5 million within 90 days effective from August 2.

Lekoil and Optimum, who is the operator of OPL 310, recently agreed to progress the appraisal of the block and subsequent conversion to an OML at the end of the exploration period, as soon as practicable. Following a successful appraisal, a full field development (FFD) program will be undertaken for which, Lekoil and Optimum are in advanced discussions with a potential funding partner.

Nigeria's SON Adopts 10 API Standards

In Nigeria the Standards Organization of Nigeria (SON) adopted 10 of the API's standards for the West African country's oil and gas industry. Osita Aboloma, director-general of SON, said that standards would positively impact the industry during an industry meeting in Lagos.

According to him, "The API standards being adopted are recognized not only for their technical specifications for also for their third part accreditation, which facilitates acceptance by international bodies and has been a cornerstone in developing standards for the worldwide oil and natural gas industry."

TGS and Schlumberger to Reimage Red Sea Data

TGS and Schlumberger will carry out a new 3D seismic reimaging project in the Egyptian Red Sea. The project will comprise reimaging data from three overlapping seismic surveys totaling 3,600 sq km that were acquired between 1999 and 2008. The data being reimaged is the only available 3D data for this area of the Red Sea.

The data includes the integration of all legacy seismic and non-seismic data and will apply advanced imaging technologies to better define complex subsalt structures. Data will be available before the closing of Egypt's offshore Red Sea international license round.

The project, which is supported by industry prefunding, will be carried out by TGS and WesternGeco, the geophysical services product line of Schlumberger.

TGS and Schlumberger have a long-term commitment with the Egypt Ministry of Petroleum and South Valley Egyptian Petroleum Holding Company (GANOPE) to acquire and process seismic data and promote the prospectivity of the Egyptian Red Sea. GANOPE is responsible for managing Egypt's hydrocarbon resource potential under latitude line 28°.

Touat Export Gas Production Begins

Neptune Energy and Sonatrach saw their first gas export production from the Touat gas development in Algeria. Touat will deliver around 75,000 boepd at peak production. The development, located around 1,400 km southwest of Algiers and close to Adrar, comprises 19 development wells, a gas treatment plant for gas and stabilized condensate with a gathering network and export pipelines.

Source: Neptune Energy

Production from Touat will represent around 6% of Algeria's total gas exports and will be in production for more than 20 years. The project involved the installation of a connection to the main GR5 pipeline, built by Sonatrach, to collect the gas from southwest Algeria and bring it to Hassi R'Mel.

The Touat Project is led by Groupement Touat Gaz (GTG Partners), consisting of Neptune Energy Touat (65%) and Sonatrach (35%). It is Neptune's first co-operated project in North Africa.

ION to Launch New Multi-Client Shoot Offshore West Africa

ION Geophysical will conduct a new 2D multi-client program offshore West Africa, The NamibeSPAN program is industry supported and covers the under explored Namibe basin offshore southern Angola.

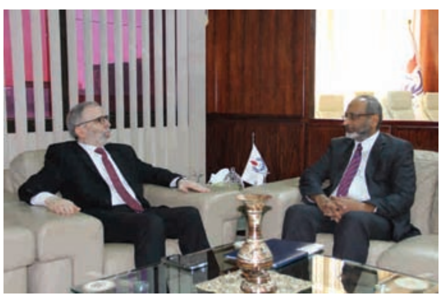
The dataset integrates ION Basin SPAN programs in the area, forming a contiguous regional exploration framework in excess of 65,000 km along the West African coast. The program is the conjugate tie with offshore Brazil.

The extension of the program into the Namibe basin provides valuable insight along both margins and is a framework to identify known discoveries as potential exploration analogues. ION expects acquisition to begin imminently with initial deliverables available for the upcoming license round later this year.

"Angola passed several petroleum laws in 2018 to make the legislative and fiscal terms more favorable for investment and to prevent an anticipated decline in oil production," said Joe Gagliardi, senior VP of ION's Ventures group. "As a result, this basin is garnering significant interest from E&P companies seeking attractive frontier investment opportunities. Angola announced the launch of their first license round in eight years in October. Driven by client interest, we are continuing to expand our multi-client data library over the most appealing acreage around the world and we now have over 150,000 km offshore Africa."

NOC Chief Works Toward Bringing New Production Online

National Oil Corporation (NOC) chairman, Mustafa Sanalla, met with the chairman and CEO of DeGolyer and MacNaughton, John Wallace. The two discussed areas of cooperation between the pair, as well as with NOC subsidiary, Zallaf Oil and Gas Exploration and Production Company. Also attending the meeting between Sanalla and Wallace was NOC board member for Exploration and Production, Abulgasem Shengheer, and Dr Khalifa Rajab Abdul Sadiq, chairman of the Management Committee of Zallaf.



Source: NOC

The three companies will work together in order to prepare technical studies and outline plans to develop discovered and undeveloped fields. All parties expressed their desire to enhance their relations by initiating reservoir and field development studies, assessing reserves and preparing development plans for discovered and undeveloped fields. The corporation seeks to put these plans on the production line as soon as possible in order to increase oil and gas production rates and ensure continuous supplies to power plants.

Lekoil and Optimum Reach Agreement on OPL 310

Lekoil and Optimum Petroleum Development Company have reached a resolution on their dispute regarding OPL 310 in Nigeria. Optimum, who is the operator of OPL 310, and Lekoil executed a legally binding agreement to progress appraisal and development program activities at the Ogo discovery.

The dispute has been the principal reason that development of the block has been delayed. Rather than pursue this matter further, the parties have agreed to use the 22.86% equity stake in the block as a potential funding and security vehicle for the accelerated development of the block by an industry partner or a third party that elects to farm-in to the block to fund field development. The potential funding partner may be sourced by either Lekoil or Optimum.

Optimum and LEKOIL are initially targeting a two-well program over the next 12 to 18 months, subject to receiving an extension of the OPL 310 license from the Ministry of Petroleum and securing the funding needed for the program. The pair have agreed to drill two additional appraisal-development wells, contingent on the results of the initial two-well appraisal campaign and the associated extended well tests to be undertaken. All wells will be designed to be compatible with an early production scheme.

They have also agreed to progress the appraisal of the block and conversion to an OML as soon as practicable. Assuming a successful appraisal, a full field development program will be undertaken and embarked upon by Lekoil and Optimum with an industry partner, discussions on which are at an advanced stage. Assuming granted, which is at the discretion of the Department of Petroleum Resources, the OPL to OML conversion is expected to extend the license by 20 years.

Nigeria Serving as Example in Local Content Policy for other African Countries

During a recent Media Engagement meeting held in Abuja, Nigerian Content Development & Monitoring Board (NCDMB) Executive Secretary, Engr. Simbi Wabote expressed his opposition towards the creation of multiple Local Content Boards. According to him, "the NCDMB can modify its templates to suit other sectors. In our view, this is the prudent way to expand and entrench local Content regime in Nigeria." The National Assembly plans to develop the extant Local Content Act 2010 to include other sectors of the economy for further domiciliation of contracts.

All signs now point to Nigeria strengthening its Local Content implementation and serving as an example in Local Content Policy for other African countries. Celebrating the successes of the Nigerian Oil and Gas Industry Content Development Act nine years after its implementation, the industry now confronts new prospects of growth.

Nigeria – having just signed the African Continental Free Trade Agreement (AfCFTA) – is one of the latest African nations to join the entity of 54 African Union States that seek to reduce the economic barriers in pursuit of creating an Africa-wide customs union. Engr. Wabote also perceives joining the entity as a source of benefits for local oil and gas service companies without threatening national sovereignty.

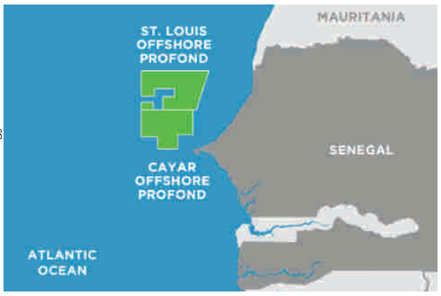
He said, "if you take the population of Africa and the potential market and given the general level of development of countries, the sky is the limit for any manufacturer that makes the right investment, has the right quality and partnerships."

A focus on shortening the contracting cycle, sectorial and market linkages and effective monitoring of local content delivery in the country has characterized Nigeria's Local Content agenda in recent years.

Communicating the plan for further Nigerian Content development will be the priority at the 9th Practical Nigerian Content Forum. Engr. Simbi Wabote will join over 600 industry stakeholders at the four-day Practical Nigerian Content Forum on 2 – 5 December in Yenagoa, Bayelsa, Nigeria. The Forum is recognized as the leading platform to engage government and industry players from across the value chain to maximize business opportunities and increase Nigerian Content implementation. Convene with senior government representatives and the entire oil and gas value chain to discuss the keys to unlocking the industry's potential through Nigerian Content at the 9th Practical Nigerian Content Forum.To find out more, please visit: https://www.cwcpnc.com/.

Yakaar-2 Gives Kosmos and BP More Gas

More gas has been discovered by the partnership of Kosmos Energy, BP, and Petrosen with the drilling of an appraisal well of the Yakaar-Teranga resource base. The Yakaar-2 appraisal well encountered net gas pay in similar high-quality Cenomanian reservoir to the Yakaar-1 exploration well on the Mauritania/Senegal gas trend.



Source: Kosmos Energy

The Yakaar-2 was drilled approximately nine km from Yakaar-1 and proved up the southern extension of the field. Located offshore Senegal, the Yakaar-2 well was drilled in approximately 2,500 meters of water to a total measured depth of around 4,800 meters. The *Valaris DS-12* rig, working on behalf of operator BP, will be moved to the Orca-1 exploration well in Mauritania.

The approximate 33,000 sq km of acreage covered by the BP and Kosmos partnership is estimated to contain between 50-100 Tcf of natural gas resource potential. These resources include the Yakaar-1 well, which was the biggest discovery made in the industry in 2017, and the Greater Tortue/Ahmeyim field, estimated to contain more than 15 Tcf of discovered gas resources.

The partners took the FID late last year on Phase 1 of the cross-border Greater Tortue/Ahmeyim development. The decision was made following agreement between the Mauritanian and Senegalese governments and partners BP, Kosmos Energy and the state-owned oil and gas companies of Mauritania and Senegal, SMHPM and Petrosen, respectively.

Second Licensing Round Announced in Uganda

The government of Uganda through the Ministry of Energy and Mineral Development Uganda has announced the country's second licensing round. The round includes five blocks in the Albertine Graben. These blocks are the Avivi, the Omuka, Kasuruban, Turaco, and Ngaji. The blocks cover 1026 sq km, 750 sq km, 1285 sq km, 635 sq km and 1,230 sq km respectively.

The first of three road shows will be held in London at the St. Ermin's Hotel on October 14. Houston's Marriott West Loop by The Galleria will play host to the second road show on October 17, while the final road show on October 22 will be held in Dubai at the Fairmont.

For an in-depth look at Uganda's upcoming licensing round, we welcome you to read our feature article in the Monthly Focus section, *page 26*.

Smit Lamnalco Awarded Coral South Job

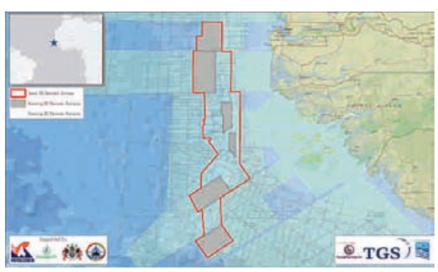
Smit Lamnalco was awarded a contract by ENI to supply integrated maritime services for the FLNG of the Coral South project offshore Mozambique. The execution of the contract will extend over a period of 10 years and will be mainly oriented towards logistics.

The FLNG plant is being developed to have a capacity of 3.4 mtpa and will process gas extracted from Offshore Area 4 in Mozambique's Rovuma Basin. The project is due to come onstream between 2022 and 2023.

ENI is the operator of the project with a 50% stake. The other partners on Offshore Area 4 are CNPC, Kogas, Galp, and Mozambique's state-run firm ENH.

TGS Starts New MSGBC Survey

TGS commenced its new survey in Africa's MSGBC Basin (Mauritania, Senegal, Gambia, Guinea Bissau and Guinea Conakry), offshore the north-west region of the continenet. The Senegal Ultra-Deep offshore 3D survey will cover over 4,500 sq km, with a modern broadband acquisition set-up. It is being undertaken in partnership with GeoPartners using the *BGP Prospector* vessel. The survey has the full support of Petrosen, Senegal's state-run oil and gas firm.



Source: TGS

This standalone survey borders Jaan, TGS' 3D dataset covering the southern portion of the MSGBC Basin. The survey will illuminate plays in the ultra-deep to build upon the success the basin has experienced with SNE, FAN and Yakaar. The project has a 60-day acquisition timeline, with fast-track data available four months after acquisition. The full dataset will be available by August 2020.

LukOil Proud Owner of Congo's Marine XII License

New Age (African Global Energy) Ltd. announced that its subsidiary New Age M12 Holdings Ltd. has completed the sale of its 25% non-operated interest in the Marine XII License to LUKOIL Upstream Congo SAU, a wholly owned subsidiary of PJSC LUKOIL, for $800 million.

The Marine XII License is located offshore Congo-Brazzaville and is operated by ENI. New Age acquired its position in Marine XII in 2009 and since then multiple large oil and gas discoveries have been made. Successful appraisal and phased development have led to early production being established from both the Nene and Litchendjili fields.

The sale of New Age's position in Marine XII marks the culmination of a successful investment cycle for the company. New Age will utilize the proceeds from this transaction to further strengthen its balance sheet and to redeploy into its African portfolio, including the Marine III license in the Republic of Congo and its exploration assets.

Europa Awarded Inezgane Offshore Permit

Europa Oil & Gas was awarded Morocco's Inezgane Offshore Permit. The permit covers an area of 11,228 sq km in the Agadir Basin, offshore Morocco. A formal letter of award from Morocco's ONHYM is expected shortly and, following confirmation of its acceptance, Europa will be assigned a 75% interest in, and operatorship of, the license with ONHYM holding the remaining 25% interest.

Europa's focus in the Inezgane Permit is on the Lower Cretaceous fan sand play, which is a prolific producer in West Africa. Europa has identified that the key elements required for a working hydrocarbon system, namely source, reservoir and seal, are all present in the license area. In addition, a number of large structural traps located on the edges and above salt diapirs have already been identified throughout the permit area. Europa plans to mature several of these stacked prospects, which each have the potential to hold over 250 million barrels of oil, to drillable status with a view to attracting one or more farminees to drill an exploration well in the second phase of the license.

The license, which lies in water depths of between 600 and 2,000 meters, has an eight-year term and comprises three phases. During the two-year initial phase, Europa will undertake a work program, which includes reprocessing 1,300 sq km of 3D seismic data, as well as other technical studies. At the end of the initial phase, Europa will have the option to commit to drilling an exploration well in the second phase or to relinquish the license.

New CNPC Discovery in South Sudan

A CNPC-led consortium made a 300-million-barrel discovery of recoverable oil in South Sudan's northeastern Upper Nile state. It is almost as much as the Oyo Discovery announced in Congo during August.

Source: African Energy Chamber

The exploration well was drilled at a total depth of 1,320 meters near the Adar oilfield in Block 3, operated by the Dar Petroleum Operating Company (DOPC), which includes CNPC, Petronas, Nilepet, Sinopec and Tri-Ocean Energy.

South Sudan has signed earlier this year an exploration and production sharing agreement with South Africa's Strategic Fuel Fund for the highly prospective Block B2. The move was part of South Sudan's strategy to diversify its basket of investors and encourage further exploration.

Aminex Farm-Out Complete, Ruvuma Activity to Advance

Aminex has announced that all the conditions precedent within the control of Aminex and ARA Petroleum LLC (ARA) detailed in the Ruvuma farm-out agreement have been satisfied.

The company and ARA have seen positive movements in Tanzania with the government actively resolving several long-standing issues with other operators in country. These positive movements provide confidence to the company and ARA who are now prepared to further advance certain pre-drilling operations for the Chikumbi-1 well.

Aminex and ARA will advance works so that drilling of the well can commence as soon as practicable following the satisfaction of the remaining conditions precedent, which are the granting of the Mtwara license extension and government approval for the transfer of interest and operatorship.

Somalia Targets First Oil for 2027

Following the signing of a new Petroleum Law and Revenue Sharing Agreement in May of this year, as well as the unveiling of its first ever offshore licensing round (15 blocks covering 75,000 sq. km), Somalia is keen to show the world that it is open for business.

The law breathes new life into a dormant Somali oil and gas sector – several concessions were awarded to the majors in the late 1980s, but civil war erupting in the country led to a *force majeure* declaration. Since the government collapse in 1993, insecurity and lack of infrastructure have largely rendered the region a no-go for western companies, leaving local warlords and militias to claw out territories. Almost 30 years later, Somalia is ready to shake-off past woes and attract global participation.

This effort is being spearheaded by Minister of Petroleum and Mineral Resources, Abdirashid Mohamed Ahmed, who recently commented, "this year is a landmark in the development of Somalia's natural resources…the Ministry has worked successfully with the federal member states to create an equitable and transparent framework to develop natural resources for the greater good of Somalia."

As part of its efforts, Somalia is expected to honor most legacy contracts. An agreement has already been reached with Shell and ExxonMobil to settle rental fee payments for offshore blocks (part of a dormant joint venture). However, it does not seem that either company is rushing back into the country, with Shell stating that "the payment does not affect *force majeure* status, which remains in place."

Ahmed is attending Africa Oil Week 2019 in Cape Town this November. He will use this opportunity to lay out the future vision and objectives of the Somali national oil and gas sector in front of financiers and operators. The summit's Director of Government Relations, Paul Sinclair, commented, "we are working closely with the Minister to ensure that the global private sector benefits from exclusive opportunities going live in a Somali National Showcase at Africa Oil Week." Find out more at *www.Africa-OilWeek.com*.

Oranto Petroleum Empowers Local Businesses in Uganda's Oil & Gas Sector

In line with Oranto Petroleum's commitment to domestic capacity building and local content development across sub-Saharan Africa, the company organized a tender workshop in Uganda in partnership with the Petroleum Authority of Uganda, the Local Government Administration and KITADI consultancy.

Organized in the region of the Albertine Graben where Oranto Petroleum has its Ngassa licenses, the workshop was attended by over 250 participants, a majority of which were business owners and entrepreneurs.

The workshop notably provided information on training and capacity building in Uganda's oil & gas sector and gave insights to participants into the best opportunities the oil sector provides in income generation across agriculture, business incubation, transportation, storage, waste management, trade and services like banking and insurance. Critical skills in local content, enterprise development and innovation were also provided to participants.

Oranto Petroleum was awarded the Ngassa license in October 2017 and has been making steady progress on its work program since then. This notably includes the completion of the ESIA studies, seismic acquisition, and the Lake drilling solution study. The company now plans to drill in the next two years and is encouraging local companies to be ready to participate in drilling support activities.

Morocco's Lixus CPR Complete

Chariot Oil & Gas' CPR complied by Netherland Sewell & Associates Inc (NSAI) over the additional prospects in the Lixus Offshore License in Morocco is now complete.

According to the NSAI report, material running room in five Additional Prospects offers further upside in excess of 1.2 Tcf audited 2U prospective resources. These resources, in addition to the Anchois Discovery and the Anchois Satellite prospects, contribute towards an audited total remaining recoverable resource in excess of 2 Tcf (comprising 2C contingent resources and 2U prospective resources).

BW to Side-Track Hibiscus Discovery

BW Offshore subsidiary, BW Energy, will proceed with a side-track of its DH1BM-1 well on the Dussafu Marin Permit, located offshore Gabon. The side-track of the well will confirm if the discovery is bigger than the company expected. BW started drilling the Hibiscus Updip well (DHIBM-1) in mid-August using the *Borr Norve* jack-up drilling rig. The well is located about 56 km offshore Gabon in 116-meters water depth. At the end of August, BW encountered hydrocarbons at the Hibiscus Updip prospect.

The DHIBM-1 well was drilled on the Hibiscus Updip prospect and reached a total depth of 3,538 meters.

An oil discovery was made in the Gamba formation with an overall hydrocarbon column of 33 meters. BW's preliminary assessment indicates that the discovery may be larger than the gross pre-drill estimates of 12 million barrels of prospective resources. BW said that Hibiscus will be a separate development to the Ruche complex.

VAALCO to Drop Drillbit in Gabon Campaign

Gabon is set to see some drilling action from VAALCO Energy soon. The company received notification from Vantage Drilling International that it expects the *Topaz* jackup rig to be released imminently. The rig is currently under contract to ENI in Gabon.

VAALCO plans to spud the Etame 9P appraisal wellbore first, followed back-to-back with the Etame 9H development well. It plans to drill up to three development wells and two appraisal wellbores in the 2019/2020 drilling program.

The company, in a statement, said it believes that there is significant reserve upside associated with the two appraisal wellbores as they may confirm up to approximately five million net barrels of 2P oil reserves spread across six well locations targeted in future drilling campaigns.

Source: Vantage Drilling International

In addition, VAALCO said that it has completed its planned full field 2019 maintenance shutdown for the *Etame Marin* FPSO and four platforms.

VAALCO has exercised an election to extend the lease contract for the *FPSO Petróleo Nautipa* at Etame through September 2021, with an additional one-year option to run through September 2022.

South Sudan Bid Round On-Tap

Continuing on its bid to ramp up production and drive investment into its energy sector, South Sudan is set to launch its 2020 oil and gas licensing round at the AOP 2019 conference in Cape Town, and, announce the tender for an environmental audit for the country's producing oilfields at the third annual South Sudan Oil & Power conference organized by AOP. The licensing round is the first exploration licensing round since the country gained its independence in 2011.

On a path to transform its energy sector, South Sudan set a goal to double its oil production by 2020 – returning it to its pre-war production levels of 350 000 bpd. In achieving this, the country has already made significant progress in repairing wells damaged during the civil war and resumed production at key oil fields.

In August, the country's Minister of Petroleum and Mining, Awow Daniel Chuang confirmed that South Sudan had made a new oil discovery at the Adar oilfield in Block B3 which is said to contain over 300 million barrels of recoverable oil.

"We are looking at over 300 million reserves with the hope of more discoveries because there are two more wells that are under review," said the Minister, adding that the country is looking for new export opportunities.

In March this year, South Africa's Strategic Fuel Fund signed an exploration and production sharing agreement (EPSA) for Block B2, following Pan-African explorer, Oranto Petroleum's signing of a six year EPSA for Block B3 in 2017, speaking to the country's continued efforts to bolster the growth of its energy sector.

Minister Chuang will lead a delegation from the Ministry of Petroleum and Dar Petroleum Operating Company. The delegation will also hold meetings at a dedicated country pavilion at AOP 2019.

Anglo Re-enters Congo's TLP-103CST

Anglo African Oil & Gas plc (AAOG) announced that well re-entry operations in the Republic of the Congo (RoC) have commenced at the Tilapia site in Pointe Noire in preparation for drilling the TLP-103C sidetrack, nominated TLP-103CST.

Engineers on site have commenced work to stabilize the well prior to re-entry and the company has also contracted Wire-Group to supply and install an Isolation Plug which is required to ensure the company has the necessary barriers in the well and which will enable re-entry. The installation of the Isolation Plug is a rig-less operation, which provides the most cost-effective solution, utilizing wireline services from Wire-Group. The isolation plug will be set in preparation for removal of the completion tree which will be replaced by subsurface apparatus more appropriate for drilling and to allow installation of the blow-out preventers ahead of the rig arriving on location.

The company's management continued discussions with the operators of two potential rigs, both currently situated in the Republic of the Congo, with a view to securing a drilling slot during November.

TMC Wins Greater Tortue FLNG Gimi Compressor Contract

International compressor supplier TMC Compressors of the Seas (TMC) has been awarded a contract to supply the offshore market's most energy efficient compressed air system to Golar LNG's *Gimi* FLNG vessel which will operate offshore Mauritania and Senegal. TMC's scope of work includes manufacturing and delivery of seven large Smart Air compressors to be installed on board the FLNG *Gimi*. The company has not disclosed the value of the contract.

FLNG *Gimi* is currently undergoing a conversion from a Moss LNG carrier to a floating LNG (FLNG) production unit at Keppel Offshore & Marine's Shipyard in Singapore.

When completed, the *Gimi* FLNG will be stationed at a nearshore hub located on the Mauritania and Senegal maritime border as part of the first phase of the Greater Tortue / Ahmeyim project. The Gimi FLNG is designed to produce an average of approximately 2.5 million tonnes of LNG per annum.

In 2017, TMC won a contract to deliver a similar Smart Air compressed air system to Golar LNG's FLNG *Hilli Episeyo*.

Tullow's Ugandan Farm-Down Agreement with Total and CNOOC Terminated

Tullow Oil plc announced that it has been informed that the farm-down to Total and CNOOC was scheduled to terminate at day end August 29, 2019 following the expiry of the Sale and Purchase Agreements (SPAs).

Tullow has been unable to secure a further extension of the SPAs with its Joint Venture Partners, despite previous extensions to the SPAs having been agreed by all parties. The termination of this transaction is a result of being unable to agree all aspects of the tax treatment of the transaction with the Government of Uganda which was a condition to completing the SPAs. While Tullow's capital gains tax position had been agreed as per the Group's disclosure in its 2018 Full Year Results, the Ugandan Revenue Authority and the Joint Venture Partners could not agree on the availability of tax relief for the consideration to be paid by Total and CNOOC as buyers.

Tullow will initiate a new sales process to reduce its 33.33% operated stake in the Lake Albert project which has over 1.5 billion barrels of discovered recoverable resources and is expected to produce over 230,000 bopd at peak production. The Joint Venture Partners had been targeting a Final Investment Decision for the Uganda development by the end of 2019, but the termination of this transaction is likely to lead to further delay.

Sterling Sees Extension in Somaliland

Sterling Energy was granted a continued extension to the current period of its Odewayne PSA by the Somaliland government. The expiry dates of the exploration periods under the PSA now take Sterling into 2024.The Third Period will end November 2020, the Fourth Period May 2022, the Fifth Period now ends in May 2023 and the Sixth Period in May 2024. It should be noted that the fourth through sixth period are optional.

The minimum work obligations for the exploration periods remain unchanged: (i) the acquisition of 500 km of 2D seismic during the Third Period; and (ii) the acquisition of 1,000 km of 2D seismic and one exploration well during the Fourth Period.

Sterling holds a 34% interest in the PSA and will be carried by Genel, the operator, for the costs of all exploration activities during the Third and Fourth Periods of the PSA.

The Odewayne Block covers a very large area (circa 22,000 sq km) onshore southwestern Somaliland, located adjacent to the border with Ethiopia. The PSC covers block SL6 and part of blocks SL7 and SL10.

Sulzer Signs Agreement Licensing Pygas Processing Technologies

Sulzer GTC Technology signed an agreement with JSC SIBUR-Neftehim (SIBUR) to provide its licensed pyrolysis gasoline (pygas) processing technologies. The technologies include the design of the fractionation, first and second stage hydrotreating, aromatics extraction and thermal hydrodealkylation technologies for the modernization of a benzene production facility at SIBUR's Kstovo olefins production plant near Nizhniy Novgorod, Russia.

Source: Sulzer

The modernized facility will serve as a hub for processing full range pygas from several SIBUR facilities, allow production of high-purity benzene with the lowest cash cost, and recover non-aromatics to be used as cracker feed. Sulzer GTC will design a new GT-BTX® unit as well as revamp the existing pygas fractionation; first and second stage hydrotreating; and the thermal hydrodealkylation unit to process additional feed. Scope of supply includes the basic engineering package, technical services, proprietary catalyst, solvent and equipment.

"We are pleased to work with such a prestigious company as SIBUR to provide effective solutions for producing aromatics from pyrolysis gasoline and modernizing olefins production complexes," said Ilya L. Aranovich, Sulzer GTC Director of Licensing for North America, Europe, and CIS Countries. He added, "We are excited to extend our track record of providing leading-edge solutions to improve the economics of naphtha-based crackers for clients in the CIS region and around the world."

Savannah Signs Niger-Benin Export Pipeline Transportation Convention

British independent Savannah Petroleum PLC, announced the signature on September 15 of a Transportation Convention between China National Petroleum Corporation (CNPC) and the Republic of Niger in relation to the planned crude oil export pipeline from the Agadem Rift Basin (ARB) to the Atlantic coast in Benin (the Niger-Benin Export Pipeline or the Pipeline). The Pipeline is expected to run for c.2,000 km from the ARB in Niger to Port Seme on the Atlantic coast in Benin and is CNPC's largest ever cross-border crude oil pipeline investment.

The Transportation Convention sets out the contractual terms between CNPC and the Republic of Niger under which the Pipeline will be constructed and operated and was signed by Niger's Minister of Petroleum, His Excellency Mr. Foumakoye Gado and the President of CNPC Exploration and Development Company (CNPC's overseas development arm, CNODC) Wang Zhong Cai. Savannah and various other project stakeholders and dignitaries were also in attendance at the signature ceremony. Wang Zhong Cai confirmed that Pipeline construction is expected to be complete by the end of 2021.

Following the signature of the Transportation Convention, His Excellency President Mahamadou Issoufou of Niger was expected to officially launch the surface infrastructure works for the Niger-Benin Export Pipeline at a ceremony in Koulele, Agadem. The Transportation Convention follows the signature in August of the Niger-Benin Pipeline Construction and Operation Agreement between CNPC and the Republic of Benin, as well as the upstream approval granted by the Republic of Niger to CNPC in June 2018 in relation to the Agadem Production Sharing Contract (PSC) Exclusive Exploitation Area 3, the production from which is expected to be exported from Niger using the Pipeline. Under the terms of Savannah's R1/R2 and R3/R4 PSCs, the Petroleum Code of Niger and its Implementing Decree, Savannah is entitled to access such third-party infrastructure.

NOC Upgrades Ras Lanuf Storage Capacity

National Oil Corporation (NOC) subsidiary Harouge Oil Company has replaced Ras Lanuf storage tank no. 7, which has a capacity of 500,000 barrels of crude oil, bringing the port's storage capacity to its highest level since 2016. This will help prevent forced oil field shutdowns, especially during winter weather which can disrupt port operations.

The company is also preparing to construct and replace storage tanks no. 4 and no. 12, which were damaged during military operations in 2016. The completion of these two tanks will further increase the tank farm capacity at Ras Lanuf.

NOC Chairman Mustafa Sanalla and the NOC Board of Directors extended their thanks and appreciation to all those who contributed to the replacement of storage tank 7 under difficult circumstances.

Equatorial Guinea to Build West Africa's First LNG Storage and Regas Plant

Equatorial Guinea is set to construct the first liquefied natural gas (LNG) storage and regasification plant in West Africa, advancing efforts to monetize gas resources through the creation of a domestic gas-to-power infrastructure.

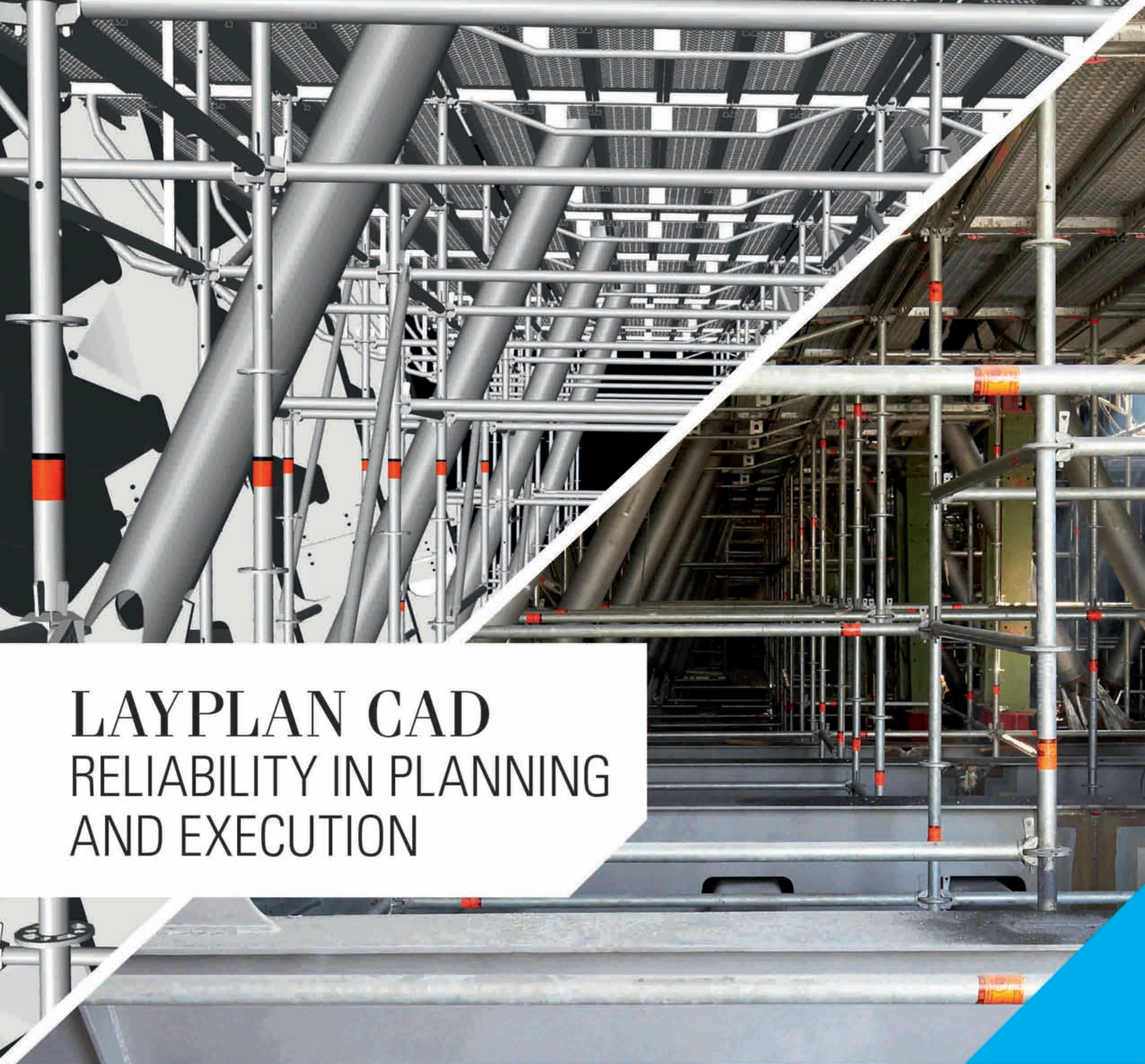
Source: Africa Oil & Power Conference

Located at the Port of Akonikien on the country's mainland, the plant will enable the transportation and storage of LNG from the EG LNG plant at the Punta Europa Gas Complex on Bioko Island, to Akonikien on the southern border of the mainland. It will then be fed into the regasification plant to be distributed to smaller-scale power plants and LNG power stations throughout the country, as well as exported to neighboring countries.

The Akonikien project is the first gas-to-power development in Equatorial Guinea's LNG2Africa initiative. Launched by the Ministry of Mines and Hydrocarbons in 2018, the initiative seeks to facilitate the production and trade of LNG through the creation of a domestic gas-to-power infrastructure and intra-African LNG industry.

Spearheaded by local construction and engineering firm Elite Construcciones, the plant will have a storage capacity of 14,000 cubic meters with 12 bullet tanks. The tanks are currently the largest factory-built cryogenic bullet tanks in the world with a capacity of 1,228 cubic meters and dimensions of 31 meters by 9.3 meters by 8.8 meters. Built by American manufacturer Corban Energy Group, each tank is estimated to require 12 hours to complete the 12,000-meter distance from the port to the new plant. Elite Construcciones is also installing a truck loading station and 12 kms of 10-inch gas and diesel pipelines.

Other major suppliers include pipe supplier PFF Group, who manufactured 12,400 meters of pipes, shipping agents D&B Shipping Ltd. who facilitated the shipment of 22, 40-foot open-top containers, and Meakin Logistics UK. Elite Construcciones also worked closely with German companies Noorwerk and ESC on the design and construction of the plant.



Honeywell UOP Technology Tagged for Algerian Petchem Project

Honeywell UOP's C_3 Oleflex™ technology has been selected by Sonatrach Entreprise Polymères (STEP) to produce 565,000 mtpa of polymer-grade propylene for a proposed plant in Arzew, Algeria. In addition to technology licensing, Honeywell is providing the basic engineering design as well as services, equipment, catalysts and adsorbents for the plant. Once the plant is completed it will represent UOP's second C_3 Oleflex unit in North Africa, following an earlier award in Egypt.

Last year, Honeywell announced that Sonatrach will use technologies from Honeywell UOP to produce cleaner-burning transportation fuels at its Skikda Refinery on the eastern Mediterranean coast of Algeria. UOP also announced that Sonatrach will use UOP technologies, including C_4 Oleflex, at its Arzew facility to produce 200,000 metric tons per year of methyl tert-butyl ether (MTBE), a high-octane gasoline additive that reduces emissions in automobile exhaust.

Honeywell UOP's C_3 Oleflex technology uses catalytic dehydrogenation to convert propane to propylene and is designed to have a lower cash cost of production and higher return on investment compared to competing dehydrogenation technologies. Its low energy consumption, low emissions and fully recyclable, platinum-alumina-based catalyst system helps minimize its impact on the environment. The independent reactor and regeneration design of the Oleflex technology helps maximize operating flexibility and onstream reliability.

Sonatrach Total Entreprise Polymères (STEP) is a joint venture between Algeria's state oil company Sonatrach S.p.A. (51%) and France's Total S.A. (49%). The STEP joint venture was created in 2018 to carry out the joint petrochemical project in Arzew.

Funds Needed for NLNG Train 7

Nigeria LNG is looking for funds for the construction of the $10 billion seventh train at its LNG facility in Nigeria. According to a Twitter post from Nigeria LNG, the FID will be signed by the end of October.

The news follows the signing of an LoI with the SCD Group consortium led by Saipem for the EPC on Train 7. "With the signing of the LoI we hope that by the end of October a Final Investment Decision will be signed for Train 7. This will ensure we attain our ambition of increasing our production by 35%," Nigeria LNG announced on *Twitter*.

In order to finance the construction of Train 7, Nigeria LNG is now looking to raise as much as $2 billion from the top 10 domestic lenders, Tony Attahm company CEO told Bloomberg. The company will go for the remainder of the funding from foreign banks and export credit agencies.

"We have done the financial market pitch to know who has capacity," Attah told Bloomberg.

New Dehydrogenation Plant in China Designed to Produce over 1 mtpa of Olefins

Clariant announced the successful startup of its CATOFIN catalyst at Hengli Group's new mixed-feed dehydrogenation plant in Dalian, China. The new unit combines propane dehydrogenation (PDH) with iso-butane dehydrogenation (BDH) process technologies, and it will produce over 1 million tons of olefins per year – becoming the world's largest plant using CATOFIN catalyst technology.

Source: Clariant

The state-of-the-art process pairs Clariant's CATOFIN catalyst together with McDermott's Lummus process technology and is proven to enable high reliability and yields, cost efficiency and simplicity. In addition to the CATOFIN catalyst, the facility is using Clariant's innovative Heat Generating Material (HGM) to produce its on-purpose olefins.

Founded in 1994, Hengli Group is one of China's foremost suppliers of petrochemicals. Hengli Group's new dehydrogenation plant in Dalian is designed to process 500 KTA of propane and 800 KTA of iso-butane feeds to produce propylene and iso-butylene.

CATOFIN is an extremely reliable technology for light paraffin dehydrogenation. Operating at thermodynamically-advantaged reactor pressure and temperature to maximize yield, the process relies on Clariant's highly selective CATOFIN catalyst and the company's patented metal-oxide HGM to deliver high conversion rates. With the successful startup of the Hengli plant, this now marks Clariant's 21st CATOFIN unit in operation, totaling over 9 million tons of olefin production capacity globally.

USTDA Supports Guinea's LNG Ambitions

The USTDA has issued a grant to West Africa LNG Group Guinea SA (WA-LNG) for a feasibility study to assess the economic, financial and technical viability of a potential LNG receiving terminal and distribution network near the Port of Kamsar in the Boké region of Guinea. The study, which will be conducted by Plum Energy LLC, supports the diversification of Guinea's energy sector, which currently depends on hydropower, diesel and heavy fuel oil.

The introduction of LNG into the market allows for the use of a more sustainable, reliable, year-round energy source. WA-LNG will distribute natural gas or LNG to end-users, initially including bauxite producers and an agro-industrial park supported by the African Development Bank.

This project advances the goals of the Electrify Africa Act, the U.S. government's Power Africa, Prosper Africa and Doing Business in Africa initiatives.

CIS Completes Pile-Driving for Petchem Terminal in Jordan

CIS completed a major pile-driving operation in conjunction with construction of a new $240 million state-of-the-art phosphates terminal in Jordan. The terminal is purpose-built to export and handle upwards of six million tons of rock phosphate in bulk annually. It is located in the South Port section of the New Port of Aqaba, and features storage facilities, off-loading systems and handling and ship-loading equipment.

CIS performed a series of pile-driving operations to form the foundations of the new terminal, which features a new dry bulk export jetty and dust and spillage control facilities.

The storage plant, load transfer building, and berthing maritime terminal for exporting phosphates are located onshore. Offshore, the complex is comprised of a 190m-piloted berthing area with two parallel-to-coastline structures that support two loading bays, two mooring dolphins, an access bridge and two bridges that connect the structures.

As working nearshore poses unique challenges CIS used two hydraulic hammers simultaneously; one of its S-150 hydraulic hammers situated offshore on a crane barge and a second positioned onshore. As a result, 16 piles measuring 36 inches were driven to a maximum penetration of 85.02 ft to ensure that the essential onshore facilities would be built on solid foundations.

Following completion of the pile-driving phase carried out as part of the construction of the onshore portion of the jetty approach, CIS began working on the offshore construction phase. This involved driving 149 jetty support piles measuring Ø914mm (36 inches) as part of the construction of berthing structure and three bridges. Again, CIS drove the jetty support piles with pinpoint accuracy with the aid of surveyors and the hydraulic hammer on the piling crane. Every pile was safely driven to its intended target depth without incurring a single Lost Time Incident (LTI). All 165 piles were driven safely and efficiently, well within the requisite timeframe for completion.

Al Gharbia Pipe Company Reaches Operational Milestone

SENAAT revealed that Al Gharbia Pipe Company reached an operational milestone by commencing commercial production of large diameter, high-quality sour grade steel pipes in Abu Dhabi. Al Gharbia Pipe Company – a subcontractor of Habshan Trading – will begin work to supply

Source: Al Gharbia

conductor pipes for Hail and Ghasha offshore sour gas fields by ADNOC.

Established as a JV between SENAAT and two of Japan's leading companies in the steel sector – JFE Steel Corporation and Marubeni-Itochu Steel, Al Gharbia Pipe Company is the first industrial joint venture to take place between Abu Dhabi and Japan in the UAE that will strengthen the rich history of commercial projects connecting the two nations.

The 200,000-square meter plant, which broke ground in Khalifa Industrial Zone Abu Dhabi (KIZAD) in 2016, is the UAE's first large-diameter, sour service capable, welded steel pipe project that has been set up with an AED 1.1 billion investment to strengthen the country's industrial supply chain in line with Abu Dhabi Economic Vision 2030 and Abu Dhabi Industrial Strategy 2021.

The state-of-the-art facility will manufacture longitudinally welded large-diameter, thick wall, sour service, steel pipe to service the region's construction and energy sector.

The plant's new line is designed to make pipes up to 13 meters in length with an outside diameter ranging from 18 to 56 inches, and the maximum wall thickness of 44.5 millimetres. Once fully operational, the plant's annual production capacity is set to reach 240,000 tons, of which around 40 percent will be exported to neighboring markets in the GCC and greater Middle East, as well as North and East Africa.

Early this year, Al Gharbia Pipe Company received an approval from American Petroleum Institute (API) to supply products to oil and gas industry, in addition to an approval from ADNOC for sour and non-sour pipes, which qualifies Al Gharbia as a potential supplier for ADNOC projects with a high In-Country Value score.

Sercel Launches GPR – A New Ocean Bottom Node

CGG announced the launch by Sercel of GPR, a new Ocean Bottom Node (OBN). GPR leverages the proven high performance of Sercel's QuietSeis® broadband digital sensor technology to collect superior data for accurate seismic imaging compared to data collected by conventional sensors. Sercel has jointly developed GPR in partnership with BGP.

The launch of GPR coincides with the continuing growth and maturity of the global node market and further strengthens CGG's extensive portfolio of innovative products and services, all designed to reduce the risks and increase the success of its clients' reservoir exploration and development efforts.

Sercel and BGP have drawn on their longstanding partnership and complementary seismic expertise and experience to design, develop and deploy GPR. The new node has successfully completed sea trials and valuable input from BGP from the field has ensured GPR's performance is precisely tailored to meet today's industry requirements. It has a compact design and benefits from the fidelity and ultra-quiet performance of QuietSeis as well as flexible deployment options.

Source: Sercel

Pascal Rouiller, Sercel CEO, said: "GPR is a significant addition to CGG's preeminence in the growing OBN market. It confirms our commitment to address evolving industry challenges, and through our equipment, geoscience and multi-client strengths, enables us to deliver a unique suite of OBN solutions to our clients. Sercel's launch of GPR provides our clients with an advanced new technology to revitalize exploration and production opportunities in basins across the globe."

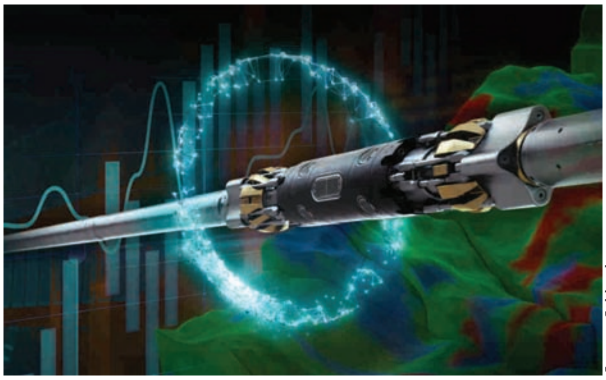
Schlumberger Introduces Cutting-Edge Intelligent Wireline Formation Testing Platform

Schlumberger has introduced the Ora* intelligent wireline formation testing platform. The platform leverages a new architecture and metrology for enhanced performance, enabling dynamic reservoir characterization in all conditions, including where previously impossible.

The Ora platform is rated to 200 degC (392 degF) and 35,000 psi and includes a new focused radial probe, a dual-inlet dual packer, laboratory-grade metrology, new measurements, and the highest flow rate pump in the industry. The digitally enabled hardware can automate complex workflows, reduce operating time by more than 50% and deliver the highest precision fluid analysis and zero contamination samples. Furthermore, deep transient testing is now possible on wireline.

The platform is built on a digital infrastructure, providing a new customer experience, enabling real-time decisions in a cloud-native environment.

"Characterizing dynamic reservoir properties is becoming more critical and difficult than ever as drilling for hydrocarbons is moving towards complex geologies and challenging environments. Moreover, analyzing this data to make business decisions can take weeks if not months," said Djamel Idri, president, Wireline, Schlumberger. "The Ora platform was built to address these challenges, with new wireline formation testing hardware and digital edge solutions enabling our customers to make faster and better decisions."



Source: Schlumberger

The Ora platform has successfully completed more than 30 field trials worldwide in a variety of operating environments in the North Sea, US Gulf of Mexico, West Africa, Middle East, North Africa, and Central America. In Mexico for Pemex, the Ora platform was the first ever wireline formation tester to collect high-quality gas condensate samples in a challenging carbonate formation with permeability below 0.03 mD and 182 degC (360 degF) at 20,000-psi pressure. This helped Pemex announce the tripling of estimated reserves for Mexico's most important land discovery in the last 25 years.

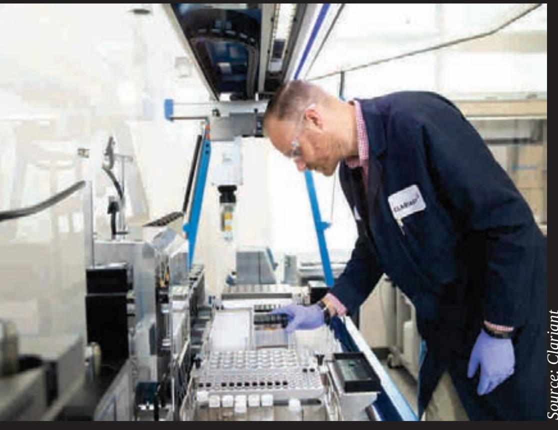
In deepwater Gulf of Mexico for Talos Energy, the Ora platform obtained high-quality downhole fluid analysis data in a challenging well geometry, which was immediately integrated and visualized in the reservoir context. The reservoir model was then updated using a bespoke Schlumberger reservoir fluid geodynamics workflow, enabling real-time assessment of lateral and vertical connectivity for early completions decisions.

Clariant Opens HTE Lab in Houston

Clariant has opened its next High Throughput Experimentation (HTE) Laboratory in Houston, Texas. The location is key as the new facility will be the first of its kind supporting the oil & gas industry, offering new and sophisticated solutions for customers. This lab is part of a global Clariant initiative to expand HTE capabilities to all Clariant business units, including direct support for oil services in North America, the Asia Pacific region, Latin America, Africa and the North Sea.

HTE is an innovative approach and methodology where automated instrumentation, specialized software tools and alternative techniques are able to provide optimized formulations in a rapid timeframe. While it has been widely used in other industries for many years, Clariant is the first company to adopt this technology for the oil & gas industry as a standard tool.

"This is an exciting, and unique, new offering for the oil & gas industry, and, being in such close proximity to so many customers, means that we can offer superior, faster service," said Jonathan Wylde, Head of Innovation and Application Development Clariant Oil and Mining Services. "With our state-of-the-art equipment in the lab, advanced research concepts, and potential customization for specific projects, our researchers are now able to identify new formulations and synergistic blends for specific customer crudes, ultimately reducing the time to market for new products."



Source: Clariant

As a new addition to the existing lab located at Clariant Oil Services headquarters, Clariant specialist chemists and innovation experts are now able to utilize miniaturization, parallelization, intelligent design and enhanced analytics – all proven to increase efficiency and productivity. The facility will help to meet current and outstanding needs in the oil & gas industry, with special emphasis on pour point depressants, hydrate inhibitors, asphaltene inhibitors, corrosion inhibitors and scale inhibitors.

"Static environments, like factory assembly lines, are easy to automate. In contrast, an R&D environment requires a special solution to keep pace with its dynamic nature," said Lucius Kemp, Clariant's Global Head of High Throughput Experimentation, Group Technology and Innovation. "One must have a highly flexible concept with very short integration times to reach automated efficiency. As a global leader in the field, we have designed our HTE lab with 'standardized flexibility' to achieve this."

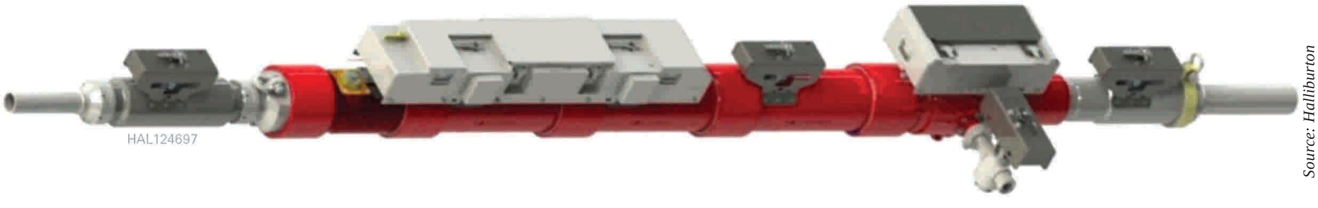
Halliburton Introduces Commander™ Full Bore Cement Head

Halliburton Company unveiled the Commander™ Full Bore Cement Head, a product that enables rotation and reciprocation of 4 ½ – 6-inch production strings to help increase reliability and reduce risk during the well cementing process. Advanced wireless functionality and faster rig-up time help increase efficiency and improve safety for land-based cement jobs, particularly in unconventional formations.

The Commander Full Bore Cement Head can rotate pipe during a cement job to improve cement coverage, prevent channeling, reduce communication between frac stages and help maximize production. Wireless capability allows for less cost-prohibitive equipment on site, and helps eliminate the requirement for personnel to hoist, load, and manually deploy plugs on active rigs. The head prevents casing wiper plugs from being launched out of sequence and offers real-time verification that the plugs have launched successfully.

This helps improve safety and efficiency while setting dependable cement barriers. Over 100 jobs have been executed to date with the Commander Full Bore Cement Head, with average rig-up times as fast as 30 minutes and a reduction in time personnel spend in the red zone.

"We are building on our legacy of 100 years in the oilfield cementing business with exciting and innovative new products," said Jim Collins, vice president of Cementing. "We're bringing industry-leading products to cost-sensitive and challenging unconventional operations, while simultaneously reducing unwanted risk at the well site."



Source: Halliburton

By CGG

Getting Closer to Deepwater Reservoirs with Pioneering OBN Imaging

Benefits of latest OBN imaging technology open door to new era of subsalt imaging

Investment in deepwater exploration and development is on the rise. Although the often prolific subsalt plays offer high rewards for explorers, they can bring potentially higher development costs and risks. For fields and prospects in particularly complex settings, existing towed-streamer datasets are reaching their technical limits. Despite dramatic recent improvements in streamer data processing and velocity models, there can still be considerable uncertainty in the interpretation of these images.

With the resulting growth in large-scale ocean bottom node (OBN) surveys to provide greater interpretation certainty, the industry is entering a new era in subsalt imaging. At this year's SEG Annual Conference in San Antonio, CGG presented a range of papers showcasing the latest OBN imaging technologies and case studies.

Better, data-driven salt velocity models

A common thread in these presentations is the ability to take full advantage of the valuable low-frequency, full-azimuth, ultra-long offset information recorded in OBN surveys to drive full-waveform inversion (FWI) velocity model building. Yao et al. determine that, for the Stampede field in the Gulf of Mexico, lower frequencies and ultra-long offsets from OBN data are key factors for increasing the detail of complex sediment inclusions in the salt velocity model using FWI.

The combination of FWI and OBN data also supports a data-driven approach to velocity model building which can reduce project cycle time. Traditional velocity model building sequences based on manual salt interpretation require an accurate salt model to obtain an image that can be interpreted. Recent developments pioneered by CGG, particularly time-lag FWI, have streamlined the update of salt models, alleviating the manual interpretation bottleneck and bringing a step-change to subsalt imaging in some of the most complex areas.

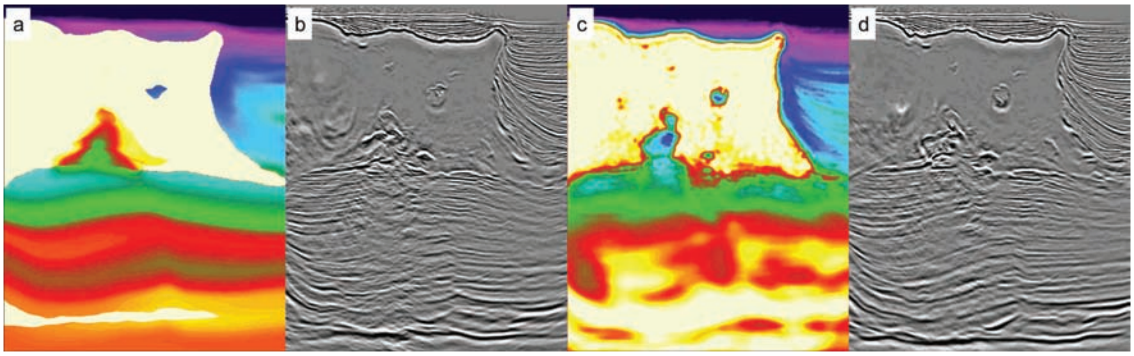
A case study update from the Santos Basin by Jouno et al. shows that, with a reasonable initial model, time-lag FWI applied to OBN data can recover fine internal detail of the stratified evaporite sequence and the pre-salt sediments.

The use of sparse OBN surveys designed purely to provide information for velocity model building has been proposed and is the focus of a study performed on the Atlantis field (Mei et al.). The study indicates that OBN spacing of 1 km x 1 km can be sufficient to achieve a satisfactory velocity model for subsalt imaging using time-lag FWI. This approach provides one strategy to achieve imaging uplift from existing streamer datasets across large areas.

A bright future for OBN Imaging

OBN imaging and FWI technology will be hot topics in the industry for years to come, particularly in areas with complex salt overburdens which obscure the reservoir. Work continues on improving various aspects of OBN processing, including internal multiple attenuation (Pereira et al.) and application of advanced imaging techniques, such as least-squares reverse time migration (Liu et al.), to deliver more reliable subsalt reservoir images and attributes. For FWI, discussions continue on improving starting models and incorporating "more physics" into the algorithms to improve accuracy where effects such as anisotropy and absorption are significant.

These ongoing developments promise further improvements in subsalt imaging which will continue to reduce exploration risk.



Time-lag FWI using OBN data in the Gulf of Mexico with a complex sediment-salt interface close to the deep base of salt. Before the FWI update: (a) legacy velocity model without smoothing and (b) OBN RTM stack image produced using the legacy model. After the TL-FWI update: (c) updated velocity model from FWI using OBN data and (d) OBN RTM stack image produced using the FWI-updated velocity model (image courtesy of CGG).

Uganda Open for Business

Uganda has announced that it will be hosting its second competitive licensing round. The blocks on offer, located in the prolific Albertine Graben, sit next to some of the country's largest oil finds.

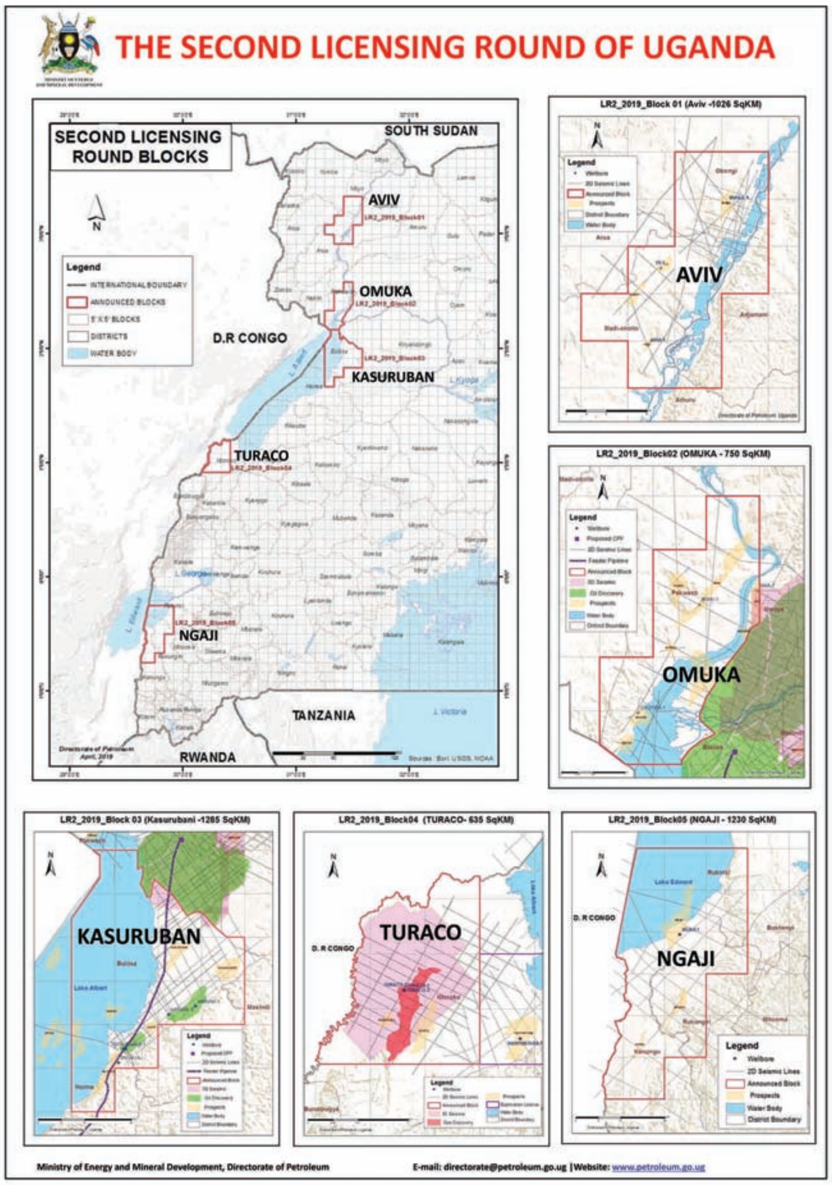
Earlier this year, Uganda's Ministry of Energy and Mineral Development issued a Request for Qualification (RFQ) inviting interested firms and/or consortia to submit Statements of Qualifications within a period of not less than three months for government to determine their eligibility to participate in this licensing round. The submission deadline was recently extended until November 22, allowing additional review time for interested parties

The blocks on offer in Uganda's second competitive bid round are nearby some of the country's major oil blocks that are currently held by Tullow, Total E&P and CNOOC Uganda Ltd. So far, an estimated 6.5 billion barrels of oil in place and 500 billion cubic feet (Bcf) of natural gas has been confirmed from exploration work undertaken in less than 40% of the Albertine Graben, leaving much prospectivity for new exploration.

The Blocks

For the second licensing round (the first was held in 2016), five blocks will be on offer, all highly prospective exploration areas with good data coverage available. Highlights on each of the blocks are summarized below:

Turaco Coucal Block (Semliki Area): 2D and 3D seismic surveys were undertaken in the Semliki Basin and three exploration wells were drilled on the Turaco prospect in approximately the same geographical position (between 1998 and 2004). All the three wells encountered oil, but the Turaco-3 well was specifically used to test the oil zones. Various reports and datasets are available for this 635-sq km block.



Riwu Omuka Block: This 750 sq km block is located in the former Exploration Area 1 in the districts of Buliisa, Packwach, Nwoya and Nebbi. 2D seismic surveys were undertaken and three wells were drilled in this area (Riwu-1, Ondyek-1, and Raa-1) which did not encounter any oil. This block is located in proximity of the Buliisa oil fields which have been issued production licenses. It is also in proximity to the Buliisa Central Processing Facility. Additional reports and data are also available for this block.

Kasuruban Mutonta Block: Located in the districts of Hoima, Buliisa and Masindi, the block has seen three wells drilled. The Taitai-1, Karuka-1 and Karuka-2 were drilled on the Taitai and Karuka prospects during 2007. None of the three wells encountered hydrocarbons. 2D seismic data, as well as additional reports are available. The block is in close proximity to the Buliisa and Kaiso-Tonya oil fields and production infrastructure. The size of the block is approximately 1,285 sq km.

Ngaji Mpundu Block: The block is located in the districts of Rukugiri, Kanungu and Kasese. The Ngaji-1 well was drilled during 2009 and did not encounter any hydrocarbons. The prospect is heavily faulted and compartmentalized. However, an optimal location within a good migration passage was not drilled which may explain the failure to encounter hydrocarbons. Based on the 2D seismic and the aerogravity data that was acquired, there are other drillable locations in this area. The areas also have various reports available and the block size is approximately 895 sq km.

Mvule Avivi Block (Rhino Camp Area): Located in the districts of Madi-Okollo, Adjumani, Obongi and Yumbe, it has about 200 km of high quality 2D seismic data and an Airborne Tensor Gradiometry was also acquired over the Block. Three exploration wells (Mvule-1, Iti-1 and Avivi-1 were drilled but did not encounter any hydrocarbons. Based on the 2D seismic data, the resource accounting of the hydrocarbons in place in the entire Block indicates highly risked recoverable reserves. Various reports are available and the license area is approximately 1,026 sq km.

Some of the additional reports mentioned and available for the various blocks include geochemical and palynological reports, field mapping reports, borehole seismic reports, geological end of well reports, mudlogging reports, and well completion reports, among others.

Award Process

Once government has evaluated the submissions under the RFQ, the qualifying firms will then be issued a detailed request for bids which will be evaluated by the Government. The companies submitting the best evaluated bids for each of the blocks will proceed to negotiations with Government prior to signing production sharing agreements. The licensing round is expected to be concluded with the award of Petroleum Exploration Licenses to successful firms.

Source: Petroleum E&P Department, Ministry of Energy and Mineral Development, Uganda

Caroil 2 rig during drilling of Jobi East 7A well in Nwoya District

The award of licenses will be guided by the Petroleum (Exploration, Development and Production) Act 2013 and the National Oil and Gas Policy for Uganda (2008). It follows the first license round which was conducted in 2016 and resulted in the award of three licenses; two licenses (Ngassa shallow play and Ngassa Deep play) were awarded to Oranto Petroleum Ltd. and one license (Kanywataba block) was awarded to Armour Energy Ltd.

Details on the licensing round are scheduled to be presented at upcoming conferences, including Africa Oil & Power being held in Cape Town during October, as well as at Africa Oil Week in November, also in Cape Town. Roadshows have also been scheduled for Houston, London, and Dubai for investors to learn more about the available license areas. The first of these three road shows will be held in London at St. Ermin's Hotel on October 14; Houston's Marriott West Loop by the Galleria will play host to the second road show on October 17, while the final road show on October 22 will be held in Dubai at the Fairmont. Alternately, more information on the second licensing round can be found at *www.petroleum.go.ug* or by contacting the Commissioner's office at *pepdebb@petroleum.go.ug or licensing@petroleum.go.ug.*

The five blocks are available to potential applicants after going through the prequalification stage successfully. Entry into the prequalification stage is subject to prior payment of a non-refundable application fee of $20,000. Upon the payment, the RfQ document can then be taken at the Petroleum Exploration, Development and Production Department in Entebbe or delivered through an email by the Manager, Second Licensing Round. The payment of the Application fee shall be made to the following bank account:

ACTIVITY	DATE
a. Closing date for receipt of Applications for Qualification	22 November 2019
b. Evaluation of Expressions Applications for Qualification	25 November – 16 December 2019
c. Display of Qualified Applicants	19 - 20 December 2019
d. Issue of Request for Proposal/ Bidding Document to Qualified Applicants	6 - 10 January 2020

Account Name: Uganda Petroleum Fund
Bank Name: Bank of Uganda
Account Title: Uganda Petroleum Fund – USD
Account No: 003300328400010
Swift Code: UGBAUGKA

Sealed applications for qualifications must be delivered to the address below at or before November 22, 2019 at 10:00 am local time to:

The Permanent Secretary,
Ministry of Energy and Mineral Development

By Hugo Moreira
Miranda & Associados

Greater Tortue / Ahmeyin LNG Project

A GAME CHANGER FOR SENEGAL AND MAURITANIA

The International Energy Agency estimates that, by 2040, Africa could overtake Russia as a global gas supplier – and clearly Senegal and Mauritania will have a say in this.

Straddling across the maritime border of these two West African nations, more than 2,000 meters below the sea surface, there lies the Greater Tortue play, which is estimated to contain 25Tcf of recoverable gas, 15 Tcf of which lies in the Tortue / Ahmeyin fields, and will feed a world-scale 10 Mtpa LNG project that is on track to deliver first gas in H1 2022.

The Greater Tortue / Ahmeyin (GTA) project will produce gas from a deepwater subsea system, via a FPSO, and the produced gas will be processed to separate the liquids and transported onto a breakwater-protected FLNG facility at a nearshore hub located on the Mauritania and Senegal maritime border. The FLNG facility is expected to deliver an average of approximately 2.5 million Mtpa during phase 1 of the GTA project. The project will provide LNG for global export, as well as make gas available for domestic use in both Senegal and Mauritania.

The joint development of these game-changing resources requires strong cooperation between the governments of Senegal and Mauritania, and in recent times that is exactly what we have been witnessing. Having ironed out their differences, largely thanks to the efforts of Presidents Macky Sall and (then-incumbent) Mohamed Ould Abdel Aziz, Senegal and Mauritania signed on February 9, 2018 an Inter-States Cooperation Agreement on the development of the GTA fields, which sets out the regulatory framework applicable to the operations, which are to be conducted and financed on a 50/50 basis, with the resources also being shared in that proportion – at least during the first five years as from commencement of production, at which point a redetermination of the apportionment factor is to be made.

Further to and in tandem with the Inter-States Cooperation Agreement, Senegal and Mauritania signed on December 21, 2018 an Additional Act to said Agreement, defining the tax and customs framework applicable to the subcontractors involved in the GTA Project. It was following this development that British major BP and American junior Kosmos Energy made their Final Investment Decision.

Following, we take a brief look at some of the most relevant features of these instruments. For the preparation, the two West African nations retained the assistance of international experts so as to ensure that they were aligned with international practice.

The Inter-States Cooperation Agreement:

- Is aimed at an efficient development of the GTA fields (based on economies of scale, the mutualization of expenses, and the creation of synergies), to avoid the drilling of unnecessary wells and the construction of unnecessary facilities, and to ensure an equitable sharing of the investment expenditure and of the resources;

- Calls for the negotiation and execution of a unitization agreement between the contractors (i.e. the two NOCs, BP and Kosmos), which is to be approved by both States;

- Provides that, temporarily, production will be shared on an equal basis, the same applying to the related exploration, development, production and abandonment costs (with the expenditure made prior to the unitization qualifying as expenditure relating to the unitized area);

- Foresees that the first redetermination of the apportionment factor may only take place after five years as from commencement of production (and thereafter every five years, or upon demonstration, on the basis of new material data, that the then current apportionment does not reflect the actual geological distribution of the resources);

- Provides that both States shall assist the contractors in obtaining the financing required, including by issuing comfort letters and other assurances;

- Imposes local market supply requirements on the contractors, in line with their respective petroleum contracts, with the quantities of gas to be made available being defined in the GTA fields' development plan;

- Calls for the execution of an Additional Act to define the tax and customs framework applicable to the subcontractors, service providers and suppliers involved in the development and exploitation of the GTA fields;

- Reiterates the local content requirements, obligations and commitments to which the contractors are subject, under the laws of Senegal and Mauritania and their respective petroleum contracts, in terms of the priority in the recruitment (and training) of the staff and in the procurement of goods and services required for the operations that is to be afforded to Senegalese and Mauritanian individuals and companies;

- Entrusts the States with ensuring that the contractors set up a joint escrow account, into which the funds required for the abandonment and reclamation of the GTA fields are to be deposited as from the first year of production; and

- Institutes a Joint Advisory Committee, comprising three representatives from each State, charged with facilitating the implementation and monitoring of the Inter-States Cooperation Agreement.

Greater Tortue Ahmeyim LNG Development

Source: BP

In turn, the Additional Act:

- Sets out the tax and customs framework applicable to the subcontractors, service providers and suppliers involved in the development and exploitation of the GTA fields, which shall be in place and apply throughout the duration of phase 1 of the project;

- Is based on three fundamental principles: (i) harmonization of the tax provisions of the two States, (ii) equitable sharing of the tax and customs revenues, and (iii) simplification of the formalities to which the subcontractors are subject, by means of the creation of joint entities regrouping the tax administrations of the two States;

- Defines the concepts of resident and non-resident subcontractors (a distinction in connection with which the concept of permanent establishment is paramount), clarifying that the affiliates of the contractors do not qualify as subcontractors for the purposes of the Additional Act;

- Provides for a significant number of exemptions and other benefits, from VAT to turnover tax, from customs duties on the importation of materials, machinery, equipment, vessels, platforms and other items to investment income tax, from charges on financial and banking transactions to property tax;

- Creates an annual tax on profits (which replaces the equivalent taxes otherwise payable in Senegal and Mauritania), subject to either an actual profits regime or to a deemed profits regime; the tax rate is 25%, and in the case of deemed profits regime, it applies (by withholding) to a deemed profit corresponding to 16% of the turnover. For non-resident subcontractors, this withholding shall only apply to the provision of services;

- Institutes an Inter-States Tax Committee and a Joint Agency, the latter being entrusted with the management, assessment, monitoring and collection of the applicable taxes, duties and charges, and contains significantly detailed provisions on its inspection duties and powers; and

- Calls for the enactment of regulations, jointly by the Senegalese and Mauritanian Ministers of Finance, to further detail the terms of implementation of certain requirements and obligations imposed by the Additional Act (such as the preparation of transfer pricing documentation files), and the composition, organization, operation and powers of the Inter-States Tax Committee and the Joint Agency created thereby.

While the Inter-States Cooperation Agreement is more directly aimed at the Senegalese and Mauritanian States themselves, at their respective NOCs and at the private members of the GTA contractors, the Additional Act is specifically and expressly applicable to those already involved, or contemplating being involved, in the project – be it as subcontractors, service providers and/or suppliers. It is also critical to bear in mind that the legal and operational frameworks instituted by these two project-specific instruments do not supersede, rather they supplement, the standards and requirements set forth in the otherwise applicable laws and regulations of Senegal and Mauritania – in conjunction with which they will have to be interpreted and enforced, an exercise we anticipate that at times may prove challenging.

But overcoming challenges is something that Senegal and Mauritania are familiar with. Simultaneously, both countries are aware of what the success of the GTA project could mean to them – conservative estimates place each State's revenues in the region of $500 million per year. For now, these two West African nations have been demonstrating that they can work together inventively to achieve common goals, and are making every effort to showcase the GTA Project as an example of union, peace and development, which is expected to fast-track them in their path to joining the regional league of Oil &Gas producers.

**Hugo Moreira is a Managing Associate at Miranda & Associados and has 15+ years of experience in oil & gas matters in lusophone and francophone Africa, including Senegal (he is assistant coordinator of the respective Jurisdiction Group) and Mauritania. Hugo may be contacted at Hugo.Moreira@mirandalawfirm.com.*

Engen takes a Stand Against Artisan Shortages and Unemployment

In a move to help address artisan skills shortages in the wider petrochemical industry as well as high unemployment levels in the South Durban community in South Africa, Engen has backed a two-year learnership program that will provide full funding for 20 learners.

The program, which provides a 100% fee-free college service, targets persons from underprivileged backgrounds who have struggled to access mainstream education and training.

Successful applicants attend satellite classes run by Jirah Academy at Fairvale High School, which is located across the road from Engen's refinery in South Durban.

The Jirah Academy was established in 2014 and functions as a community-based satellite campus catering specifically to previously disadvantaged individuals within South Durban and extended communities of the greater Durban area.

"The Academy is entirely donor and management funded and operates as a fees-free college satellite campus that provides engineering studies to learners who are suited to become artisans and technicians, or who want to pursue careers in engineering," says Unathi Magida, Engen's head of Transformation and Stakeholder Engagement.

Courses offered include a Bridging Course (focusing on maths and science education) and mainstream N1/N2/N3 Engineering Studies.

The Jirah Academy also provides a second chance to previously disadvantaged individuals who have no access to further education or training, to pursue a formal qualification and boost their chances of employment.

Source: Engen

Pictured: (L-R) Tre Hulley, Silungile Mqadi and Marcia Marais were the first Jirah Academy graduates to secure Instrumentation Mechanics apprenticeships at the Engen Refinery, with the head of training Rob Gasken.

Adds Magida: "We have also partnered with industry in the South Durban area who have agreed to provide apprenticeships to these learners once they have graduated or assist in helping them find employment."

Three graduates from last year's intake currently work at the Engen refinery.

"We are very proud to be part of this immensely rewarding program – which benefits the learner, the company and the country.

"When somebody succeeds because of a one-in-a-thousand chance that they grabbed with both hands, it gives a glimpse of the kind of resolve that will ultimately start to address the skills crisis and unemployment that is facing our country."

By Hugo Moreira
Miranda & Associados

NEW SENEGAL OIL & GAS LEGISLATION
Snapshot and Hot Topics

By all accounts, Senegal is among Africa's most stable countries. It has been so since its independence from France in 1960, with as little as three major political transitions (all of them peaceful). It has a dynamic and diversified economy, and annual economic growth has been above 6% since 2015 – with projections putting it at around 7% in the coming years, just as in 2017 and 2018. The country's democratic institutions are strong, and Senegalese civil society is not only politically engaged but also eco-conscious.

Senegal has been on the radar of oil & gas companies for more than 60 years, but only recently has the full extent of its oil and gas reserves emerged. Further to the huge discoveries made in 2014-2016, gas production is on track to commence in 2021 and oil is expected to start to be produced in 2022. But the great expectations in the government and among the people that this could be an overnight bonanza are being prudently managed – including by the President of the Republic, a geological engineer who knows and understands the industry, and who worked many years for Petrosen (the Senegalese NOC, of which he was CEO 2000-2001), and previously served as Minister of Energy between 2001 and 2003.

A word of caution for the private stakeholders as well: the days of attracting investment at any price, if they ever existed in Senegal, are over. The country is taking it slow and is in it for the long run, keen to avoid the Dutch disease and to give transparency a better chance to take hold – while ensuring a more equitable distribution of the benefits, safeguarding the environment, and creating opportunities for the local population and businesses.

> "A word of caution for the private stakeholders as well: the days of attracting investment at any price, if they ever existed in Senegal, are over. The country is taking it slow and is in it for the long run…"

The cornerstone(s) of the legal backdrop of these exciting times in Senegal are the recently-enacted Petroleum Code and the related industry-specific Local Content Law. Whereas the former was long awaited and replaces its 1998 predecessor, the latter is a fresh statute instituting and imposing detailed, stringent and perhaps overly ambitious local content requirements, a critical topic nowadays on which the now-repealed 1998 Petroleum Code and the petroleum contracts entered into thereunder were largely silent.

Clearly, a closer look at the most relevant features of this important legislation is in order.

Petroleum Code

- Unlike what we see happening in other jurisdictions, the Senegalese NOC is not the exclusive concessionaire of petroleum mining rights, and these rights may be granted to national or foreign legal persons possessing the required technical and financial capabilities – in the form of a prospecting authorization or a mining title (i.e. an exploration authorization, a provisional exploitation authorization or an exclusive exploitation authorization). Exploitation authorizations may only be granted to legal persons organized under Senegalese law;

- The State reserves the right to participate through the NOC in the operations, by partnering up with the holders of a prospecting authorization or of the petroleum contract (a risk service agreement, or more typically a PSC) pertaining to the relevant mining title. PSCs are negotiated by the Minister of Hydrocarbons, approved by Decree and published in the Official Gazette;

- The NOC is reserved a minimum carried interest of 10% during the exploration and development phases, and has an option to increase it up to 20% in the development and exploitation phases (without this additional interest being carried);

- Petroleum blocks are awarded by competitive tendering procedure or direct consultation, in terms to be defined in implementing regulations;

- The minimum work program pertaining to an exploration authorization (which is granted for an initial period of up to 4 years, and may be renewed 2 times for up to 3 years each time) is defined in the PSC, and these commitments must be covered by a bank guarantee from an internationally reputed bank;

- Any discovery of hydrocarbons is to be notified to the Minister of Hydrocarbons within 48 hours. If the discovery indicates the existence of a commercially exploitable deposit, appraisal works shall be carried out and the commercial nature of the discovery

established – upon which, an exclusive exploitation authorization is applied for (the application must include a development plan, the template of which will be defined in a future statute). In turn, if the deposit is not commercially exploitable immediately but could so become in the future, a retention period of up to 2 years for liquid hydrocarbons and up to 5 years for gaseous hydrocarbons may be granted;

- The granting of an exclusive exploitation authorization (for a maximum initial period of 20 years, renewable once only for an additional period of up to 10 years) entails the cancellation of the exploration authorization within the relevant discovery area, but the latter remains in force until its expiry outside of said area;

- Production is shared between the State and the contractor as provided in the PSC. The annual cost oil cap is 55% (onshore operations), 60% (shallow offshore), 65% (deep offshore), and 70% (ultra-deep offshore). The State's minimum share of the profit oil is 40%, and it varies according to an "R" factor sliding scale;

- The rates of the royalty on the net production of liquid hydrocarbons are 10% (onshore), 9% (shallow offshore), 8% (deep offshore), and 7% (ultra-deep offshore), and for gaseous hydrocarbons (regardless of where they are exploited) it is 6%. This royalty is payable in kind or in cash at the State's discretion;

- Production shall be allocated on a priority basis to the satisfaction of the country's domestic consumption requirements, with the transfer price reflecting the international market price. Upon these requirements being satisfied, production may be freely exported subject to a custom duty;

- Corporate income and the assignment of interests are taxed under the General Tax Code. An annual surface fee is also payable during the exploration phase;

- During exploration, appraisal and development, certain materials, supplies, machinery and equipment, spare parts and consumables not produced or manufactured in Senegal are exempt from customs duties and charges, except the Statistical Fee and the Community Contributions. Both the contract holders and their subcontractors benefit from this exemption, and in the case of temporary importation for subsequent re-exportation, the above items are declared under a total suspension of importation duties and charges;

- Mining titles are assignable and transferable, in certain cases being subject to the prior approval of the Minister of Hydrocarbons. The same applies to certain transfers of shares in a member of the contractor – or in a company directly or indirectly controlling a member of the contractor – if it results in a change of control. Any such change of control is to be notified to the Minister of Hydrocarbons;

- The FX regulations in force in Senegal (in particular, those enacted by the UEMOA) apply to the operations carried out under the Petroleum Code, with both the contract holders and their subcontractors benefitting from (i) the right to take out abroad the loans required for their in-country activities, (ii) the free movement of the funds pertaining to the payments made within the scope of their current operations, (iii) the right to transfer the amounts required to settle contractual debts in connection with their operations in Senegal, and (iv) the right to transfer the proceeds (e.g. interest and dividends) of the capital invested, subject to the prior approval of the Minister of Hydrocarbons and the Minister of Finance. The amounts of the loans and the proceeds of the export sales may not, however, be kept abroad and must be repatriated;

- Whereas infringements of the applicable laws and regulations are subject to the jurisdiction of the Senegalese courts, disputes arising out of a petroleum contract may be settled through consultations, good offices, mediation, conciliation, arbitration or any other mechanism, jurisdictional or otherwise, agreed upon between the parties;

- Petroleum contracts may also include a stabilization clause, but changes in law in terms of employment, personal safety, control of the petroleum operations or environmental protection are excluded there from;

- Pre-existing contracts remain valid and preserve their legal framework, with the rights relating to the renewal of the mining titles and the granting of exploitation authorizations being grandfathered.

Local Content Law

- It applies to any contractor, subcontractor, service provider and supplier engaging in oil & gas-related activities;

- This Law institutes the National Local Content Monitoring Committee (CNSCL), whose terms of organization and operation will be later defined in a specific statute. This is the entity to which local content plans are to be submitted;

- These plans must describe the company's activities, detail the goods, services and competencies required for the carrying-out thereof, and address the promotion of Senegalese capital and companies, and of employment and training, the promotion and use of local goods and services, the transfer of technology and know-how, and the promotion of research and development;

- Among others, the local content plans are to specify the measures taken to allow national employees to acquire the qualifications and expertise required to progressively replace the foreign staff, and describe the progress made in terms of the use of the local workforce, as well as the job-creation and capacity-building initiatives carried out;

- On condition that they have the required competencies, Senegalese citizens shall be afforded priority in hiring, with non-qualified jobs being primarily offered to the residents of the local communities;

- The goods and services relating to oil & gas activities shall be supplied and provided by Senegalese companies, although foreign suppliers and service providers may be retained when no Senegalese companies are capable of supplying and providing them under comparable conditions;

- Competitive tendering procedures must be launched for the procurement of goods and services, and the CNSCL's prior approval must be obtained for any goods and services to be procured other than through a competitive tendering procedure. These procedures are to be launched through an electronic platform, whose organization and operation shall be later defined in a specific statute;

- Also to be governed in a specific statute is the classification of the oil & gas activities as following under the exclusive, mixed, and non-exclusive regimes: the first relates to the activities in respect of which the State reserves the right to grant exclusive authorizations (presumably to Senegalese companies); the second to those requiring an association between a foreign company and a local company; and the third groups the activities with a low local content potential;

- Insurance and reinsurance policies and financial services must be taken out with and procured from insurance companies and financial institutions licensed and established in Senegal, to the extent of their capabilities;

- The Local Content Law also instituted the Local Content Development Support Fund, which is tasked with implementing the local content strategy. Just as the CNSCL's terms of organization and operation, the terms of financing and operation of this Fund will also be later defined in a specific statute;

- Failure to comply with the local content obligations may trigger the termination of the petroleum contract, fines, the non-recovery of the costs (for contractors), and the exclusion from the procurement platform and the prohibition to enter into oil & gas-related contracts (for subcontractors, service providers and suppliers);

- This industry-specific Local Content Law is immediately applicable, but as far as existing contracts are concerned, only to the extent it does not compromise the stabilization provisions thereof. A maximum 12-month grace period for compliance may be afforded by the CNSCL in certain cases.

Senegal overcame the first challenge to become a serious player in the African oil & gas industry: it discovered game-changing resources, is prudently managing expectations, and enacted a fresh legal framework with which it believes a fair balance will be struck between the attractiveness and competitiveness of its oil & gas sector in the eyes of foreign investors, and the protection and advancement of the Senegalese people's interests in terms of economic and social development. But in the path to joining the regional league of oil and gas producers, there is still a lot of ground to cover – and it involves building an industry almost from scratch, including in terms of the Government's capacity to handle the growing volume of regulatory work.

One of the key principles expressly provided for in the new industry-specific Local Content Law is realism – and this might well be a word to keep in mind, irrespective of where we are, how we look to the Senegalese oil & gas sector, and what hopes we have to participate in and contribute to its development and consolidation.

There are reasons for concern, in particular owing to the quite significant number of (new) policies, standards and requirements whose detailed regulation was left for subsequent statutes – from the procedures for the award of blocks to the organization and operation of the CNSCL, from the electronic platform for the procurement of goods and services to the classification of the oil & gas activities into the exclusive, mixed and non-exclusive regimes, from the participation of Senegalese investors in the share capital of the subcontractors to the template of the development plans.

But there are also reasons for optimism. The steps taken thus far seem to have been all in the right direction – the slow approach to the development and monetization of the assets, the creation in late 2017 of the National Oil and Gas Institute (an industry-sponsored academy for training, capacity-building and certification in the different fields of the industry, directed to both public officers and private technicians), the focus on transparency and on environmental protection, the commitment to devote a significant portion of the expected revenues to longer-term investment, and of course the revamping and updating of the applicable legal framework.

Senegal has a lot to learn from more mature oil-producing countries: bad (but also good) examples are everywhere – in the African continent and beyond. The country has been patiently and thoroughly case-studying and benchmarking these examples, and until now it seems to have done all the right things to follow the good examples and to avoid the bad. If it continues doing so, it is unquestionable that Senegal has all it takes to succeed in creating a thriving and inclusive oil and gas industry and to become itself an example to study and follow in years to come.

About the Author
Hugo Moreira is a Managing Associate at Miranda & Associados, and has 15+ years of experience in oil & gas matters in lusophone and francophone Africa, including Senegal (he is assistant coordinator of the Jurisdiction Group). Hugo may be contacted at Hugo.Moreira@mirandalawfirm.com.

By Jennifer Nickle, Deputy Editor

UN photo/Cia Pak

Matamela Cyril

President:
Matamela Cyril Ramphosa (since February 2018)
Independence:
May 1910 (UK)
Population: 57.73 million(2018)
Real GDP Growth Rate:
-0.7% (Sept. 2018 est.)
Per Capita GDP: $13,661 (2018 est.)
Debt – external: $176 billion (Q1 2019 est.)
Industrial Production Growth Rate:
0.5% (2017 est.)
Minister of Mineral Energy Resources:
Gwede Mantashe (since February 2018)

South Africa

Politics & Economy

South Africa was one of the continent's first colonized nations to 'officially' receive its independence from the yoke of colonialism. Unfortunately, this did not mean native South Africans were totally free and the transition to a truly free nation took decades to achieve. To say the country experienced racial strife from the outset of independence would be putting it mildly.

Europeans began migrating in the mid-1600s. Racial conflict between the white minority and the black majority led to apartheid being instituted in 1948 by the National Party and an enactment of apartheid laws made racial discrimination the main institution in the country. This gave birth to some of Africa's most known activists of the 20th century like Bishop Desmond Tutu and Nelson Mandela. It was these men, and many others, who led a bitter struggle to end apartheid. The apartheid laws began to be repealed or abolished in 1990, bringing about the inauguration of Nelson Mandela as South Africa's first black president in 1994. Today the country's politics are dominated by the African National Congress (ANC). Mandela was followed by fellow ANC party member Thabo Mbeki as president. Mbeki was one of the executive faces of the South African government from 1994 with his two terms as president lasting from 1999 to 2008.

Mbeki was followed by his former vice president Jacob Zuma who succeeded him in the presidential office, despite charges of corruption against him and his administration, as well as his personal life making the news on a regular basis. In August 2017 the South African president narrowly survived his sixth vote of no confidence from the country's parliament, although his luck eventually ran out. In February 2018 Zuma finally resigned after defying orders from the ANC to leave office on the eve of another no-confidence vote in parliament. Cyril Ramaphosa was elected by parliament as the next president and remains in office today.

Ramaphosa's road so far has not been an easy one as he inherited a struggling economy, a divided party, and endemic corruption. The May 2019 general elections gave the ANC and Ramaphosa additional time to tackle corruption and boost South Africa's economy. As long as the public does not become disillusioned as they were with his predecessor, Ramaphosa does have the opportunity to make a difference. The high unemployment rate is at the top of the agenda along with reforming the ANC as voters have become increasingly disenchanted with the status quo, as voter turn-out has shown in recent elections.

President Ramaphosa has put in place a number of stimulus measures including an extension of the employee tax incentive through 2029, an allocation of R600 million to support rural entrepreneurs, and another R600 million allocated to the clothing and textile sectors.

He also has cited changes made to visa regulations for tourists and highly skilled professionals, and the creation of industrial parks as evidence of his government's efforts to secure economic growth and deal with unemployment.

One of the newest, and most pressing challenges facing the nation is xenophobia. Over August and into September, xenophobic attacks on foreign nationals in the country has risen to very concerning levels. By mid-September at least a dozen people had been killed and hundreds more forced to flee their homes. Many of the foreign nationals (and immigrants) being targeted are from Mozambique and Nigeria. These events have led to strained relations with South Africa, but leadership is working to keep tensions to a minimum. The attacks are mainly attributed to the high unemployment rate with workers feeling that foreigners are taking hard to come by jobs that they seek.

UPSTREAM

It has been an exciting year for South Africa's petroleum sector. In January, French major Total spud the offshore Brulpadda-1AX re-entry well on Block 11B/12B. This block is located in the Outeniqua Basin approximately 175 km off the southern coast of South Africa. Total's first attempt to drill the Brulpadda Prospect in 2014 was suspended prior to reaching target due to difficulties experienced by the drilling rig in the harsh deepwater environment. A few years later, Total contracted the Odfjell *Deepsea Stavanger* semi-submersible rig to drill the Brulpadda-1AX re-entry well in December 2018.

The well was drilled in 1,432 meters of water to a total depth of 3,420 meters subsea. The Brulpadda-1AX well encountered 57 meters of net gas condensate pay in Lower Cretaceous reservoirs. Following the success of the main objective, the well was deepened to a final depth of 3,633 meters and was also successful in the Brulpadda-deep prospect.

Total and its partners plan to acquire 3D seismic this year, followed by a multi-well exploration program on this license beginning with the Luiperd Prospect in Q1-2020. A contract for the program was secured in July with Odfjell Drilling for the continued use of the *Deepsea Stavanger* semisubmersible rig for this program.

Total holds a 45%-operated stake in the license along with partners Qatar Petroleum with 25%, Canadian Natural Resources has 20% and Africa Energy Corp., through subsidiary Mainstreet 1549 Proprietary Ltd., holds the remaining 10%.

South Africa's upstream oil and gas sector is overseen by the state-owned company, PetroSA (Petroleum Oil and Gas Corp. of South Africa). The state-run firm oversees all upstream oil and gas assets in the country and holds stakes in upstream assets around the continent.

Source: Africa Energy Corp

Deepsea Stavanger 2

PetroSA itself holds several domestic assets including Blocks 9 and 11a of the south coast. The company also holds participating stakes in many blocks with the various operators in the country

New Age Energy (operator) and Tower Resources areactive in South Africa and hold a license just adjacent to Total's Block 11B/12B. The Algoa-Gamtos license contains the southern deepwater basin margin of the Outeniqua Basin that was targeted by Total's Brulpadda well and is approximately 150 kms along strike to the east from the Brulpadda discovery. Importantly, the Brulpadda well has successfully tested the Lower Cretaceous turbidite fan play of the Outeniqua basin slope, which is interpreted to extend along strike into the southern part of the Algoa-Gamtoos block, in which the operator, New Age, has identified on 2D seismic as a substantial prospect. New Age assessed the analogue prospect potential on the Algoa-Gamtoos block at 364 million boe on an unrisked basis from 2D reprocessed data, which is an increase on its previous 2018 estimate.

Source: Africa Oil Corp

This past May, Azinam received approval from the South African government and completed the transaction to acquire an operating interest in Block 3B/4B in the Orange Basin. The operating interest was acquired from Ricocure. Under the transaction, Azinam became operator with a 40% participating interest, with Riocure retaining a 60% participating interest. This breakdown was short lived as in July, Africa Oil Corp. would acquire a 20% interest from Ricocure.

The 3B/4B block is located in the Deep Western Mid-Orange Basin, extending from about 120 to 250 kms offshore. The block covers an area of 17,581 sq km and lies in water depths ranging from 300 to 2,500 meters. Historical drilling on the shelf and modern 3D seismic surveys of the Orange Basin indicate the potential for both regionally significant shallow-water oil and gas projects and world-class deepwater discoveries.

Block 3B/4B contains play types and prospects similar to those being targeted by majors in adjacent blocks. During the Initial License Period of three years the partners will carry out a regional subsurface review of existing seismic, geological and engineering data and may reprocess parts of the existing 3D data in order to high-grade the exploration prospects on the block.

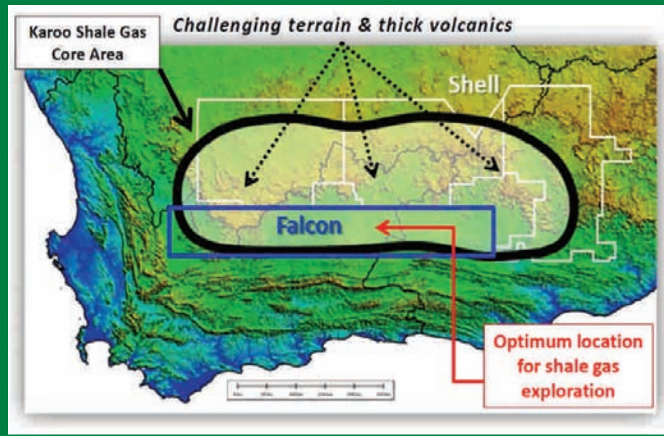
In May, Shell applied to take a stake in a license owned by OK Energy, located in South Africa's west coast deep offshore. The company also looked to gain a 40% interest in deep-water blocks 5, 6 and 7 in the Atlantic off Cape Town from Anadarko Petroleum Corp. prior to the US-independent's acquisition by Occidental Petroleum taking place.

Norway's Equinor, formerly Statoil, also holds a substantial position in South Africa's offshore acreage. In 2017 the company acquired a 90% interest and operatorship for the Exploration Right East Algoa. The license covers an area of approximately 9,300 sq km. It also holds equity stakes in Exploration Right 12/3/154 Tugela South, Transkei-Algoa and the Deepwater Durban exploration licenses, operated by US supermajor ExxonMobil.

South Africa has plenty of acreage under license, with the previous discussion only a sampling of operations in the country. Activity has been slow over the past few years, but with Total's Brulpadda discovery, activity may pick up now that it has been confirmed great potential lies in its offshore.

Unconventionals

Non-conventional resources such as coal-bed-methane (CBM) and shale oil and gas extraction hold plenty of potential to help fill South Africa's energy gap. However, when the government put a moratorium on shale exploration in response to some environmentalist concerns over negative impacts that fraccing could have on the delicate environment in the Karoo Basin, activity came to a grinding halt. The discussion has gone back and forth, but the end result has been a lack of enthusiasm by investors until the country makes a final and binding decision as to which direction it will take with its unconventional resources. Royal Dutch Shell, Falcon Oil and Gas and Bundu Gas & Oil, Kinetiko are among five companies who at one time were keen to pursue opportunities.



Source: Falcon Oil and Gas

Mozambique

Becoming a Major Natural Gas Player

When discoveries were made back in 2010 in the deep offshore of Mozambique's coast by Anadarko, the country's economic prospects for the future became brighter. This major discovery was followed by ENI's announcement in October 2011 of another massive natural gas deposit. Fast forward to the close of 2019, and the natural gas bounty has amassed to volumes which will bring in significant revenue to the State, and hopefully trickle down to its people.

Since the initial discoveries, the make up of the parties on each license – Area 1 and Area 4 – has transformed quite a bit to where now both are heavily controlled by oil majors and large independents. Both Area 1 and Area 4 reached key milestones this year with these oil majors now set to carry out development to production.

Area 1

After a long time in waiting, in June, US independent Anadarko Petroleum (now Occidental) announced that it had formally sanctioned its Mozambican liquefied natural gas project, Mozambique LNG (MLNG). The project is to be the country's first onshore LNG facility. The natural gas discoveries made on the Golfinho/Atum field, in Offshore Area 1, will provide the feedstock. MLNG will initially consist of two LNG trains with a total nameplate capacity of 12.88 million tons per annum (mmtpa). The project, estimated to cost over $20 billion, will be the largest sanctioned petroleum investment in sub-Saharan history.

According to MLNG, so far, approximately 75 Tcf of recoverable natural gas has been discovered in the Offshore Area 1– the equivalent of a 12-billion-barrel oil field. The results to date of the drillstem testing (DST) program in the Prosperidade and Golfinho/Atum complexes demonstrate the outstanding flow characteristics of the reservoirs. Each flow test successfully flowed at facility-constrained rates of 90 to 100 million cubic feet per day (Mmcf/d), which supports well designs of 100 to 200 Mmcf/d.

Since signing off on the project, Anadarko was acquired by Occidental Petroleum who subsequently signed a binding agreement to sell Anadarko's Mozambican assets, along with those held in Algeria, Ghana, and South Africa to French supermajor Total S.A. for $8.8 billion. The sale was contingent upon Occidental entering into and completing its proposal to acquire Anadarko which was realized in August.

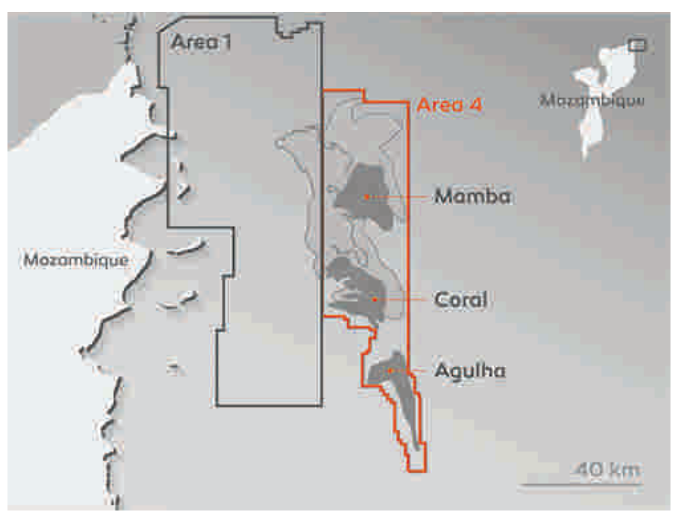
On September 30, Total announced the closing of the acquisition of Anadarko's 26.5%-operated interest in the Mozambique LNG project for a purchase price of $ 3.9 billion. Commenting on the closing, Patrick Pouyanné, Chairman & CEO of Total said "Mozambique LNG is a one of a kind asset that perfectly fits with our strategy and expands our position in liquefied natural gas."

The project got underway on August 5 when President Filipe Nyusi laid the foundation stone in Palma, marking the official start of construction. President Nyusi stated at the ceremony, "With this project, Mozambique will change, Palma will change…" The project is expected to come into production by 2024.

Area 4

Mozambique's other prolific LNG development, Offshore Area 4, is operated by Mozambique Rovuma Venture S.p.A., a joint venture between ENI, ExxonMobil, and CNPC, holds a 70 percent interest in the Area 4 exploration and production concession contract. Galp, KOGAS and Empresa Nacional de Hidrocarbonetos E.P. each hold a 10 percent interest.

Area 4 holds an estimated 85 Tcf of gas in place. ExxonMobil will lead the construction and operation of all future natural gas liquefaction and related facilities, while ENI will continue to lead the Coral Floating LNG (FLNG) project and all upstream operations. ExxonMobil and partners are looking toward an optimal full field development via these



Source: Galp


AFRICA
OIL & POWER
2019 Events Calendar
CAPE TOWN
OCT. 9-11
AFRICA
OIL & POWER
2019
SOUTH AFRICA
JUBA
OCT. 29-30
SOUTH SUDAN
OIL & POWER
SOUTH SUDAN
MALABO
NOV. 26-29
5TH
GECF SUMMIT
EQUATORIAL GUINEA
BOOK ONLINE AND FIND OUT MORE AT WWW.AFRICAOILANDPOWER.COM

multiple LNG trains and Coral South FLNG for the development and commercialization of 21.7 Tcf of high-quality gas.

Source: ENI

Coral Sul rendering

The Coral South FLNG project was launched by ENI in 2017. The Coral South project is the first development launched to monetize the considerable gas resources discovered on Area 4. In July of this year, the installation works on the hull of the *Coral Sul* FLNG vessel got underway. The hull is expected to be launched in 2020, in line with the planned production startup of the Coral South Project in 2022. The *Coral Sul* FLNG facility will have a gas liquefaction capacity of 3.4 million tons per year when completed and will be the first FLNG vessel ever to be deployed in the deep waters offshore Africa.

Drilling and completion activities for the six subsea wells that will feed the FLNG vessel were slated to begin in September. The wells will have an average depth of approximately 3,000 meters and will be drilled in about 2,000 meters of water depth. The activities, carried out by the *Saipem 12000* drilling rig, are expected to be complete by the end of 2020.

This past May, the Mozambique Rovuma Venture said that the government of Mozambique had approved its development plan for the Rovuma LNG project, which will produce, liquefy and market natural gas from three reservoirs of the Mamba complex located in the Area 4 block in the Rovuma Basin, two of which straddle the boundary with neighboring Area 1.

“The development plan approval marks another significant step toward a final investment decision later this year,” said Liam Mallon, president of ExxonMobil Upstream Oil & Gas Company. “We will continue to work with the government to maximize the long-term benefits this project will bring to the people of Mozambique.”

“This is the third development plan approved in this five-year period to enable the sustainable development of the huge natural gas reserves discovered in the Rovuma Basin and represents the Government’s commitment to ensure the implementation of projects that will drive the development of Mozambique,” said Ernesto Elias Max Tonela, Minister of Mineral Resources and Energy.

“We want Mozambican entrepreneurs and Mozambicans to be the main beneficiaries of the various business opportunities made available by the multinationals, because we believe that these companies should grow with the national businesses and with Mozambique,” Tonela added.

LNG Offtake

Ahead of final investment decisions on both projects, there has been no shortage of offtake agreements signed for the yet to be produced LNG. During 2019 alone, several agreements were signed.

Area 1 Sales

Shortly into 2019 a bevy of LNG offtakes deals were signed. In February, Tokyo Gas and Centrica agreed to jointly purchase 2.6 Mmtpa, delivered ex-ship from Mozambique LNG from the start-up of production until the early 2040s. Meanwhile, Shell International Trading Middle East Ltd. signed a SPA for 2 Mmtpa for a term of 13 years. Tohuku and Anadarko firmed up their 2017 Heads of Agreement with Tohoku pledging to buy a maximum of 0.28 Mmtpa for 15 years. Further, Bharat Petroleum Corp. Ltd committed to 1 Mmtpa for 15 years while EDF’s off-take agreement calls for the supply of 1.2 Mmtpa, also for 15 years.

The February deals were followed up in May when Anadarko signed an agreement to sell LNG to Jera and CPC Corporation. The sales and purchase agreement called for the delivery of 1.6 Mmtpa of LNG over a base term of 17 years. Earlier in the year, additional sales were made ahead of FID. A sales and Purchase Agreement (SPA) was also signed with CNOOC’s gas and power Singapore Trading and Marketing unit. This SPA is for 1.5 Mmtpa over a period of 13 years.

Area 4 Sales

The marketing effort for the LNG produced from the Rovuma LNG project is jointly led by ExxonMobil and ENI. Mozambique’s Area 4 co-venture participants announced in January that they had secured LNG offtake commitments from affiliated buyer entities of the partners. This, they said, was a key milestone, enabling the participants to rapidly move toward an FID in 2019 on the first phase of the Rovuma LNG project.

In May, ExxonMobil said that sales and purchase agreements for 100 percent of the LNG capacity for trains 1 and 2 had been submitted to the government of Mozambique for approval, which together will produce more than 15 million tons of LNG per year. No specific information on the buyers or volumes was provided.

Other Developments

Contract signings for the awards made in the 5th competitive Licensing Round in 2014 were finally signed after many delays during Q3 and Q4 2018.

ENI was awarded operatorship of Block A5-A, adjacent to block A5-B, with a 59.5% stake. Block A5-A is located in the deepwater Northern Zambezi Basin, 1,500 km northeast of the capital

Maputo. The block spans 5,133 sq km in water depths ranging from 300-1,800. Other partners are Sasol (25.5%) and ENH (15%).

An ExxonMobil-led consortium won the rights to explore and develop offshore blocks A5-B, Z5-C and Z5-D, located in the deep waters of Angoche and Zambezi Basins. Block A5-B is located about 1,300 kilometers northeast of Maputo, in a completely unexplored area off the city of Angoche. It has an area of 6,080 sq km, at a water depth of between 1,800 and 2,500 meters. Blocks Z5-C and Z5-D cover a total area of 10,205 sq kms, at a water depth between 500 and 2,100 meters, in a scarcely explored area facing the delta of the Zambezi River, about 800 kms to the north-east of Maputo.

Sasol was awarded two new licenses for gas exploration in Mozambique. The South African firm has been given the greenlight to explore on acreage covering more than 3,000 sq km in southern Mozambique. The company has also been awarded a block offshore the country in the Angoche Basin covering an area of about 5,100 sq km. Sasol holds 70% interest in the first block and 25.5% in the second. Delonex Energy and Statoil (now Equinor) were also awarded acreage in the 5th round, but subsequently withdrew because of the long delays.

This past August, Rosneft and the Instituto Nacional de Petróleo (INP) signed a Cooperation Agreement granting Rosneft the right to study available geological data on a number of onshore and offshore blocks in Mozambique in order to examine their potential and the opportunity to enter the projects on those blocks in the future.

On the regulatory end, Mozambique's government approved the creation of a new oil and mining authority in April – the Inspectorate-General of Mineral Resources and Energy. The new authority was created to guarantee "the permanent and efficient monitoring of activities in compliance with the law," according to the cabinet's spokesperson Ana Comoana. The Inspectorate-General of Mineral Resources and Energy is to have administrative and technical autonomy and focus on five issues: mining inspection, hydrocarbon and fuel, energy, internal audit and rescue.

ENGIE Acquires Mobisol, Becomes Market Leader African Off-Grid Solar

ENGIE has expanded its decentralized energy offering in Africa through the acquisition of Mobisol, a pioneer of off-grid solar solutions. Mobisol has operations in Tanzania, Rwanda, and Kenya and has installed more than 150,000 solar home systems, providing clean and reliable energy to over 750,000 people in sub-Saharan Africa. Founded in 2011, the company employs over 500 people as well as approximately 1,200 contractors.

Source: Engie

Mobisol off grid

With the acquisition of Mobisol, ENGIE will be offering solar home systems in three additional countries, complementing the six countries where it is already present with its solar home system company Fenix International. Mobisol's focus on productive use products, combined with Fenix's inclusive home solar power systems, will enable ENGIE to offer an unparalleled range of affordable energy products as well as extending its customer base from rural to urban areas. The closing of the acquisition of Mobisol will happen once all approvals of the relevant regulatory bodies are received.

ENGIE already has significant activities in off-grid electrification in Africa. With its subsidiary Fenix International, it provides access to energy and financial services via its solar home systems to over 500,000 customers, improving the quality of life for over 2.5 million people in Uganda, Zambia, Nigeria, Benin, Cote d'Ivoire and Mozambique. Additionally, with ENGIE PowerCorner, it supplies affordable electricity to rural populations through smart mini-grids powered by solar energy and battery storage. PowerCorner offers 24/7 energy services to households, local businesses and public services in villages across Tanzania and Zambia. All of these services are enabled by digital financial solutions such as mobile money and Pay As You Go technologies.

ContourGlobal Targets RE in Togo

ContourGlobal wants to boost power generation in Togo through the use of renewable energy according to the company's director general, Mawuèna Adjogah. "As far as we are concerned, we have the means and the expertise. What we are missing is only the conjunction of the will of all partners," said Adjogah.

ContourGlobal built and operates the Lomé combined-cycle gas plant with a capacity of 100 MW, nearly half of the national electricity capacity of 230 MW and is looking to add more to its portfolio.

Togo, which adopted in 2018 its law on renewable energies aims to produce 50% of its electricity, from these types of power plants, by 2030. To achieve this, it intends to establish 300 mini solar power plants, in the framework of public-private partnerships and to provide 550,000 households with solar domestic installations by 2030. ContourGlobal is ready to aid the government in meeting its targets.

G5 Sahel Heads of State to Support Desert-to-Power Initiative

G5 Sahel heads of state at a Summit in Ouagadougou, Burkina Faso, gave strong support to Desert-to-Power, an Africa Development Bank-led initiative. The summit, "Harnessing solar energy for the socio-economic development of the G5 Sahel countries" came on the heels of a high-level technical meeting attended by the region's energy ministers, and development partners including the World Bank, and regional institutions such as the West African Economic and Monetary Union and ECOWAS. Former British Prime Minister Tony Blair, Executive Chairman of the Tony Blair Institute for Global Change, also participated in the high-level meeting and endorsed the initiative.

The goal of Desert-to-Power is to propel the Sahelian economies to higher growth and prosperity. Adesina outlined the initiative's ambitions of providing 10,000 MW of solar-generated electricity to 250 million people across the Sahel. The Desert-to-Power initiative covers 11 countries: Burkina Faso, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Sudan, Djibouti, Senegal and Chad and is in line with the United Nations Sustainable Development Goals, the Paris Climate Agreement and the Renewable Energy Initiative for Africa.

Donor and development partners were asked to help mobilize $140 million for the initiative's project preparation phase. Five priority areas for the G5 Sahel include expanded utility-scale solar generation capacity; extending and strengthening power transmission networks; accelerating electrification through decentralized energy solutions; revitalizing national power utilities; and improving business climates for increased private sector investments.

Fenix International to Launch Off-Grid Solar in Mozambique

Fenix International, a next-generation energy company and subsidiary of ENGIE, opened its sixth market in Mozambique, where it expects to reach 200,000 households with clean energy and inclusive financial services within three years.

Source: Fenix Interntional

Launching sales in Mozambique is the latest step in Fenix's expansion. Headquartered in Kampala, the company has already connected 500,000 customers to solar power in Uganda, Zambia, Côte d'Ivoire, Benin, and Nigeria. Fenix has rapidly grown operations as a subsidiary of ENGIE, enabling the company to scale off-grid energy and financial services across new markets, with Mozambique the fourth new market opened within the past year.

By replacing fossil fuel-powered lanterns, solar home systems allow off-grid customers to illuminate their homes with clean LED lights, as well as charge phones and run radios, TVs, hair clippers and speakers. Fenix's latest product, Fenix Power, is a GSM-enabled power system that enables the company to determine product usage and potential technical issues remotely, improving the customer experience. Fenix is the first PAYGO solar company in Mozambique to use these Internet of Things (IoT) technologies to reduce costs and bring high-quality, affordable technology to rural, last-mile customers.

Fenix has partnered with Vodacom and Vodafone M-Pesa SA to tackle the challenges of distribution, connectivity and mobile payments that have left rural Mozambicans underserved by affordable energy products in the past.

Google to Become World's Largest Renewable Energy Purchaser

Google recently signed agreements for the construction of solar and wind power plants, with a total capacity of 1,600 MW. These plants will be located in the US, Chile and Europe.The power generated by the new plants will enable Google to increase its portfolio of renewable power plants to 5,500 MW, an increase of more than 40%. These new contracts also allow the organization to become the largest private purchaser of renewable electricity in the world.

"Once all these projects are completed, our carbon-free portfolio will produce as much electricity as a city like Washington DC or countries like Uruguay or Lithuania," said CEO Sundar Pichai in a statement, adding "Since 2017, we are the first company of our size to fully offset its annual electricity consumption with renewable energy."

PEG Africa Raises $5 Million from ElectriFI for West Africa Expansion

PEG Africa, a West Africa-based pay-as-you-go (PAYG) solar company, has raised $5 million from ElectriFI to continue rapid growth in existing markets.

PEG Africa is a leader in deploying and financing solar to households and SMEs in West Africa. Via its PAYG financing model, it enables customers to replace their perpetual spending on poor-quality polluting fuels such as kerosene and diesel with solar energy. PEG is currently serving 400,000 daily users in Ghana, Cote d'Ivoire and Senegal, and has recently expanded into solar water irrigation and bigger solar power systems.

Source: PEG Africa

The funding from ElectriFI is subordinated junior debt and will be used for growth in PEG's existing markets. ElectriFI, the Electrification Financing Initiative, is funded by the European Union and managed by the EDFI Management Company, established by 15 European Development Finance Institutions.

Windlab and Eurus Energy to go Hybrid in Kenya

Kenya has signed a MoU with energy developers Windlab and Eurus Energy to set up the first large-scale hybrid wind and solar power plant on the continent. The plant, which will have a capacity of 80 MW, will be located in the locality of Meru. It will operate with 20 wind turbines and 40,000 solar panels.

The project, estimated at $150 million, will generate enough electricity to power 200,000 households.

It will be developed as part of a partnership between Meru County Investment and Development Corporation (MCIDC) and Windlab East Africa, a local subsidiary set up by the developers. Construction is scheduled to begin in 2021.

Dual Listing for VAALCO

VAALCO Energy plans to seek a standard listing on the Main Market of the LSE. The listing will complement its existing listing on the NYSE, according to the company. The dual-listing will broaden the shareholder base and allow it to access future capital to support its growth strategy.

VAALCO expects the listing to occur by September 30 and shares will trade under the ticker symbol EGY, the same as on the NYSE. VAALCO's expected market capitalization on admission to the LSE will be around $100 million. VAALCO states it is in an enviable position for a company of its size in terms of its debt-free balance sheet and strong cash position. This allows it to self-fund an active work program that has recently commenced.

Weatherford Bankruptcy Moving Forward

Weatherford International saw the US Bankruptcy Court for the Southern District of Texas issue an order confirming the company's Second Amended Joint Prepackaged Plan of Reorganization of Weatherford International and its Affiliate Debtors under Chapter 11 of the US Bankruptcy Code. The company expects that the effective date of the Plan will occur before year-end.

The following is a summary of the material terms of the Plan. This summary highlights only certain substantive provisions of the Plan and is not intended to be a complete description of the Plan.

The Plan of Reorganization's treatment of claims includes; claims under the company's secured term loan facility and 364-day revolving credit facility were paid in full in cash from borrowings under a debtor-in-possession credit agreement (the 'DIP Facility') and claims under the unsecured revolving credit facility shall be paid in full in cash on the effective date.

In addition holders of Weatherford's existing senior unsecured notes shall receive their pro rata share of: (i) 99.0% of the newly issued common stock of the post-emergence company, subject to dilution on account of the equity issued pursuant to a management incentive plan and the New Common Stock issuable in respect of the Warrants (as defined below); and (ii) $500 million principal amount of new unsecured notes with a maturity of five years.

Miranda Wins International Law Firm of the Year

Miranda & Associados won the "International Law Firm or the Year" award in the 2019 African Legal Awards, organized by the prestigious *Legal Week* publication.

On the award, Diogo Xavier da Cunha, Managing Partner, stated: "We are deeply honored by this award, which motivates us to continue to walk the path of excellence and innovation that we have been following since our early years. The pride and responsibility with which we receive this award are all the greater when we were shortlisted alongside top-tier law firms.

"A very special word of gratitude to all our clients, some of which have been honoring us with their preference and trust for more than three decades. A huge thanks to our lawyers and staff for their relentless commitment and dedication. Our strength and ability to overcome the daily challenges we face are very much due to them. We must also pay tribute to all colleagues at the Miranda Alliance member firms, whose allegiance to our international project is another of the foundations which sustain and consolidate our reputation in the ever-more competitive and global legal services market."

JFO Enhancing ME Footprint

James Fisher Offshore (JFO) plans to deliver significant efficiencies across multiple regional

TPI Assesses O&G Firms' Carbon Performance

The Transition Pathway Initiative (TPI) recently released its latest assessment of companies in the energy sector, with its Management Quality and Carbon Performance of Energy Companies Report. The report is comprised of companies involved in coal mining, electricity, and oil and gas production. This years' assessment covers 135 companies, compared to 105 last year, and for the first time TPI has included a comprehensive assessment of the Carbon Performance of oil and gas producers.

TPI is a global initiative led by asset owners and supported by asset managers. The initiative is aimed at investors and free to use, it assesses companies' preparedness for the transition to a low-carbon economy, supporting efforts to address climate change. Launched January 2017, TPI has over 50 investors globally who have pledged their support. These investors represent roughly $15 trillion in combined assets under management and advice. TPI is used in a variety of ways by these investors including to inform their investment research, in engagement with companies, and in tracking managers' holdings.

The 135 companies covered by the assessment are graded by levels, with Level 0 being companies who are unaware of or not acknowledging climate change as a business issue. The highest level is Level 4 which is reserved for companies who set long-term quantitative targets for reducing Greenhouse Gas (GHG) emissions. Surprisingly enough, only 1 of the 52 oil and gas companies assessed by TPI was at Level 0 and there were 12 at Level 4.

The majority of oil and gas companies assessed fell in the Level 2 and Level 3 range, 18 and 14 respectively. Level 2 companies are building capacity and have set GHG reduction targets, while Level 3 firms are integrating GHG reductions into their operational decision making. Generally Level 3 has nominated a board member/committee with explicit responsibility for oversight of the climate change policy.

Of the companies assessed, geographically, EU companies held the most Level 4 spots with ENI, Equinor, OMV, Repsol, Royal Dutch Shell, and Total all securing spots based on their continuing carbon management efforts. US independents ConocoPhillips and Occidental Petroleum garnered a Level 4 as did Australia's Woodside, Japan's JXTG, and Canada's Suncor Energy.

According to TPI, the average Management Quality score of oil and gas producers has risen from 2.4 in 2018 to 2.7 this year. It went on to say that this progress was echoed in trend data for the 46 companies that TPI also assessed in 2017/18. While 27 companies have stayed on the same level (including six companies that had already reached Level 4 in 2018), 14 companies have moved up at least one level. On the other hand, five companies have moved down at least one level. Six companies have moved up from Level 2 to Level 3 by setting emissions reduction targets for the first time. Four companies have moved up from Level 3 to 4 and the main factors in this improvement have been apportioning board responsibility and supporting domestic and international climate mitigation the TPI report said.

One company, Occidental Petroleum, leaped over Level 3, moving from last years' Level 2 to a Level 4 ranking in 2019.

projects by enhancing its Middle Eastern footprint, establishing bases in Saudi Arabia and Dubai. JFO's commitment to the region follows a series of project wins for its pioneering ultra-high-pressure abrasive cutting solution, that will be resourced and managed in country.

Ross Anderson, regional manager – Middle East comments; "Our JFO hub in al-Khobar in the Saudi Kingdom not only allows us to engage with project supply chains and relevant stakeholders, but from this base we can deploy equipment locally, including our hydraulic winches, subsea demolition tools and advanced abrasive cutting system. We are also providing in region expertise and full project support. Similarly, from our Dubai office we are providing engineering support, account management, equipment and personnel mobilization."

The Middle East is a key market for JFO where the business is creating measurable efficiencies for some of the region's most notable decommissioning projects. There are an estimated 1,000 assets and over 3,000 wells set to exceed their operational life expectancy over the next 20 years.

MacGregor Completes TTS' Marine and Offshore Buy

Cargotec's MacGregor business unit completed the acquisition of the marine and offshore businesses of TTS Group ASA. Cargotec announced in February 2018 an agreement to acquire the businesses for an enterprise value of approximately €87 million.

Completion of the acquisition follows receipt of required approvals from the relevant countries and authorities. The acquired businesses will be integrated within MacGregor's operating structure, and their results will be consolidated into MacGregor's financial figures.

Based on preliminary estimates, approximately 30% of TTS sales are related to TTS companies where the group's ownership is 50%. Cargotec plans to consolidate these companies using the equity method, whereby 50% of the companies' net profit will be presented as a separate row in Cargotec's financial statements before EBIT. This means that sales income from these companies will not be consolidated into Cargotec's sales.

SOCO Upbeat on Results, Increases Bottom Line

SOCO International has announced its Interim Results for the six months ended 30 June 2019. The company ended the period with a total group working interest production of 12,541 boepd from Egypt (91 days) and Vietnam (181 days), a significant increase from H1 2018 results of 7,748 boepd. The company also implemented initiatives for Greenhouse Gas (GHG) emissions reduction in Egypt.

Ed Story, president and CEO, commented: "We are pleased with the strategic progress SOCO has made in the first half of the year. We completed the acquisition of Merlon, and successfully integrated the business. The acquisition significantly increases group reserves, resources and production, and importantly gives SOCO the diversified base to grow production further. The Egyptian assets complement our Vietnamese portfolio and allow us to invest cash flow into activities focused on increasing reserves and production.

Story continued: "We look forward to a busy second half of the year as we implement our increased drilling program in Egypt and continue to focus on meeting production guidance in Vietnam. To further SOCO's ongoing commitment to operating a sustainable business, a new ESG Board Committee, to be chaired by John Martin, has been established to ensure that SOCO is striving for the highest standards across all Environment, Social and Governance matters."

Armed Robbery at National Oil Wells Drilling & Workover Company HQ

National Oil Wells Drilling & Workover Company, a subsidiary of National Oil Corp. (NOC), confirmed that an armed robbery took place at its company headquarters in Tripoli on September 6, 2019.

Two masked men discharged their weapons, assaulted security guards, and detained them inside the company headquarters until the following morning. Personal possessions were stolen of those detained as well as a number of other devices belonging to the company.

Commenting on this crime, NOC chairman Mustafa Sanalla said: "NOC resolutely condemns this unlawful act. National Oil Wells Drilling & Workover Company is reviewing security protocols and working with relevant authorities to in order to corroborate the identity of the perpetrators and bring them to justice."

African Petroleum Completes PetroNor Deal

The deal between African Petroleum and PetroNor E&P announced in March is now complete. African Petroleum confirmed that it has acquired 100% of the shares in PetroNor, against consideration in the form of 816,198,842 new shares in the African Petroleum have been irrevocably instructed to be issued to NOR Energy and Petromal. The company's new issued and outstanding share capital will, upon issuance of the Consideration Shares, be 971,665,288, consisting of 971,665,288 shares of no par value. The Consideration Shares to be received by Petromal are subject to a six-months lock-up. Nor Energy also undertook a six-months lock-up to the benefit of the company, but has later been released from its undertaking, due to a separate agreement with African Petroleum whereby NOR Energy has agreed to provide a liquidity facility to the company.

African Petroleum is in the process of changing its registered name to PetroNor E&P

Delta Mobrey/Emerson Deal Complete

Delta Mobrey reported that five months after signing an agreement with Emerson to exclusively distribute and then purchase the Mobrey line of measurement products, the full acquisition has now been successfully completed.

The previous months have seen Delta Controls expand their product range with the range of Mobrey products, begin trading with a new name of Delta Mobrey Ltd and grow the business globally with a number of key senior appointments being made.

Angolan Government to Sell Stakes in 195 Companies

The share capital held wholly or partially by the Angolan state in 195 different companies will be sold between 2019 and 2022, under the Privatization Program, published in the Diário da República official bulletin, quoted by Jornal de Angola.

The program states that 175 companies will be sold via public tender, 11 by public auction and nine through Initial Public Offering (IPO), with the government expected to launch public tenders this year for 80 companies as well as one IPO.

In 2020, 81 companies are due to be sold through public tender, six through auction and three via IPO, and in 2021 and 2022 the remainder will be sold. The most well-known companies involved in this process are state oil company Sonangol, diamond company Endiama and airline TAAG, the BCI, BAI, BCGA and Banco Económico banks, as well as financial companies ENSA Seguros and the Angola Debt and Securities Exchange (Bodiva).

Other companies listed for privatization include Sonangol's airline, Sonair, airport management company Sociedade de Gestão de Aeroportos and Sonangalp, a fuel distribution company that is 51% owned by Sonangol.

ALE Awarded GoM Job

ALE announced that it was awarded a major steel catenary riser (SCR) and umbilical pull-in contract by Subsea 7 USA for a development in the Gulf of Mexico. The scope of work included in this contract is for engineering, procurement, fabrication and offshore pull-in operations.

Source: ALE

ALE will start the engineering phase of this project immediately with offshore operations to follow in Q1 2020.

The contracted offshore SCR and umbilical pull-in operations will be performed at Mississippi Canyon (MC), on an existing production facility located south of New Orleans, LA in approximately 1,900 meters of water. ALE will utilize its global expertise in heavylifting to provide Subsea 7 and their client with a unique and lightweight equipment solution to pull dynamic loads topping 335t.

FID Taken on Artic LNG 2 Project

Total, Novatek and the other project shareholders have approved the final investment decision (FID) for Arctic LNG 2, a major liquefied natural gas (LNG) development located on the Gydan peninsula, Russia. The project will have a production capacity of 19.8 million tons per year (Mt/y) and is expected to export its first LNG cargo by 2023, the second and third train to start up by 2024 and 2026.

Total has a direct 10% interest in Arctic LNG 2 alongside Novatek (60%), CNOOC (10%), CNPC (10%) and a Mitsui-Jogmec consortium, Japan Arctic LNG (10%). Total also owns an 11.6% indirect participation in the project through its 19.4% stake in Novatek, thus an aggregated economic interest of 21.6% in the project.

The project has very low upstream costs with the development of the giant resources from the Utrenneye onshore gas and condensate field. The installation of three concrete gravity-based structures in the Gulf of Ob on each of which will be located a 6.6 Mt/y liquefaction train that will contribute to significant capex reduction (more than 30% per ton of LNG) compared to Yamal LNG. Also, the close proximity to Yamal LNG will allow Arctic LNG 2 to leverage synergies with existing infrastructure and logistics facilities.

Arctic LNG 2 production will be delivered to international markets by a fleet of ice-class LNG carriers that will be able to use the Northern Sea Route and the transshipment terminal in Kamchatka for cargoes destined for Asia and the transshipment terminal close to Murmansk for cargoes destined for Europe

RDS Wins Pharis Energy conceptual study contract

RDS, KCA Deutag’s global provider of engineering and design, won a new contract to carry out a conceptual study for Pharis Energy. Pharis Energy aims to initiate the first major offshore steam flood project in the world and is currently exploring innovative ways to maximize oil recovery in the Pilot Field in the UK North Sea.

RDS’s scope of work on this project will include jack-up screening and selection and the Well Head Platform design. This work will be executed out of RDS’s London and Aberdeen offices.

Commenting on the contract award, Albert Allan, RDS Senior Vice President, said “This is an exciting study for RDS and we are looking forward to working with Pharis Energy on this project which pushes the boundaries of oil recovery in the UK North Sea. Through our agile, fit for purpose and scalable engineering teams we are able to deliver maximum value for our client.”

Siccar Point Energy Awards Cambo FEED Contract to Sembcorp Marine

Siccar Point Energy E&P Ltd awarded an exclusive FEED contract to Sembcorp Marine Rigs & Floaters Pte Ltd (Sembcorp Marine) for the design of a Sevan cylindrical FPSO for its Cambo field development on the UK Continental Shelf.

The Cambo field is located 125 km northwest of the Shetland Islands and in a water depth of 1,100 meters. The field was discovered in 2002 and the final appraisal well was drilled in 2018.

Sevan SSP AS is a wholly owned subsidiary of Sembcorp Marine, having been acquired in 2018. Sembcorp Marine has contracted KBR for topsides design and integration support with work being carried out in Singapore and Norway. The Cambo partners had been working with two FEED contracting options since early this year and have now selected Sembcorp Marine to complete the FEED work for the Sevan cylindrical FPSO.

In addition to the FPSO contract, other FEED work is being undertaken by BHGE for wells, subsea and riser systems, and by Genesis for a gas export pipeline.

A draft Field Development Plan has been submitted to the Oil & Gas Authority. Formal project sanction will be sought following completion of the FEED activities. Shell acquired a 30% working interest stake in the field from Siccar Point in 2018.

Chevron to Boost Production at St. Malo in GoM

Chevron Corporation announced the sanction of a waterflood project in the St. Malo field. This application of enabling technology is expected to increase recovery and advance Chevron’s strategy of maximizing the company’s existing resources in the Gulf of Mexico.

Source: Chevron

“The St. Malo field is a world-class asset that is positioned for highly economic brownfield development,” said Steve Green, President of Chevron North America Exploration and Production. “With our leading technology, experienced workforce and broad portfolio, we're delivering value in the Gulf of Mexico.”

The waterflood project is Chevron’s first in the deepwater Wilcox trend and is expected to contribute an estimated ultimate recovery of more than 175 million barrels of oil equivalent. It will include two new production wells, three new injector wells and topsides injection equipment to the Jack/St. Malo floating production unit, allowing us to extend the life of the field.

Located approximately 280 miles south of New Orleans, La., the St. Malo field has an estimated remaining production life of 30 years.

TechnipFMC Awarded PowerNap

Shell awarded TechnipFMC the integrated EPCI contract for the PowerNap project in the GoM. PowerNap is a subsea tie-back project to the Olympus production hub and is located in Mississippi Canyon, Block MC943.

TechnipFMC will design, manufacture and install subsea hardware, including subsea tree systems, subsea distribution controls, topside controls, flying leads and connectors for three wells, in addition to the supply of 20 miles of production umbilical and flowlines. The project is expected to complete installation in late 2021 and produce up to 35,000 bpd of oil equivalent at peak rates.

Arnaud Pieton, President Subsea at TechnipFMC, commented, "We are very pleased to have been awarded this iEPCITM contract for the Shell PowerNap project. We look forward to executing the scope of work and to further expanding our 25-year successful relationship with Shell and our deep water portfolio in the Gulf of Mexico."

Woodside Sees First Oil from Greater Enfield

Woodside produced first oil from the Greater Enfield Project through its *Ngujima-Yin FPSO* on August 25. Western Australia's Greater Enfield Project was approved in 2016 to develop the Laverda Canyon, Norton over Laverda and Cimatti oil accumulations through a subsea tie-back to the *Ngujima-Yin FPSO*, located over the Vincent field. Total investment for the project was approximately $1.9 billion.

The project scope included a major refit of the *Ngujima-Yin FPSO* which was successfully completed at the Keppel Tuas Shipyard in Singapore. The FPSO returned to waters off the North West Cape in May 2019 and production from the Vincent wells recommenced on July 4. Installation of subsea infrastructure has been completed, with all the project's 12 development wells now also complete.Woodside CEO Peter Coleman said first oil from Greater Enfield was produced on schedule and under the project's budgeted cost.

Joe Prospect Well Spud Offshore Guyana

Partners on Guyana's Orinduik Block spud their second exploration well on August 25. The well, being drilled by the *Stena Forth* drillship was spud on the Joe prospect. Joe is the second of a two-well drill program in Guyana for 2019. The well is expected to reach its final depth by the end of September.

The Joe prospect is a Tertiary feature on the northern part of the Orinduik Block in approximately 700 meters of water and is estimated to hold 148.3 mmboe of gross unrisked prospective oil resources (P50).

Partners on the Orinduik Block are Tullow Oil as operator, Total E&P Guyana, and Eco Atlantic Oil & Gas.

Allseas Awarded Decom Contract

Repsol Norge awarded Allseas an EPRD contract for the removal, transfer, load-in to shore and disposal of its Gyda platform in the Norwegian North Sea. The contract covers both the 18,000 ton topsides and 11,200 ton jacket, and includes an option for reinstallation on another field, which would be an unprecedented step for a fixed installation off Norway.

The contract also includes an option for the removal, transfer, load-in and disposal of the jacket's 32 conductors, weighing a total of 3,100 tons.

Gyda is a field in the southern part of the Norwegian sector in the North Sea, between the Ula and Ekofisk fields. The field was developed with a combined drilling, accommodation and processing facility with a steel jacket standing in 66 meters water depth.

The platform started producing in 1990, a decommissioning plan was submitted in 2016 and Gyda is now producing in parallel with plugging of the Gyda wells. The platform is in very good technical condition, prompting operator Repsol to consider re-use.

Allseas and Repsol spent more than a year studying ways to move the platform from its current location and bring it to shore for disposal. The solution of transporting the jacket in a near-vertical positon (60 degrees) with Pioneering Spirit's unique jacket lift system unlocked the possibility for Repsol to award the full scope, both the topsides and jacket, to Allseas.

Removal is planned for between late 2020 and 2023. Allseas has selected Kvaerner AS to dismantle and recycle the platform at its Stord disposal facility on the west coast of Norway.

New Gas Discovery Offshore Indonesia

Strike Energy as part of the Strike-Warrego JV has made a significant gas discovery in the Kingia sandstone with the drilling of the West Erregulla-2 well. According to Strike, Logging While Drilling (LWD) tools have been recovered to surface and log interpretation has been undertaken.

The Kingia formation was encountered at 4,753 meters with gas on rock showing a gross gas column of at least 97 meters. The lower section from 4,790 meters onwards is made up of several high-quality large units of clean sand with thick blocky porosity development. This 67-meter section, which has high gas saturation throughout, is interpreted to have net pay of 41 meters and an average porosity of 14.3% with peaks of up to 19%.

The well has not encountered a gas water contact in the Kingia formation which, along with the excellent reservoir quality, is consistent with the seismic amplitude model that supports the interpreted field boundaries.

While drilling through the Kingia sandstone the Bit Basher shale was encountered. Since then a bit change has occurred and the well is yet to encounter the High Cliff sands. Strike plans to continue drilling through to a nominal final depth of 5,200 meters at the top of the Holmwood Shale. This will be followed by wireline logging, side wall coring, casing and running of a production completion followed by a flow test.

Liza Destiny Arrives Offshore Guyana

The *Liza Destiny*, Guyana's first oil production vessel, has arrived at the Stabroek Block, offshore Guyana. The FPSO arrived following a 42-day journey from Singapore. After clearing customs, hookup and installation of the *Liza Destiny* FPSO will begin operations.

Source: Hess

This FPSO is a significant component of the Liza Phase 1 development, which involves four undersea drill centers with 17 wells. The Liza Phase 1 development is on track for startup by Q1 2020 and will produce up to 120,000 gross bpd of oil.

Indonesia's West Ganal Block Awarded

ENI and its partners Pertamina and Neptune were awarded the West Ganal exploration block in the Kutei Basin offshore Indonesia. The firms' access to the block was achieved through a bid in the second conventional oil and gas bidding round 2019.

The West Ganal is a new Gross Split PSC covering an area of about 1,129 sq km adjoining the ENI-operated Muara Bakau and East Sepinggan PSCs, in the Makassar Strait offshore East Kalimantan. This additional award reinforces the strategic cooperation in the Kutei Basin with Pertamina and Neptune, already partners in the producing Jangkrik field in Muara Bakau block.

The block includes the Maha discovery with in-place gas resources estimated in excess of 600 Bscf and further exploration potential, whose development and time-to-market will benefit from the proximity of the facilities of the Jangkrik field operated by ENI.

Petro Matad Spuds Gazelle-1

Petro Matad spud the Gazelle-1 exploration well on Mongolia's Block XX. The rig move from Heron-1 and the rig-up at the Gazelle location were handled very efficiently by rig owner DQE and by Petro Matad's in-field supervisors and so spud of the well is a little earlier than previously forecast.

The well will be drilled to a total depth of about 2,500 meters and is forecast to take approximately 35 days to drill and log. The Gazelle Prospect has an estimated Mean Prospective Recoverable Resource of 13 Mmbo.

The well is located 4.5 km southwest of Petro China's T19-46-1 oil well and immediately up dip of this discovery on the western flank of the Tamsag Basin which is the primary source kitchen for the oil fields in Block XIX.

In the event of a discovery at Gazelle-1, it is expected that sufficient time will remain before the winter shut down of operations in late November to allow well testing of Gazelle-1 to be carried out this year.

Petrofac's EPS Division Wins ADNOC Maintenance Job

Petrofac's Engineering & Production Services (EPS) division garnered a contract to provide managed maintenance services for ADNOC's Al Dhafra Petroleum to support its operations at Haliba field, located onshore along the south-east border of Abu Dhabi.

Al Dhafra Petroleum is a JV company between ADNOC, Korea National Oil Corp. and GSE Energy. The company recently achieved first oil production at Haliba field on June 1.

Mani Rajapathy, Managing Director, Petrofac EPS East, said "We are delighted to be supporting Al Dhafra Petroleum, as production from its Haliba field is an integral part of ADNOC's strategy to unlock and maximize value from all of Abu Dhabi's oil and gas resources to create long-term and sustainable returns. This is our first contract to specifically undertake maintenance activities for a full asset in Abu Dhabi, setting us up well to support other key projects in the UAE. Our team look forward to playing their role in maintaining the facilities, adding value through the delivery of services in a safe and highly efficient manner."

SW Vespucci in Southeast Asia Shoot

Shearwater GeoServices was awarded a combined 3D and 2D seismic survey in Southeast Asia for the *SW Vespucci* multi-purpose vessel. The contract covers an area of 1,600 sq km for 3D seismic with associated 2D work to be executed over a 1.5-month period from end Q3 2019 for the undisclosed client.

The *SW Vespucci* is a highly flexible seismic vessel able to effectively conduct source, 2D, 3D, and ocean bottom nodal seismic acquisition, thereby maximizing vessel utilization and minimizing transit times.

Source: Shearwater

"The MPV platform is ideally suited for clients with diverse project requirements," said Irene Waage Basili, the CEO of Shearwater GeoServices. "It has allowed us to build a unique position in Southeast Asia and the award to *SW Vespucci* is a further confirmation of the strong value we offer to clients in the region."

FACTS AND FIGURES

African Rig Count

Country	2019		
	June	July	August
Algeria	45	41	44
Angola	5	5	4
Benin	0	0	0
Cameroon	2	2	2
Chad	7	7	7
Congo	3	3	2
Congo (DRC)	1	1	1
Cote D'Ivoire	0	0	0
Djibouti	2	2	2
Egypt	25	22	22
Equatorial Guinea	0	0	2
Ethiopia	2	2	0
Gabon	6	6	6
Ghana	3	1	1
Guinea	0	0	0
Kenya	7	7	7
Liberia	0	0	0
Libya	15	15	16
Mauritania	0	0	0
Morocco	1	1	1
Mozambique	0	0	0
Namibia	0	0	0
Niger	1	1	1
Nigeria	14	15	15
Senegal	0	0	0
Sierra Leone	0	0	0
South Africa	0	0	0
Sudan*	0	0	0
Tanzania	0	0	0
Togo	0	0	0
Tunisia	2	2	2
Uganda	0	0	0

*Data not available

Source: BHGE

World Oil Production

(million barrels per day)

Country	2019		
	May	June	July
Americas	24.29	24.33	24.34
Canada	5.3	5.25	5.44
Chile	0.01	0.01	0.01
Mexico	1.91	1.9	1.9
United States	17.06	17.17	16.95
Asia Oceania	0.48	0.49	0.49
Australia	0.41	0.41	0.42
Others	0.07	0.07	0.07
Europe	3.17	3.1	3.37
Norway	1.6	1.49	1.73
UK	1.1	1.14	1.17
Others	0.47	0.47	0.47
Total OECD	27.94	27.91	28.21
Total Non OECD	31.05	31.39	31.31

Source: IEA Oil Market Report

Africa Production of Crude Oil

(including Lease Condensate, Thousand Barrels/Day)

Country	2019		
	June	July	August
Algeria	1005	1027	1016
Angola	1418	1395	1394
Cameroon	75	75	75
Chad	120	120	120
Congo (Brazzaville)	331	325	318
Congo (Kinshasa)	20	20	20
Cote d'Ivoire (Ivory Coast)	26	26	26
Egypt	650	650	650
Equatorial Guinea	113	121	120
Gabon	208	204	206
Ghana	123	125	126
Libya	1113	1078	1056
Mauritania	0	0	0
Morocco	0.5	0.5	0.5
Niger	20	20	20
Nigeria	1855	1780	1866
South Africa	2.5	2.5	2.5
Sudan and South Sudan	120	120	120
Tunisia	48	48	48
Total Africa	7298	7137	7184

Various sources including EIA, IEA and OPEC

OPEC Oil Production

(Thousand Barrels/Day*)

Country	2019		
	June	July	August
Algeria	1005	1027	1016
Angola	1418	1395	1394
Congo	331	325	318
Ecuador	528	535	537
Equatorial Guinea	113	121	120
Gabon	208	204	206
Iran, I.R.	2225	2218	2194
Iraq	4718	4736	4779
Kuwait	2690	2670	2653
Libya	1113	1078	1056
Nigeria	1855	1780	1866
Saudi Arabia	9813	9687	9805
UAE	3083	3074	3085
Venezuela	734	755	712
TOTAL OPEC	29830	29605	29741
OPEC exluding Iraq	25112	24869	24962

* *Based on secondary sources*

Source: OPEC

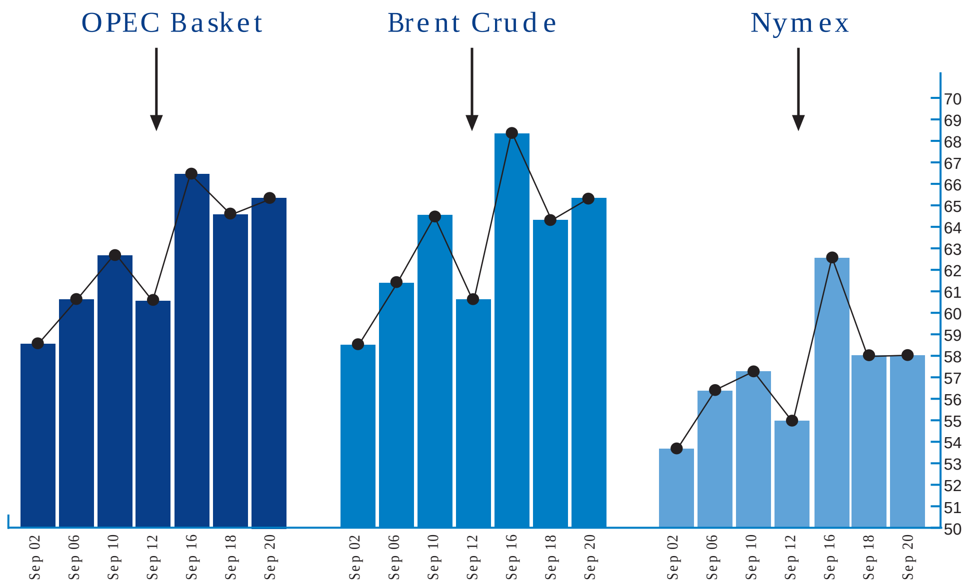
World Rig Count

Country	August 2019			Variance From	July 2019			August 2018		
	Land	Offshore	Total	Last Month	Land	Offshore	Total	Land	Offshore	Total
Latin America	164	30	194	-7	168	33	201	168	24	192
Europe	142	51	193	-7	148	52	200	53	32	85
Africa	97	18	115	4	92	19	111	87	17	104
Middle East	363	53	416	-8	367	57	424	351	51	402
Asia Pacific	128	92	220	-6	132	94	226	137	88	225
United States	900	26	926	-29	930	25	955	1,031	19	1,050
Canada	139	3	142	21	118	3	121	219	1	220
Worldwide Total	1,933	273	2,206	-32	1,955	283	2,238	2,046	232	2,278

Source: BHGE

Oil Prices

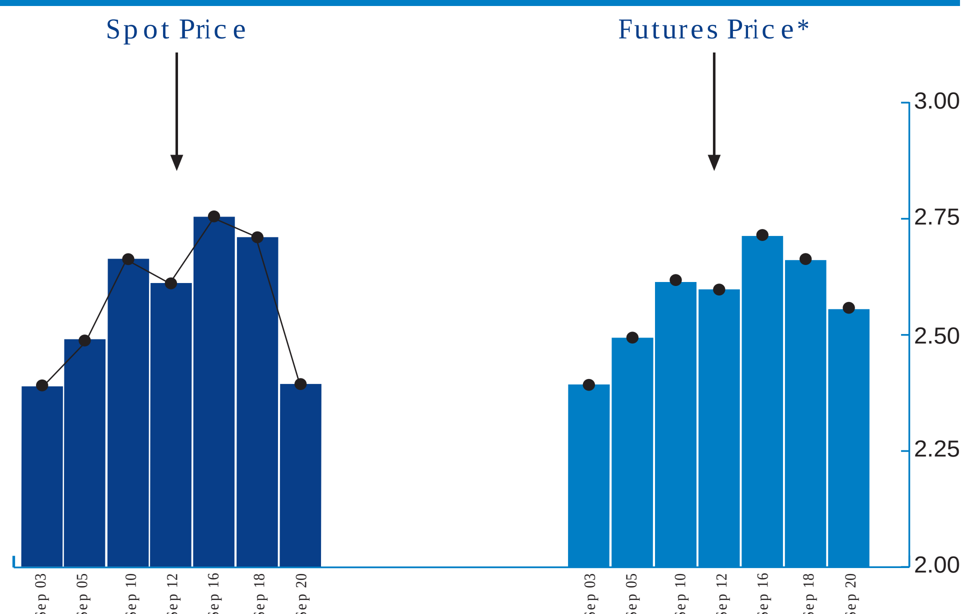
Sep 02	$
OPEC Basket	58.76
Brent Crude	58.55
Nymex	53.76
Sep 06	
OPEC Basket	60.75
Brent Crude	61.28
Nymex	56.43
Sep 10	
OPEC Basket	62.74
Brent Crude	64.67
Nymex	57.29
Sep 12	
OPEC Basket	60.51
Brent Crude	60.76
Nymex	55.05
Sep 16	
OPEC Basket	66.43
Brent Crude	68.42
Nymex	62.67
Sep 18	
OPEC Basket	64.57
Brent Crude	64.29
Nymex	58.04
Sep 20	
OPEC Basket	65.30
Brent Crude	65.23
Nymex	58.09



Gas Prices

Sep 03	$
Henry Hub	2.39
New York	2.39
Sep 05	
Henry Hub	2.49
New York	2.49
Sep 10	
Henry Hub	2.67
New York	2.62
Sep 12	
Henry Hub	2.62
New York	2.60
Sep 16	
Henry Hub	2.75
New York	2.72
Sep 18	
Henry Hub	2.72
New York	2.66
Sep 20	
Henry Hub	2.34
New York	2.55

Dollars per BTU



Data compiled by Petroleum Africa from various sources including OPEC, EIA and others

CONFERENCES

OCTOBER 2019

2-3	Tanzania Oil & Gas 2019 (TOG 2019)	Dar es Salaam, Tanzania	www.cwctog.com
7-8	Offshore Well Intervention MENA 2019	Abu Dhabi, UAE	www.interventionmena.offsnetevents.com
7-9	Offshore Energy Exhibition & Conference	Amsterdam, The Netherlands	www.offshore-energy.biz
8-8	Diversity in Energy Summit	London, UK	www.diversityenergysummit.com
9-11	AOP 2019 (Africa Oil & Power)	Cape Town, South Africa	www.africaoilandpower.com
10-11	3rd Africa Oil & Gas Local Content & Sustainability Summit	Accra, Ghana	www.ametrade.org
15-17	MOC 2019 (Mediterranean Offshore Conference & Exhibition)	Alexandria, Egypt	www.moc-egypt.com
29-29	SPE Upstream Finance and Investments Conference	Central London, UK	www.spe.org
29-31	5th Annual Southern Africa Power Summit 2019	Cape Town, South Africa	www.ssapower.com

NOVEMBER 2019

11-14	ADIPEC 2019	Abu Dhabi, UAR	www.adipec.com
11-14	Mozambique Gas Summit	Maputo, Mozambique	www.mozambique-gas-summit.com
26-27	GECF 5th Gas Summit	Malabo, Equatorial Guinea	www.yearofenergy2019.com

DECEMBER 2019

2-3	Regional Energy Summit: West Africa	Dakar, Senegal	www.res-west.com
2-3	Mauritania Future Energy	Nouakchott, Mauritania	www.cwcmauritania.com
2-4	DRC Power, Oil and Gas Conference & Exhibition	Kinshasa, DRC	www.drcoilandgas.com
2-5	9th Annual Practical Nigerian Content (PNC) Forum	Yenagoa, Nigeria	www.cwcpnc.com
4-5	Oil & Gas Non-Metallics 2019	London, UK	www.ami.international
10-11	BBTC MENA 2019 – Bottom of the Barrel Technology Conference	Bahrain	www.bbtc-mena.biz
10-12	9th Middle East Artificial Lift Forum (MEALF 2019)	Muscat, Oman	www.mealf.net

JANUARY 2020

1-3	Congo International Oil & Conference and Exhibition (CIEHC 2020)	Dakar, Senegal	www.ametrade.org

MARCH 2020

15-18	NAPEC - North Africa Petroleum Exhibition & Conference	Oran, Algeria	www.napec-dz.com

APRIL 2020

22-22	SPE Norway One Day Seminar	Bergen, Norway	www.spe.org

DECEMBER 2020

6-10	World Petroleum Congress	Houston, TX	www.wpc2020.com

AD INDEX