Issue #04 | September 28th 2019

PetroQuest

OIL & GAS MAGAZINE

#04
Fourth Edition

Subscription Fee : $ 20

South Sudan

- South Sudan, Kenya Seek to Boost Cooperation in Oil Sector
- NilePet Plans Upgrade, New Policies to Revitalize Oil & Gas Industry
- Women making strive in the Oil and Gas Industry
- South Sudan Ministry of Petroleum Prioritizes the Environment
- Overview of South Sudan Oil and Gas Fields; Blocks and Crude Qualities

Kenya

A Journey to Full Field Development

Uganda

Uganda's Oil and Gas Industry is Expected to Rake in Investments

Tanzania

A Step Towards the Future

Editor's Letter

Eng. Chan Marial Abur
Editor in Chief

Dear readers,

On behalf of the PetroQuest Oil & Gas Magazine, I would like to welcome you most cordially to our 2019 quarter 3 edition.

This edition comes at an exciting time when the oil & gas industry in South Sudan is accelerating its momentum to reach previous production capacity before 2013 civil war, as well as increasing production in the current producing oilfields. More importantly, it is the plan of the government of South Sudan to increase oil production in the country as shown by the recent issuance of new exploration contracts. This positive progress in the oil & gas industry is as a result of revitalized peace agreement in the country in which the government of National Unity is due to be formed in November 2019. In addition, the regional countries are also making progress in their respective oil & gas sectors. Kenya recently exported its first crude oil to the international market and Uganda is also making progress in their development agenda of the sector.

PetroQuest Oil & Gas Magazine is the only oil & gas magazine in the Republic of South Sudan which is promoting the oil & gas in South Sudan and the region of East Africa. Since the first issue in 2018, PetroQuest has covered a wide array of stories emanating from the oil and gas industry in the country and throughout the region. The magazine has published close insights on the latest events on the oil and gas industry, investment opportunities and general outlook of the East African oil & gas industry. We have profiled the small businesses to the large operators who are representing the oil & gas industry and marketplace by publishing their services and latest technologies. On the other hand, the government share with the operating companies and the public important insights on how the oil and gas industry is shaping up to benefit the country through our quarterly editions. As part of our readership outreach, we have partnered with Africa Oil Power (AOP) and Abu Dhabi International Petroleum Exhibition & Conference (ADIPEC).

We are excited about this quarter because the content covers the latest in the oil and gas industry in the country and region. I am proud of what we have done and the progress the magazine has made in bringing oil & gas news, business opportunities, and the latest technologies to stakeholders and the public.

I look forward to your feedbacks on this exciting edition and I assure you that PetroQuest OGM will always bring you the latest developments in the oil & gas industry in South Sudan and East Africa region.

Pillars of the Petroquest

Eng. Adau Arop Nyok
Event Planning Director,
Juba Office
aropadau@gmail.com
+211 (0)928659231

Mr. Parach Mach
Communication Manager
Juba Office
parachmach@gmail.com
+211 (0)922456238

Eng. Monychol Adhil
Operations Manager
Juba Office
madhil@petroquest-ogm.com
+211922393370

Eng. Elijah Garang
Content Development
Manager, Juba Office
gaddymafh@yahoo.com
+211 (0)916943819

Eng. Bagi Mary
Marketing & Sales Manager
Juba Office
bagimary9@gmail.com
+211 (0)917164141

Eng. Mathew Waita Mwenga
Associate Editor
Nairobi Office
Matew.waita@gmail.com
+254715833628

Eng. Zamdazitta Kumbakumba
Contributing Writer
Tanzania Office
zkumbakumba@gmail.com
+255692260840

Mr. Joseph Mabor
Information Technology
Kuala Lumpur Office
jmagany@gmail.com
+601 67470713

Magazine Outlines

Design Agency

Universal Printers Co. Ltd.
Plot # 326, Tongpiny,
Juba, South Sudan.
Tel. +211 925 926 220, 0925 926 240
upcl.juba@gmail.com

OUR PREVIOUS ISSUES

SOUTH SUDAN ENERGY

NILEPET

NILE PETROLEUM CORPORATION

The National Oil and Gas Corporation of South Sudan

NilePet plans upgrade and new policies to revitalize Oil & Gas industry

South Sudan's National Oil and Gas corporation, the Nile Petroleum Corporation (NILEPET) is on the move to improve its policies and challenges like poor institutional design, the ineffectiveness of the policy making body, low institutional capacities and lack of technical capacities which are the barriers to the growth of South Sudan oil and gas industry to world class level.

NILEPET was established in 2004, as an integrated National Oil and Gas Company (NOGC) of the Republic of South Sudan (ROSS).It was incorporated on 01st June, 2009 under the New Sudan Company Act, 2003 with the objective of serving as the technical, operational and commercial arm of the Government in oil and gas sector. It has a board of Directors to which it is accountable, and which ensures that the company operates in an efficient manner. It has more than 500 employees and is expanding. It envisions to leading competitively as an integrated oil and gas company for the country. Consequently, its missions are;

- To explore, manage and add value to the petroleum resources in an effective and environmentally sound manner.
- To promote the sustainability and growth of the national oil and gas industry, safeguard the national interest.
- To be socially responsible and environmentally friendly business entity

Being the only sole oil and gas state corporation, NilePet is at the centre of the country oil and gas deals as it holds shares in some of major players in South Sudan oil and gas industry. NILEPET has positioned itself to control the oil and gas industry in the country by controlling the resources through its shares as well as equipping the technical capacity of nationals in Upstream and midstream sectors of the oil industry. The company is committed to be globally competitive by expanding its operations in explorations and production by the year 2022.

These reforms are being championed by the managing director **Dr. Chol Deng Thon** who has emphasized the various reforms being put forward by his administration

Dr. Chol Thon Deng, Managing Director, NILEPET

to revitalize the industry and insisted on the role of gas monetization of spur industrialization and economic growth.

When the current leadership of **Dr. Chol Thon Deng** came in 2017, the country was facing major fuel shortage and therefore, the leadership embarked on solving the problem by both short term and long term solutions to the crisis. The short term solution was to remove fuel subsidies which was causing hoarding of fuel by unscrupulous dealers and this brought an end to the problem. The long term solution was to embark on renovation of damaged refineries while constructing new refineries which is ongoing.

Another priority on the reform and development agenda of the leadership was to improve its financial position and it immediately embarked on increasing its shareholding in SIPET Engineering & Consultancy Company from 51% to 80%. It also initiated Niyat by partnering with Eyat Company which currently operational and provides road construction works in the oilfields. On top of that, the leadership operationalized Nile Drilling and started Nile Orange which is soon to start its operation.

from left to right: **Hon. Mayen Wol,** Undersecretary in the Ministry of Petroleum, **Hon. Eng. Awow Daniel Chuang,** Minister of Petroleum and **Dr. Chol Thon Deng,** Managing Director of Nilepet

Some of the other reforms include the construction of Nile-Pet headquarters which the company described as one of milestone and achievement of Dr. Chol Deng Thon future legacy. “Though many MDs came in but couldn’t make such massive project,” Peter Mayuk, NilePet senior public relations officer told this publication. Despite its cost of construction Mayuk said the completion is slated for 2020, saying the building will reduce the cost of various branches being rented due to lack of adequate space for offices and staff.

The company has also embarked in training and development of manpower through partnership with foreign companies like Schlumberger to increase its capacity building by taking local engineers and staffs overseas for trainings. For instance, engineers and geologists were sent to Abu Dhabi for first phase of on-job training in 2018 and phase two of on-job training in South Africa this year.

Nilepet, in partnership with the government of the Republic of South Sudan through the ministry of Petroleum, is well positioned to technically equip the national capacity to run the operations in the oil and gas industry as well as controlling the resources in the industry.

Women making strive in the Oil and Gas Industry

by **Mary James Gatluak**
Community Development Director, NILEPET

In South Sudan, Oil and gas industry is overwhelmingly male dominated, with surveys showing that the executive boardrooms of petroleum companies are mostly a men's' club however few numbers of well-informed women are aiming to change the narrative. Women comprise a portion of the talent pool that makes up the oil and gas industry, although more men occupy roles within the sector. This article highlights women roles, challenges faced by women within the oil and gas industry within various roles and positions while striving to maintain a work/life balance.

The level of participation of women in the economic activity of any country is an indicator of potential economic growth performance. The contribution of women to economy is an important factor in the increase of productive capacity and the achievement of economic balance with regard to production and consumption. In addition, the participation of women and their contribution to the economic growth of their country empower them to become active participants in social, political and cultural life. However, the participation of South Sudanese Women in the Oil Sector is much less than expected. Women in South Sudan constitute about 60% of the total population.

The contribution of women in South Sudan in the oil sector is significant, yet rarely recognized. Moreover, women are most vulnerable to poverty and discrimination due to their reduced level of income, social ex-collusion, their lack of professional skills and their limited access to and/or control over productive assets. This impact is most pronounced on female-headed households, who tend to suffer from poverty and food insecurity at a disproportionate level.

NILEPET Women's Associations have been selected from the female workers in Nile petroleum Cooperation and our main aim is to provide the needy Women in the cooperation with tools for sustainable change, and we are committed to operate with transparency and accountability.

Our main Aims /goals:-

- Strengthen and build solidarity within the corporation.
- Help with organizing efforts and other activities , which further the interests of the corporation
- Unite women members for the purpose of addressing their concerns and issues

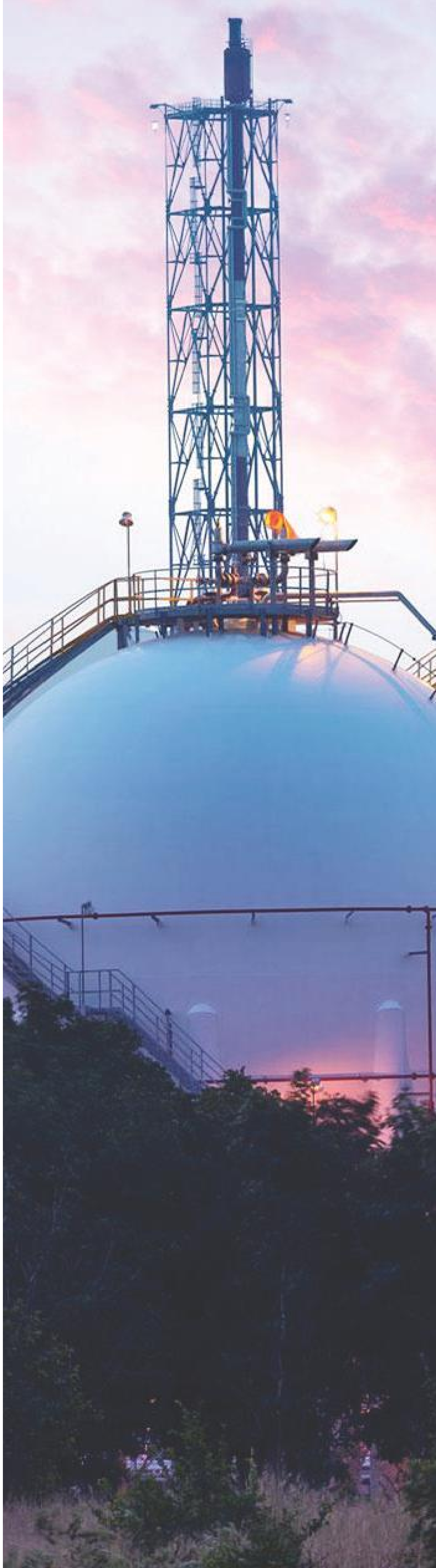
(Harassment and gender equality)

- Promote women involvement and recognition within the corporation.
- Foster better relationship and communication between members.
- Educating women according to the professional requirement and encourage them to grow further in the corporation.
- Encouraging women to develop entrepreneurial skills which in turn, would make them self-dependent.

Gender diversity is an important driver for economy growth, this is particularly important because women comprise a roughly equal percentage of the available workforce with equivalent levels of education to their male counterparts.

middle front row **Mary James Gatluak,** Community Development Director NILEPET along with NILEPET Women Association Executive Members

Economic Instability Affect Economic Development In A Country Like South Sudan Which Is One Of The Large Oil Producing In East Africa Region.



by **Demanco Galiak Lor Juer**
Department of Auditing
NILEPET

The economic stability is the most important tool for economic development and provide opportunity for employment and many countries in the world became stable particularly western world Countries and third World Countries like South Sudan still behind, due to some vital reasons the civil war and lack of development created gaps for economic instability. Some years back before civil war in 2013 South Sudan was among (5) top Countries in Africa in economic stability and purchasing power was strong and price mechanism was stable and there were free movement of goods from State to State. The local traders were free at that time and they were visiting the foreign Countries like Egypt, Dubai, Kenya, Ethiopia and China, but now the movement is restricted due to economic inflation and value of currency became weak as well as many business have been affected by civil war. The local traders do not have sufficient capital to invest and most of the markets are occupied by foreigners and beside that, the local traders do not have skills to invest.

Some few months ago, the Government instructed the private oil companies, DPOC, GPOC and SPOC to start resumption for oil production, so that the Country can generate good income to meet the economic development.

South Sudan is a free economy Country, they investors can come to invest their capitals which will help the Country to generate good revenues for economic development.

The appointment of new Minister of Petroleum will pave the way for economic stability in the Country and many international investors can be encouraged to take part in the economic transformation process.

South Sudan, is one of the richest Countries in Africa in the field of natural resources and most of the resources have not yet been utilized by State authorities. It could be good the Government of South Sudan could think well to make strategic planning for economic development. We hope that by 2020 some changes would come so that the economy can be improved to the maximum level. The private sector can play a big role in establishing small industries in the Country and the question of unemployment can be settled, hence improving the standard of living of the people.

from right to left **Hon. Eng. Awow Danial Chuang,** Minister of Petroleum, South Sudan & **Hon. John Munyes,** Minister of Petroleum, Kenya

SOUTH SUDAN & KENYA SEEK TO BOOST COOPERATION IN OIL SECTOR

South Sudan seeks to boost cooperation in the oil sector with neighbouring Kenya, a newcomer in the oil business.

In 2012, South Sudan has agreed a deal with Kenya to build an oil pipeline, potentially reducing its dependence on its northern neighbour Sudan. The pipeline which Industry analysts would usually take at least three years to build and cost up to $4bn (£2.6bn) will link South Sudan oil fields to Kenya's Lamu port and should been ready in a year (2015)

In August, Hon. Awow Daniel Chuang, South Sudan petroleum minister, and his Kenyan counterpart Hon. John Munyes met in Juba on Wednesday and discussed ways of enhancing cooperation in the areas of oil infrastructure development and experience sharing. "In the quest of evacuation of crude oil from Kenyan oilfields to the international market, there is need for cooperation between South Sudan, Kenya and Uganda and probably DRC," Hon. Awow Daniel Chuang said early August in a statement to South Sudan Radio.

Kenya announced in the same month that it made its first ever oil export of 200,000 barrels since the discovery of crude oil in the east African nation in 2012. "My visit was to engage my colleague on how we can share experiences, learn from each other and find ways of cooperating in the area of infrastructure and building oil pipelines together," Munyes said. Munyes said the talks also touched on how the countries in the east African region could build a joint pipeline to Kenya's coast. "There is a hope of having a joint pipeline together where the DRC, South Sudan and Kenya will come together so that our countries share the infrastructure through the port of Lamu," Munyes added.

South Sudan and Sudan - who fought a decades-old bitter civil war - remain at loggerheads, especially over oil on which both countries depend almost entirely for their revenues. The south has the bulk of the oil - and 98% of Juba's budget depends on it. But the north has the pipeline, refinery and the export terminal at Port Sudan on the Red Sea. They have never agreed on the transit fees that Juba should pay Khartoum for pumping oil through its pipelines and using Sudan's oil export infrastructure. South Sudan government in 2012 accused the Sudan government of illegally siphoning off $815m of its crude oil. Khartoum admitted to confiscating some for unpaid fees and this result in shutting down of Juba oil production.

South Sudan Ministry of Petroleum Prioritizes The Environment

The environment has for long been a factor in the local conflict of South Sudan where Crude oil is being produced. The communities in the oil producing areas have raised concerns over both environmental effects and health hazards associated with the improper waste management.

There have been reports by both local and international campaign groups of widespread environmental pollution in oil-producing areas, with animals and people affected. According to research made by organizations like the German NGO, Sign of Hope, more than 180, 0000 South Sudanese people who live near oil fields use water that is contaminated by the oil companies. A report from the Nile Institute for environmental health also revealed some boreholes are salty due to oil deposits from oil exploration. The research implied that the contaminated water with chemicals has been exposed to people living in oil production areas.

To address the environmental concern, the Ministry of Petroleum in the Republic of South Sudan will soon set up a team to inspect the extent to which oil pollution has destroyed lives and the environment in the oil fields. In a press conference released by the ministry of petroleum, the minister acknowledges that "it is true that there has been damage already caused. In any environment where oil is being produced, there is pollution and the environmental damage comes along, but the difference is in how it is being addressed." The ministry of Petroleum has stepped forward to show its commitment to clean up the environment as well as to keep it clean. "The operation areas are sensitive and we don't want to cause further damage but yet, we need operations to continue," the minister added. The damage caused can be wildlife, environment, stock, water and air which all need to be protected because it's part of our surrounding.

In order to do this, the ministry of petroleum will call for ITB (Intension to Bid) for an international tender or national third party to come forward and show the will to participate in an environmental audit. This environmental audit will tell exactly the extent of the damage on several oil fields. The environmental audit is also intended to quantify the extent of environmental damage that has already been caused. Results of the environmental audit will be compared with the base reference data already present in order to help the ministry move forward with its implementation plan for a clean and green environment. The tender is also expected to provide measures and recommendations on how to mitigate the damage and suggest ways of how to keep it clean in the future.

This environmental audit initiated by the ministry has been a long awaited call by the public and we look forward to a successful implementation of this plan.

Overview of South Sudan

Oil and Gas Fields; Blocks and Crude Qualities

South Sudan Oil exploration is mostly dated back to 1979 when the onshore oil activities started in South Sudan, after Chevron discovered Oil in Western Upper Nile in block 1 near Bentiu. Chevron developed Muglad Basin in where it later discovered Unity and Heglig Oil fields. In 2002, another discovery was made in Ruat Basin, the North Melut Basin and the South Melut Basin.

Muglad Basin is where Nile Blend, the South Sudan high quality oil is being produced. Whereas Melut Basin located in North of South Sudan and it is where Dar Blend Crude is being produced. In 2012, nearly all of the oil produced in South Sudan came from Blocks 3, 7 and 5A, located mostly within South Sudanese territory, as well as Blocks 1, 2, and 4, known as the Greater Nile Oil Project which is located in an area that straddles Sudan, South Sudan, and the disputed Abyei region.

Producing blocks

Blocks 3, 7

Blocks 3 and 7 are located in the Melut Basin in the northeast of South Sudan, which contains some of the major fields like Fal, Adar Yale, and Palogue oil fields which were developed in 2006. Other Fields like Moleeta and Nahal where later on put on production in 2009. The blocks are operated by the DPOC consortium, which comprises of CNPC of China, SINOPEC of China, Petronas of Malaysia, Nilepet of South Sudan and Tri-Ocean of Egypt. The type of crude oil produced in these two blocks is heavy, highly acidic Dar blend.

The main reservoir characteristics in all the fields are fluvial sandstones in the Yabus and Samaa Formations of Palaeogene age. Each formation comprises a number of discrete highly porous and permeable sandstone layers separated by shale. The average range of porosities of this field are typically 20-30%, while permeability average ranges are from 0.5-10 Darcy. Oil gravity ranges are 20-30 API, although it is currently predominantly from 24-28 API. The reservoir is under-saturated with solution gas ranging from 50-85 Scf/bbl. Regardless of these reservoir being under-saturated, all wells in these fields are being artificially lifted with either Electric Submersible Pump (ESP) or Progressive Cavity Pumps (PCP). The average water cut is 70% with low salinity.

Block 5A

Block 5A, located in north-central South Sudan, is operated by a joint

South Sudan's Oil concessions map.

venture between Petronas, ONGC and Nilepet. As of March 2012, the block had a production capacity of about 25,000 bpd of the Nile blend crude oil.

Blocks 1, 2 and 4

Blocks 1, 2, 4 are located in the Muglad Basin, covering an area of 48,388 square kilometres. The largest fields in the area are the Heglig and Unity fields, which began production in 1996. Combined production from Blocks 1, 2 and 4 in 2011 was an estimated 120,000 bpd of Nile blend, according to the US Energy Information Administration, down from their 2004 peak of nearly 290,000 bpd.

Additional blocks

Block B, in south-eastern South Sudan, which was the Total-led consortium as of March 2012 is now being negotiated by the Ministry of Petroleum in the Republic of South Sudan with various companies that have shown interest in the block after the government of South Sudan and Total negation failed; Block 5B was under exploration by Nilepet, Petronas and Ascom, which were seeking additional partners in the block. In March 2012, the National Petroleum Commission also mapped out a new block, Block EA, which runs along existing fields in the Muglad Basin. The other Block is Block A, in north-central South Sudan.

Crude Oil Qualities in South Sudan

South Sudan produces two main blends of crude oil: Nile, a light, sweet and waxy blend, and Dar, a heavy and sour blend that is more difficult to refine.

Nile blend

Nile blend is a light, sweet waxy crude located mostly in the Muglad Basin, which straddles the border between South Sudan and Sudan. Nile blend had an API gravity high of 36.2, reported in April 2000, which subsequently declined to 33.7 API by June 2002, indicating a somewhat heavier crude than previously reported. Nile has a 0.05 weight percentage of sulphur. The first exports of Nile blend began in September 1999, through a pipeline to an export terminal on the Red Sea.

Dar blend

The low quality Dar blend is found in the Melut Basin east of the White Nile, mostly in South Sudan but extending northward into Sudan. Dar blend has a gravity of 26.4 API, according to energy consultancy Platts, and a sulphur content of 0.12 percent.

Because Dar is a heavy paraffinic oil, it needs to be transported at high temperatures (45-50 degrees Celsius) to avoid congealing in its storage tanks in ships. Additionally, its high acidity means that it will erode ordinary refinery metalwork. Dar blend contains high levels of arsenic, which acts as a pollutant to refinery catalysts. The combined effects of these properties make it unacceptable.

At PetroQuest we promote competitive and fair business dealings. The award ceremony takes place in the first week of December of every year. PetroQuest first energy award event is expected this year. The award categories are listed below.

PetroQuest

Fair Business and Local Content Award

PETROQUEST Operating Company Award
PETROQUEST International Services Company Award
PETROQUEST National Services Company Award
PETROQUEST Expatriate Contributing Writer Award
PETROQUEST National Contributing Writer Award.
PETROQUEST International Bank Award
PETROQUEST National Bank Award

Subscribers:

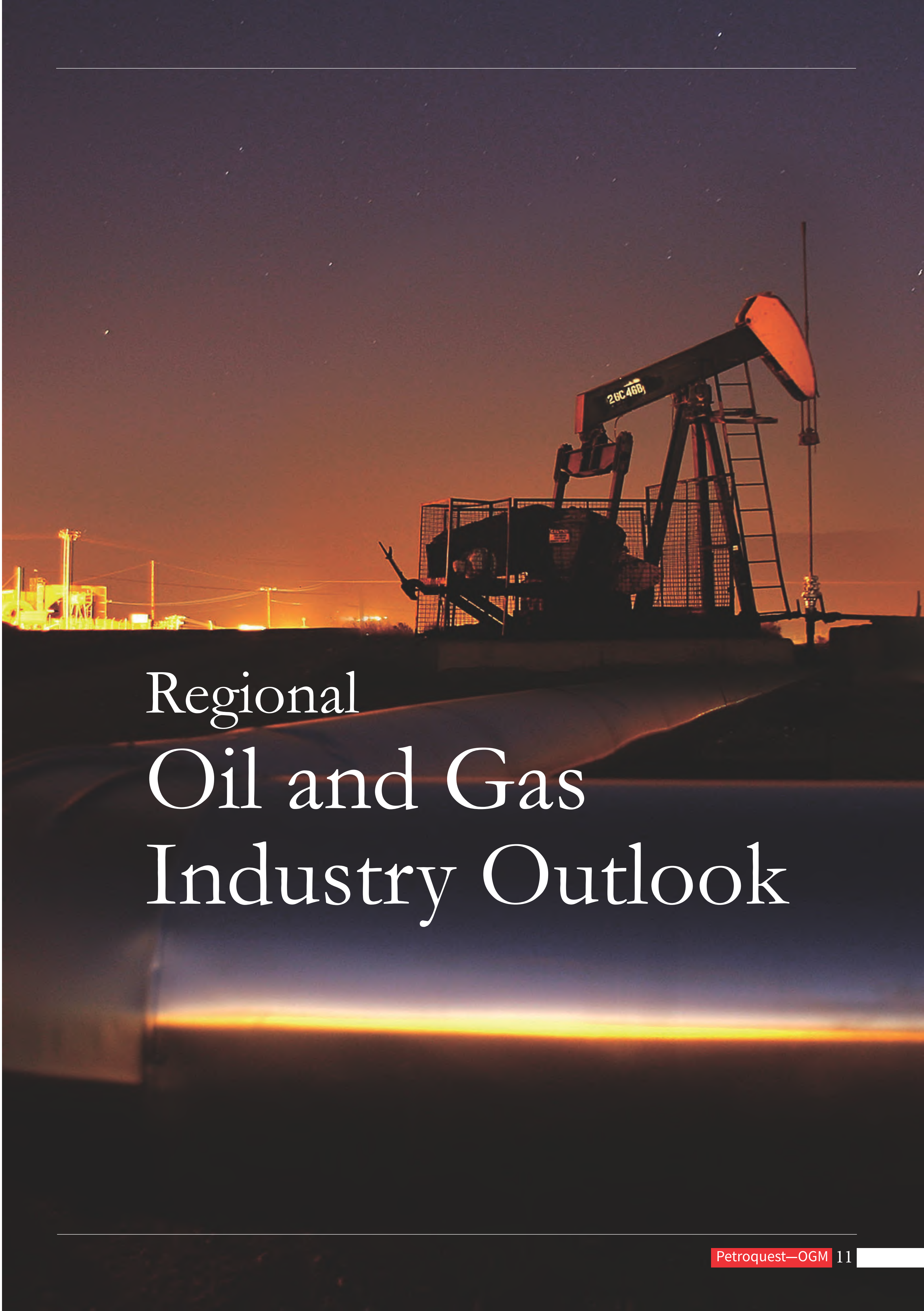
SPECS – SIPET ENGINEERING & CONSULTANCY SERVICES | NILE PETROLEUM SERVICE CO. LTD – FRIENDLY TO ENVIRONMENT | GPOC | NILEPET | REPUBLIC OF SOUTH SUDAN – MINISTRY OF PETROLEUM

Partners:

SPE International – Juba Section. South Sudan | أديبك ADIPEC | AFRICA OIL & POWER

Availability

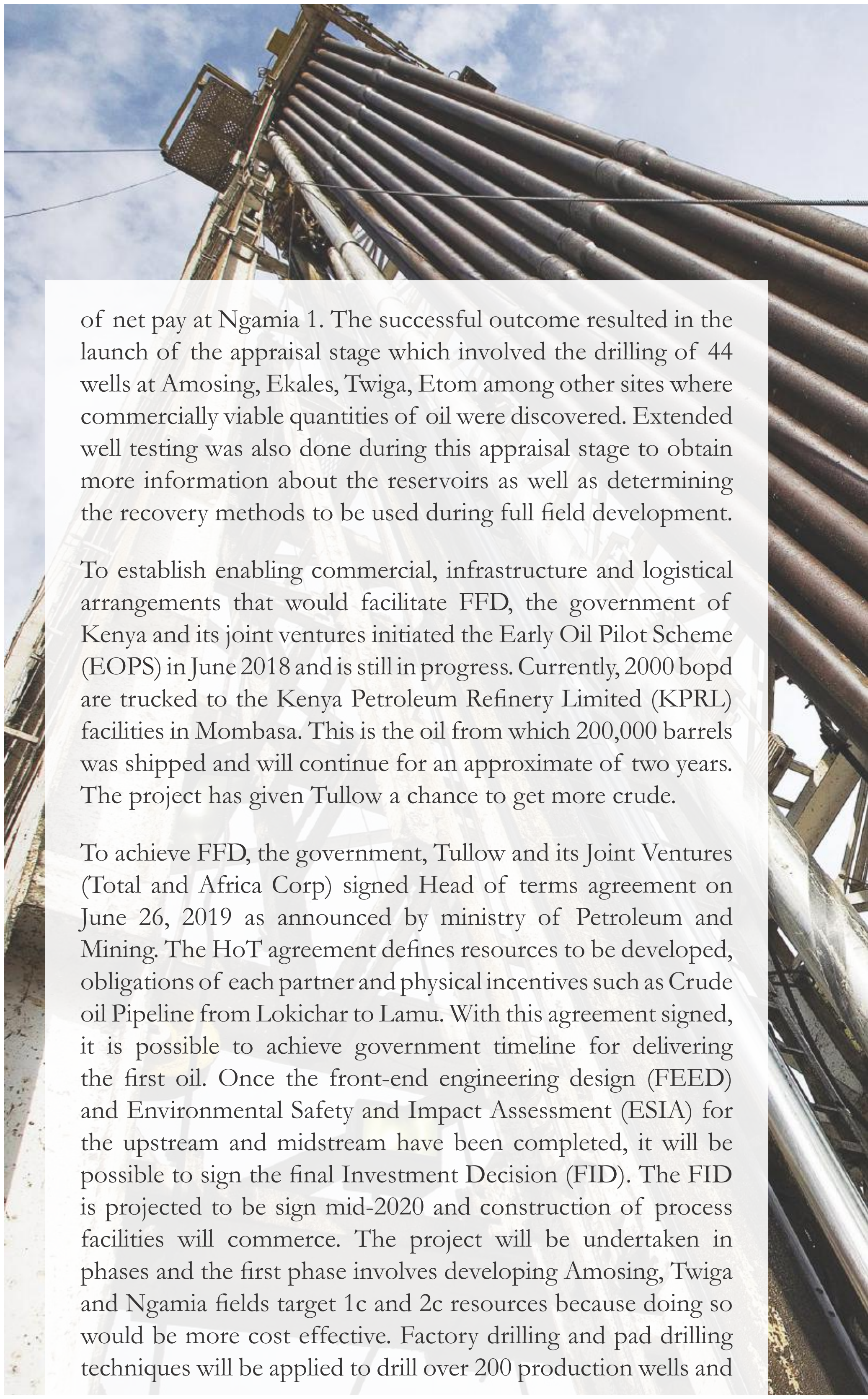
PYRAMID CONTINENTAL HOTEL JUBA – Managed by Anseba Hotels & Resorts | CROWN HOTEL | Airport Lounge | Embassies



Regional Oil and Gas Industry Outlook

JOURNEY
TO FULL FIELD DEVELOPMENT

Article written by **Muna Bashir** and **Ian Njuguna**



August the 26th of 2019 is marked down in history as the date when 200, 000 barrels of Kenyan Oil set sail for the refineries of ChemChina (UK) LTD after a fierce bidding process as revealed by the Petroleum Principal Secretary Andrew Kamau. This memorable event flagged off by the President Honorable Uhuru Kenyatta put Kenya among oil exporting countries.

It is worth noting that this exported oil is the first oil for the country but full field development stage is not yet reached. Full field development is the stage that takes place after successfully completing the appraisal period before the beginning of the field production. This stage provides the necessary support for field optimization, and include all activities and processes required to optimally develop a field. Kenya is on the journey to full field development by under taking various activities including EOPS, pipeline survey and environmental assessment. How did the country come to this decision, for that we would have to start from the beginning?

Let me take you back in time, when Kenya the hub of wildlife tourist attractions and marathon gold medalists, first struck black gold. It was the year 2010, when Tullow Oil showed interest in the country's semi-arid geological formation which turned out to be a dime in the dust. The company acquired licenses in Turkana region, which they were more than qualified for, with their extensive experience and successful exploration campaign in the neighboring country Uganda. In 2012, after vigorous exploration operations, the discovered 200m of net pay at Ngamia 1. The successful outcome resulted in the launch of the appraisal stage which involved the drilling of 44 wells at Amosing, Ekales, Twiga, Etom among other sites where commercially viable quantities of oil were discovered. Extended well testing was also done during this appraisal stage to obtain more information about the reservoirs as well as determining the recovery methods to be used during full field development.

To establish enabling commercial, infrastructure and logistical arrangements that would facilitate FFD, the government of Kenya and its joint ventures initiated the Early Oil Pilot Scheme (EOPS) in June 2018 and is still in progress. Currently, 2000 bopd are trucked to the Kenya Petroleum Refinery Limited (KPRL) facilities in Mombasa. This is the oil from which 200,000 barrels was shipped and will continue for an approximate of two years. The project has given Tullow a chance to get more crude.

To achieve FFD, the government, Tullow and its Joint Ventures (Total and Africa Corp) signed Head of terms agreement on June 26, 2019 as announced by ministry of Petroleum and Mining. The HoT agreement defines resources to be developed, obligations of each partner and physical incentives such as Crude oil Pipeline from Lokichar to Lamu. With this agreement signed, it is possible to achieve government timeline for delivering the first oil. Once the front-end engineering design (FEED) and Environmental Safety and Impact Assessment (ESIA) for the upstream and midstream have been completed, it will be possible to sign the final Investment Decision (FID). The FID is projected to be sign mid-2020 and construction of process facilities will commerce. The project will be undertaken in phases and the first phase involves developing Amosing, Twiga and Ngamia fields target 1c and 2c resources because doing so would be more cost effective. Factory drilling and pad drilling techniques will be applied to drill over 200 production wells and

100 injection wells. These drilling techniques applies the available technologies to ensure maximum rig efficiencies and reduced drilling time per well.

Although EOPS is effective, trucking of oil and gas is uneconomical for the country. Plans for constructing a pipeline from Lokichar to Lamu port using the LAPSSET corridor are currently underway. The pipeline is to be 821km with several pump and pressure reduction stations along it to heat the crude due to its waxy nature. Extensive environmental and social impact assessment are also being conducted and the pipeline will be buried to reduce its impact on communities and wildlife.

In conclusion, the Kenyan oil and gas sector is without a doubt going to find its place among oil exporting nations in a few years' time for the growth is estimated to develop capacity in Kenya which will support future investments. Signs are already visible from the clear growth and development in Lokichar, where Tullow has made great strides in providing water and infrastructure as well as providing jobs for the locals. Full Field Development will bring substantial economic growth for Kenya for oil is the life hood for industrialized nations.

A step towards the future

The highly anticipated LNG project is still in the negotiations phase (host government agreement) as the Tanzanian government seeks to come to an agreement through the talks with the investors – Equinor with Royal Dutch shell, Exxon Mobil, Ophir Energy and Pavilion Energy. The plant is set to be constructed in the Southern Region of Lindi, projected to start in 2022 and concluding in 2028 as stated by the country's energy minister Mr. Kalemani. The LNG project will put Tanzania on the map as a gas producer and player in the gas supply chain, taking its 57 tcf to markets worldwide. The general consensus is that the talks are prolonged to ensure that the terms are mutually beneficial and fair to both the investing oil companies and the government.

The EACOP pipeline made big news earlier this month as there was reportedly a tax issue that led to the halting of the operations along the pipeline. The only ongoing works are currently including the socio-economic surveys and studies for stakeholders affected and relocated by the pipeline's projected path. Many of the activities such as resettlement and tendering along the pipeline have been frozen until further notice. Although operations in Tanzania seem to have slowed down this year amid the hitches in the EACOP, Uganda - Tanzania pipeline earlier this month and the ongoing LNG negotiations that are taking longer than expected, there are new operations with the UK based company – Aminex Plc which was in the process of preparing a program for the planned Chikumbi-1 well in the Ruvuma project. The company has reportedly been identifying and selecting the service companies to cover the various aspects of drilling operations, located only 4 kilometers from the successful Ntorya-2 well that was drilled in 2017. The pre-drilling works are set to start with their partners ARA. ARA is set to provide up to US$ 3 million in advance instalments to the company amidst the completion of the farm-out.

Despite the limited opportunities and operations, the oil and gas enthusiasts and professionals will get together for the Oil & Gas congress to be held on 2-3 October at the Julius Nyerere International Convention Center. The event, supported by TPDC, PURA, EWURA and other government bodies marks an important step in the country's history of oil sector events. With the focus set on the promotion of local content, partnership, creation and capacity building, this 3rd Tanzanian Oil & Gas Congress promises exciting opportunities for investors and oil sector professionals to get together, network and strategize about the upcoming activities. The event is set to have a host of speakers ranging from high ranking Tanzanian government officials including H.E John Magufuli, Mr. President himself, Hon Dr, Kalemani, the Minister of Energy and top industry professionals like Martha Kamuzora, the Acting Sustainability Manager at Equinor Tanzania AS and chairperson of the Tanzanian SPE chapter, Dr. James Mataragio, Managing Director of

Tanzania Petroleum Development Corporation (TPDC) and Mr. Bizimana Ntuyabaliwe, Deputy Managing director, Shell and Mr. Sivert Vist, Project Director, Equinor Tanzania AS. The congress will include a range of talks, panels and exhibitions with themes ranging from Local Content & CSR Development, Partnership Creation, Enhancing SMEs Participation & the Role of Technology Transfer in the Value chain, Industry Collaborations for successful Oil & Gas Projects and Gas Monetization for Economic Diversification in Tanzania.

Uganda's Oil and Gas Industry Expected to Rake in Investments

The outlay for this year is part of the close to US$20bn that the government expects over the next three years as the joint venture oil company partners step up activities to commercialize Uganda's petroleum resources which were discovered over a decade ago. The development of the upstream projects are being taken forward by the three joint venture partners, CNOOC Uganda Ltd, Total E&P Uganda and Tullow Uganda Operations Pty Ltd.

According to Eng. Irene Muloni, the Minister of Energy and Mineral Development Uganda, the government expects a pick-up in activity in the sector this year following a calm 2018 that involved designs of key production infrastructure such as the East African Crude Oil Pipeline and the two central processing facilities. The minister also said that the government has also revised its timelines for first oil by 24 months to 2022 following a series of missed deadlines.

According to the government's original road map, first oil was scheduled for 2020 but the joint venture oil companies failed to submit their final investment decisions in time. The government was expecting the key decisions to be made latest end of 2017 or in the first quarter of 2018.

Progress on the Uganda-Tanzania Pipeline Project

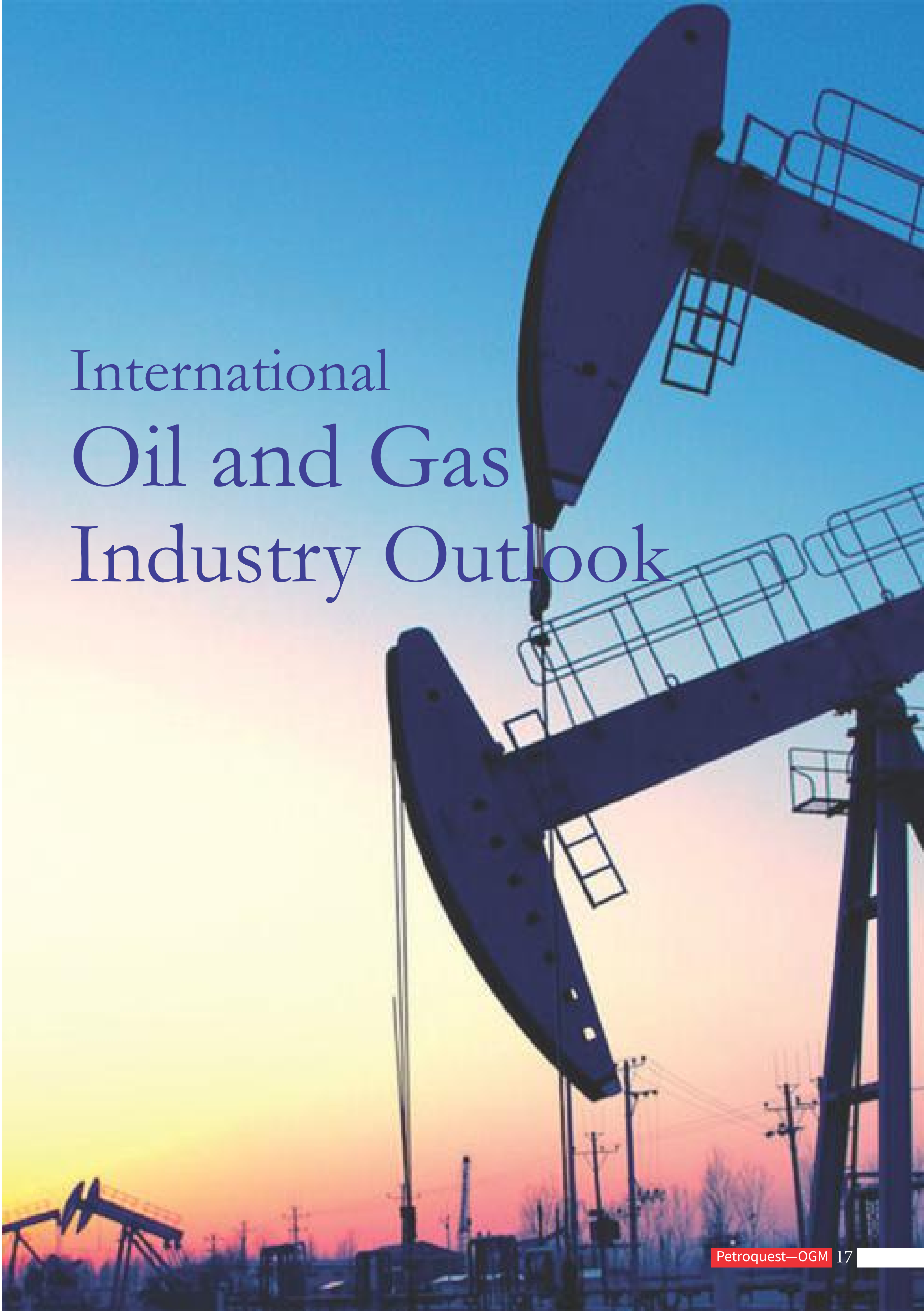
By now, Uganda and Tanzania together with the oil companies given the contracts should have finalised negotiations on the development, construction, and operation of the **Uganda-Tanzania crude oil pipeline.** The two governments and the oil companies involved like the France's Total E&P, China National Offshore Oil Corporation and UK's Tullow Oil PLC should have signed host government agreements, which define the rights and obligations of each of the parties on the proposed $3.5bn oil pipeline project.

However, these processes have delayed and Uganda is now looking at 2022 to start commercial oil production than 2020 as thought before. The host government agreement, which has to be ratified by the Parliaments of both countries once signed by all partners, also includes a shareholders agreement, project financing agreements and a transportation agreement.

The shareholders agreements will set out the shares each of the two countries and oil companies will hold in the pipeline holding company. The company once formed is expected to shape most of the remaining activities of the project planning phase, including the final investment decision. Once all the issues are eyed out, we expect Uganda as a new player in the oil and gas industry in the region.

- by Petroquest Magazine

International Oil and Gas Industry Outlook



Rising AFRICAN OIL GIANT

(ANGOLAN UNTAPPED INVESTMENT OPPORTUNITIES)

Angola is the second largest oil producing country in the sub-saharan Africa and an OPEC member with output of approximately 1.37 million barrels of oil per day (bpd) and an estimated 17,904.5 million cubic feet of natural gas production. Angola has been competing with Nigeria to take the top spot in the African unrefined generation, in spite of the fact that the country has been hit by hard falling oil incomes. Due to a huge drop in oil prices and restricted monetary reforms in the Angolan market, very limited investment in either new or mature exploration and production fields has happened between 2014-2018. The limited investment in turn has led to the current daily lift which is far below capacity. However, announcements of investments and discoveries over the last year are intended to boost production starting 2020 and 2021. Angola holds 9 billion barrels of proven oil resources and 11 trillion cubic feet of proven natural gas reserves, which represent great potential for further economic development and significant business opportunities.

UPSTREAM

Angola's oil and gas industry is dominated by the upstream sector-exploration and production of offshore crude oil and natural gas. Almost 75 percent of the oil production comes from offshore fields. Angola produces light sweet crude oil containing low volumes of sulphur, suitable for processing light refined petroleum products. Major International oil exploration and production companies active in Angola includes Total-41 percent market share (800 bpd), chevron-26 percent market share (510 bpd), Exxon Mobil-19 percent market share (375 bpd), and BP with 13 percent market share (252 bpd). Other international players include ENI and Equinor. Sonangol also operates through its subsidiary Sonangol E&P.

Onshore activities are very limited. SOMOIL, a privately owned company was planning to produce around 5,000 bpd in Soyo, in northern Angola, but operations have been delayed. Onshore blocks in the kwanza basin were offered in the late 2015, but final awards were cancelled and the blocks should be re-bid in 2019.

SERVICE COMPANIES

U.S contractual workers active in the Angolan upstream market include Halliburton, Baker Hughes a GE company, FMC Technologies, Oceanering, Weatherford and Schlumberger just to name a few. Other countries supplying technology and providing services and investing in Angola include the UK, Norway, France, Italy, Korea and China. Korean exports to Angola concentrate on vessels and offshore platforms. While Chinese exports focus on low cost equipment and commodity inputs such as pipes.

MIDSTREAM AND DOWNSTREAM ACTIVITIES

In spite of the fact that the country is a leading oil producer in the region, presently it imports 80 percent of its demand for refined oil based commodities, including gas, diesel, flying fuel, Jet B for gas turbines, oil fuel, lack top and oinments. Just 20 percent of refined item is sourced locally. The refining of crude oil and distribution of refined oil remains well below domestic demand. To reduce the country's' reliance on imported refined products, the government of Angola has plans for the development of national refineries.

The single oil refinery in Luanda with installed capacity of 65,000 barrels per day (bpd) is being operated by Italian oil company ENI, under a joint venture agreement with state-owned company Sonangol. The joint venture was formed to modernize and increase installed capacity and current output levels of 45,000 barrels per day (bpd). The LNG plant in Soyo, in the north of Angola, is organized as a consortium with Sonangol owning 22.8 percent, chevron owning 36.4 percent and Total, BP and ENI each with 13.6 percent.

Sonangol is giving up its monopoly of the distribution of refined hydrocarbons, to allow entry of new players like TOTAL, and expand the network of gas station s throughout the country. TOTALS' CEO announced that TOTAL will invest USD 100 million to construct 50 Fuel stations across Angola.

Sharp Hikes in Crude Oil Prices in World Oil Supply

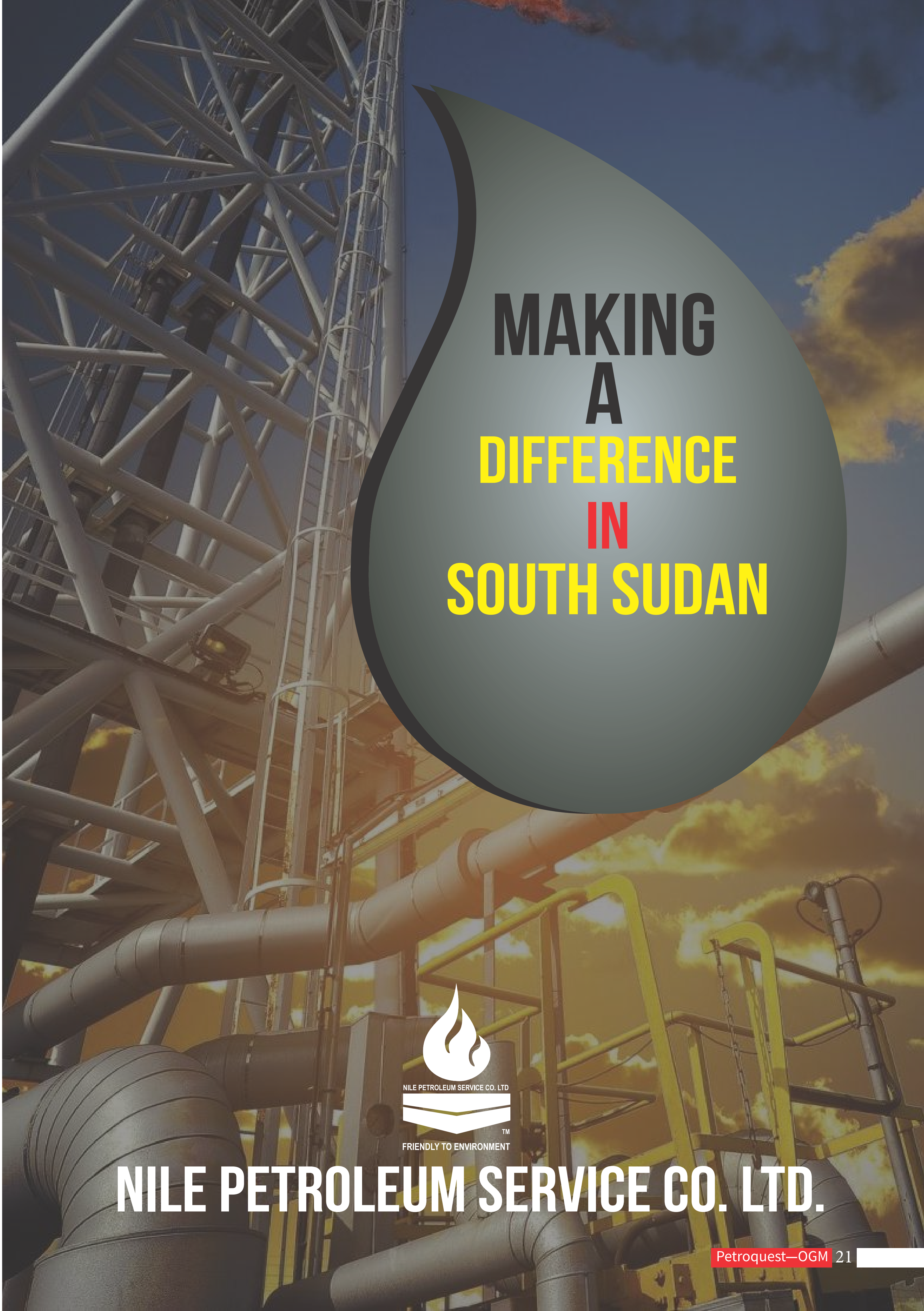
- NrgEdge, Easwaran Kanason

Crude oil prices have been on a rollercoaster ride as tensions heat up in the Middle East. Drone strikes on the heart of the Saudi Arabian production complex – the Abqaiq processing plant (called the most important crude site in the world) and the 1.5 mmb/d Khurais oil field – took out 5.7 mmb/d of crude output. That's the single largest outage of crude output ever – more than 1973 Middle East oil embargo, more than the Iraqi invasion of Kuwait, more than the 1978 Iranian Revolution. The fires it caused affected more than half of Saudi Arabia's current crude production output and essentially wipes a large part of the country's spare capacity. Fortunately, I have not read of any casualty reports from this massive incident.

Yemeni Houthi rebels have claimed responsibility for the attacks. There is some logic to this, given that the Houthi rebel have waged an extended campaign on Saudi oil facilities over the past few years, including a recent attack on the East-West Pipeline – part of a proxy war between Saudi Arabia and Iran backing different factions in Yemen's civil war. But this incident is different. The Abqaiq crude facilities are near Bahrain, over 700km from closest Yemeni border, and over 400km further than the farthest attack into Saudi territory by the Houthis. For the Houthis to suddenly gain a tremendous amount of range in their attacks – especially given that the suspected drones involved in the attack only have a range of up to about 200km – seems implausible. Which is why the US has publicly blamed Iran for the attacks, releasing data and photos that claim the attacks came from a north-westerly direction. Iran, predictably, has claimed that it is not responsible. Other countries, including Saudi Arabia and the UK, have struck a more cautious approach, promising 'investigations'.

Because the attacks occurred over the weekend, there was no immediate effect on traded prices. But when markets opened in Asia on Monday, crude oil prices soared by up to 20% at the highest point – with Brent jumping past the US$70/b mark – before settling back to a daily gain of 15%. Because the attacks were on such an important processing plant, market players worried about global supply disruptions that could last for months. President Donald Trump's move to release US strategic petroleum reserves calmed the market slightly, while subsequent reports from Saudi Aramco that up to 70% of the affected 5.7 mmb/d capacity at Abqaiq had been brought back online provided even more reassurance. Initial fears that the attack would take months to fully restore Saudi Arabian output were downgraded to weeks; still a severe shock, but nowhere near the catastrophe that was suspected.

What is chilling, though, is where this will lead us next. This is the single largest attack in the simmering tensions of the Persian Gulf. With the US so eager to blame Iran, claiming that it was 'locked and loaded' for any possible conflict, the risk of military conflict in the region has risen to new heights. Iran has replied that it is also 'always been ready for a full-fledged war'. We live in chilling times because of this. The supply disruption caused by the drone attack may have already been mitigated by quick action by Saudi Aramco, but the long-term implications are dangerous. War is always triggered by a series of escalating actions, and fears are that the attack on Abqaiq might be the straw that broke the camel's back. And if that happens, the supply disruptions that will be spinning out of this war will be considerably more severe.


MAKING
A
DIFFERENCE
IN
SOUTH SUDAN
NILE PETROLEUM SERVICE CO. LTD
TM
FRIENDLY TO ENVIRONMENT
NILE PETROLEUM SERVICE CO. LTD.

Nile Petroleum Service Co. Ltd (NPSC):

The local pioneer service provider in South Sudan

NPSC is an independent and hundred percent (100%) locally owned Oil & Gas Services Company which was established in 2011 with a wide range of expertise in the oil and gas sector.

After the independence of South Sudan from Sudan, the country became the only matured oil producer in the East Africa region sitting on huge deposits of oil reserves. There was a great need for a major local services provider in the oil and gas sector to fill the gap in the industry. Therefore, Nile Petroleum Service Co Ltd. was established with the objectives of providing exceptional services in maintenance and Engineering, Procurement, Construction and Commissioning (EPCC) services in the oilfields. NPSC Provides services for upstream facilities for the major oil and gas operating companies in the country.

Since its inception, the company has handled many projects in consultancy, operations & maintenance and EPCCS services, in surface facilities in the currently producing blocks. The company has contracts with the Ministry of Petroleum Republic of South Sudan, Dar Petroleum Operating Company (DPOC), Sudd Petroleum Operating Company (SPOC), Greater Pioneer Operating Company (GPOC). Nile Petroleum Service Co. Ltd continues to provide services beyond expectation in the field of surface facilities (FSF) and Field Production Facilities (FPFs) projects. NPSC also provides a wide range of recruitment & workforce management services for oil & gas industry and as per client's requirements, Something the company has been doing exceptionally and proud of as the local services provider pushing the local content agenda.

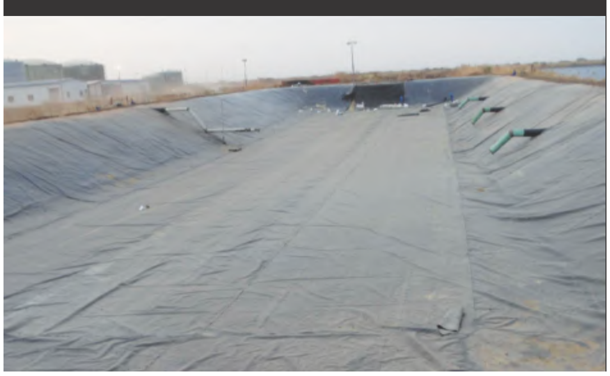
CP INSPECTION

CONSTRUCTION WORK

OIL RECOVERY WORK

CONSTRUCTION OF SKIMMED POND

HDPE LINER INSTALLATION



PRODUCTS & SERVICES

- Maintenance, Testing & Commissioning
- Cathodic Protection (CP) Engineering Services
- NDT Inspection services
- Piping,(P&ID, Isometric)
- EPCC Projects for Field Surface Facilities
- Blasting & Painting
- Tank Emptying, Cleaning & Inspection services
- GRE pipes repair and maintenance
- HDPE Liner Installation
- Operating & Maintenance Services
- Consultancy Services (Mech., E&I)
- Protection Relays Configuration, Setting calculation & implementation
- Technical Manpower Supply (Engineers & Craftsmen)
- Procurement, for bulk MTO, consumables Operation and maintenance spare parts.
- Vehicles maintenance, service, and spare part supplying.
- Handling, transportation, and lifting heavy equipment.

OUR ADDRESS

Nile Petroleum Service Co. Ltd
Tumbura Rd - 300m Eastern Ethiopian Church
Atla-Bara (B) Block 11N, Plot No. 45
Office Tel: +211 912 301 274
Mobile: +211 922 201 270 /1
Website: www.nilepetroleumservices.com
E-mail: info@nilepetroleumservices.com

Juba Section

THE SOCIETY OFPETROLEUM ENGINEERS

JUBA SECTION

The Society of Petroleum Engineers (SPE) is an international volunteer nonprofit and professional organization that has many sections all over the world. SPE is the largest individual member organization serving managers, engineers, scientists and other professionals worldwide in the oil and gas industry.

The mission of SPE is to collect, disseminate, and exchange technical knowledge concerning the exploration, development and production of oil and gas resources and related technologies for the public benefit and to provide opportunities for professionals to enhance their technical and professional competence.

The Vision of SPE is to advance the oil and gas community's ability to meet the world's energy demands in a safe, environmentally responsible, sustainable manner".

The Society of Petroleum Engineers International (SPE) has a section in South Sudan which was established in 2017. SPE Juba Section is run by a team of vibrant experience industry professionals alongside young professionals.

As the professional society serving the upstream sector of the industry in South Sudan, SPE Juba Section focuses on technical knowledge collection and dissemination through events and publications to meet the expectations of the industry and members in these areas.

Since establishment, SPE Juba Section has initiated programs and carried out many activities to help local industry professionals engage in a global platform. The activities and programs are relevant and in line with SPE mission and vision. Juba Section has carried out various activities ranging from community outreach programs, technical knowledge dissemination and career guidance, and networking events both within South Sudan and East Africa. The young professionals under Juba Section conducted several lectures most notably in University of Juba and Kenyatta University in Kenya, under SPE Ambassador Lecture Program initiative (ALP). Juba Section has also visited orphanage and hospitals like Alsabah Children Hospital to give a helping hand as part of SPE Juba Section community outreach initiative under SPE Care. Juba section organized industry networking events like the SPE Juba Section Corporate tournament which happens annually. The corporate tournament has been won consecutively by Nile Petroleum Corporation (NILEPET). This event is tailored to bring industry professionals from different companies to come together to interact and network with each other. Recently, Juba Section hosted a Distinguished Lecture under the SPE Distinguished Lecturer Program by Mr. Bruce James from Canada under the topic "Using the movement of fluids to improve reservoir characterization."

SPE Juba Section members attended the 2019 SPE Annual Technical Conference and Exhibition (ATCE) in Calgary Canada. The ATCE is one of the best annual technical conferences in the world which brings thousands of delegates across the globe to discuss the way forward, latest technologies, and issues in the oil and gas industry.

Six months after establishment, the Juba Section won the highest award a section could possibly win, the SPE President Award, which was presented in Dallas USA and received by Eng. Kamal Mabok and Eng. James Makuach Makeny, and this year again the section has won Section Excellence Award. The section has also been getting individual recognition with one of the section board members, Eng. Mangar Mawut winning the Young Professional Member Outstanding Service Award at the regional level last year and this year the Chairperson Eng. Kamal Mabok won the 2019 Regional Public Service Award. Juba Section is the first newly established section that has been so impressive with unprecedented excellence in terms of engagement and outreach activities.

SPE platform is also not limited to only oil and gas industry professionals, but it is extended to students of universities, colleges, and even high schools. SPE educate students on petroleum engineering programs, career guidance, and the value our industry brings to the society.

The Section has many professionals especially the young professionals who are actively engaged in the activities. We encourage more of our industry professionals to join SPE and be part of a global professional society where you can grow as an individual, professionally, and contribute to the growth of oil and gas industry effectively.

SPE will remain the major essential source for upstream oil and gas knowledge transfer globally. SPE's sustainable community, with more than 1,500 active members, is actively implementing this strategy through open communication and collaboration with all relevant organizations, furthering discussions and knowledge sharing about oil and gas sustainability.

FOOD FOR THOUGHTS

"When it's real, you can't walk away"

"Great things never come from comfort zone"

"If you can dream it, you can do it"

PetroQuest, Proudly Promoting Energy made in South Sudan

Fully South Sudanese owned, PetroQuest Oil and Gas Magazine is an oil and gas industry magazine that creates unprecedented networking platform for operating and services companies in South Sudan. The regulating authorities have an easy communication platform through the magazine that extend to the public.

PetroQuest Oil and Gas Magazine also provide contributing writer opportunities to oil and gas industry professionals to share their expertise with our many subscribers.

PETROQUEST OIL AND GAS MAGAZINE

PetroQuest, Professional Magazine for Oil and Gas Professionals. Proudly Promoting Energy made in South Sudan

Munuki Suk Libya, Juba South Sudan | info@petroquest-ogm.com | +211911230666 | www.petroquest-ogm.com

ISBN 978-80-87049-09-12

9 788087 049012