AFRICA’S ELITE ENERGY EVENT

September 5-7, 2018
Cape Town International Convention Centre, CTICC 2

SHOW GUIDE
CONFERENCE & EXHIBITION

JOIN US IN CAPE TOWN FOR THE THIRD ANNUAL AFRICA OIL & POWER ON SEPTEMBER 5-7, 2018

SCHEDULE
The 2018 Program including panel descriptions

MEET THE KEYNOTES
Ministers and Dignitaries on stage at AOP

DEAL MAP
Mega projects and new initiatives the continental overview

ENERGY COALITIONS
AOP talks to the OPEC Secretary General

AFRICA ENERGY SERIES
Investment reports books and documentaries
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Energy Coalitions: THE AOP 2018 THEME

Africa Oil & Power’s theme for 2018 concentrates on the best way to drive Africa’s energy sectors forward — through energy coalitions, from regional cooperation at the government level and private companies coordinating on development and financing deals to how the private and public sectors can collaborate together.

The need to build energy coalitions is certainly not new. Indeed, industry experts and analysts have been cautioning for a united global front, intra-African cooperation and private sector efficiencies for years. But the sustained low oil price environment has forced a conversation on possible collaborations; and, throughout the industry, new and improved energy coalitions are forming. Perhaps for the first time in modern history, this new emphasis on coalition-building has the ability to transform the energy sector from the inside out. The main theme for AOP 2018 is Energy Coalitions.

There is perhaps no greater visual of such a coalition than the Organization of the Petroleum Exporting Countries, with 13 non-member countries on the game-changing oil-production cuts that brought stability to the market. With OPEC’s desperate need for energy partners to return market stability, many African countries found an international voice. Two new countries, Gabon and Equatorial Guinea, have joined OPEC as members since the crash. Others, including South Sudan and Sudan, are key collaborators in the oil price cuts. And African countries are also advancing in the Gas Exporting Countries Forum, with Equatorial Guinea hosting the first African forum in 2019.

The continent is also seeing regional cooperation taking off in an unprecedented way, with countries making a concerted effort to coordinate on trade, knowledge transfers, and energy-sharing projects. In the last year, Equatorial Guinea has inked LNG sales and infrastructure agreements with both Burkina Faso and Ghana; South Sudan and neighboring Uganda are coordinating on power projects; Uganda and Tanzania are moving forward with the longest, heated oil pipeline in the world; and initiatives like LNG2Africa are driving Africa’s downstream energy infrastructure forward. How have governments’ strategies been changed by the low oil price environment, and what can we expect the spirit of cooperation to continue? Are governments working with the private sector differently to bring projects to fruition?

And these energy coalitions are not limited to associations and governments, with the private sector moving full-steam ahead in collaborative efforts. A Wood Mackenzie report predicts that better supply-chain collaboration on major assets between oil and gas operators, EPC firms and oilfield services firms could net $90 billion to $240 billion in savings over the next five years — representing a 20 percent total cost reduction for the oil and gas industry. How can the upstream sector better collaborate with service providers and vice versa? How can the oil and gas industry reimagine the supply chain through a lens of building coalitions? How can building these coalitions drag down costs and help move major projects forward?

Certainly, the financial sector is eager to see more cooperation on major projects, after banks and private equity firms alike were burned in the oil price crash and left with staggering and even at times debilitating levels of uncollected, bad debts. Private banks, development institutions and private equity firms are now eager to see a diverse range of partners and an equally diverse set of funding to better mitigate risk in the sector. How can coalitions get projects to FID and to commissioning? What types of partnerships are most beneficial in securing financing, especially for major projects like Ophir Energy’s Fortuna FLNG and BP and Kosmos Energy’s Tortue LNG project in offshore Senegal?

Even the development of Africa’s energy mix is dependent on successful energy coalitions, as renewables and hydrocarbons vie for the top spot in powering Africa. Renewables are expected to play an ever-increasing role in lighting Africa, with the International Renewables Energy Agency predicting renewables will make up 22 percent of Africa’s power by 2030 (up from 5 percent in 2013). Still, collaborations with the hydrocarbons industry will be invaluable to move even renewables forward, with LNG and gas-to-power expected to solve intermittency and cost problems. How will coalitions being built between companies in the renewable and hydrocarbons sector move the power sector forward? What role will gas-to-power play in lighting Africa?

Though infamously difficult to predict, oil prices are expected to hover in the $50 per barrel range for 2018. While it is certainly an improvement over the lows of $28 per barrel experienced in 2016, the industry is still most certainly adapting to a “lower-for-longer” mentality, focused on driving down costs and operating efficiently. Governments and industry players are eager for stability in the market, and willing to play together to get it. This new mentality is expected to continue to spur new partnerships and collaborative efforts. AOP 2018 will not only address these questions at the third annual conference in Cape Town, but it will also be the place in Africa to re-imagine old alliances and forge new relationships.
Africa Oil & Power is the continent’s premier platform for energy investment and policy. With a heralded series of energy events, AOP brings together an elite class of ministers and senior level government officials and top executives of private sector companies spanning the energy value chain, including upstream, downstream, engineering, construction, services, consulting, power generation, legal and finance. AOP is the benchmark for top-tier networking and high-level discussion on a multitude of issues concerning the African energy landscape.

**Products & Services**
- Regional and national energy and finance conferences
- Government and market consultancy
- Acquisition and divestiture services and investment promotion (inc. licensing rounds)
- Strategic communications and press conferences

**Our Mission**
- To enable investment in the energy industry of Africa, the world’s most underexplored, underdeveloped and overlooked region
- To empower Africa’s indigenous companies through a platform that promotes leadership, national content, technology, entrepreneurship
- To create the most engaging content experience from the industry’s biggest power brokers

**About AOP**
Africa Oil & Power is honored to bring the present and future leaders of Africa’s energy sector to Cape Town for the continent’s elite energy event.

**The Agenda**
Africa Oil & Power Returns to Cape Town

For the third year running, Cape Town is host to the flagship Africa Oil & Power conference, connecting Africa’s top leaders in the petroleum and power sectors. In addition to the conference, AOP is proud to unveil the 2018 Exhibition, making its debut this year. Companies and associations can now show their products and services to an audience of 500 elite delegates in a Country Pavilion format, highlighting the top companies from selected African countries.

Building on the success of previous years, AOP again brings ministers, senior government officials and top executives from the private sector from across Africa to lead the conversation on the state of Africa’s oil, gas and power sectors, and to identify the continent’s greatest opportunities. Due to a packed program of panels, presentations and keynotes, delegates are invited to attend sessions hosted on both the Main Stage and our Spotlight Stage.

Africa Oil & Power’s theme for 2018 concentrates on the best way to drive Africa’s energy sectors forward — through energy coalitions, from regional cooperation at the government level and private companies coordinating on development and financing deals to how the private and public sectors can collaborate together.

For the first time in 2018, Africa Oil & Power welcomes the secretaries general of OPEC, GECF and the African Petroleum Producers Association to our flagship event. These dignitaries, alongside 15+ ministers of petroleum and power, will articulate why Africa is a key partner in the new global alliances that are shaping the energy industry today.

Africa Oil & Power is honored to bring the present and future leaders of Africa’s energy sector to Cape Town for the continent’s elite energy event.

**Arrange a Meeting**
Do you want to arrange a meeting with a fellow panelist or delegate? Just ask an organizer or make a request on the AOP app!
What’s New at AOP?

DAY OF POWER

Africa Oil & Power presents, for the first time, the Day of Power. Including panels on gas-to-power, privatization and renewables, the Day of Power covers the full spectrum of power activities in Africa, from the interface with hydrocarbons and renewable generation to delivery to consumers. Join us on Day 2 on the main stage.

EXPERT MODERATORS

The AOP community brings together the finest minds in African energy, and leading the discussion is our team of accomplished moderators. For the first time in 2018, AOP welcomes media moderators from CNN, the BBC and others to lead panels alongside our experienced industry moderators.

THE AOP EXHIBITION

At the first AOP exhibition, we celebrate the innovation of Africa’s operators and service providers and give companies and institutions a platform to showcase their goods and services. Tour the exhibition and meet with Africa’s leading and emerging players. For those looking to make an impact, AOP offers tailored exhibition stands at all levels.

ENERGY COALITIONS DINNER

Our theme for 2018, Energy Coalitions, guides the narrative for African Oil & Power. This year we give our first ‘Africa Oil Man of the Year’ award to the Secretary General of OPEC, and name the recipients of the Big Five Energy Awards, as chosen by the AOP community, Advisory Board and organizers.

COUNTRY SPOTLIGHT STAGE

Country Spotlights at AOP give an overview, on a national level, of the deals and dealmakers that matter in six African countries. Now in 2018, AOP presents its dedicated program of spotlights on their own stage, with investor-oriented programs for Nigeria, South Africa, South Sudan, Equatorial Guinea, Mozambique and Senegal.

Meet the Media MODERATORS

LERATO MBELE-ROBERTS
Presenter
BBC World News

ROBERT PERKINS
EMEA Editor for Oilgram News
S&P Global Platts

ELENI GIOKOS
Correspondent
CNNMoney Africa

PAUL BURKARDT
Journalist
Bloomberg

S&G Global Platts
African ministers of petroleum and power

Secretaries general

Expert moderators

Industry panelists

Country spotlights

Stages

Days of networking, exhibition and conference
Meet The KEYNOTES

H.E. MOHAMED SANUSI BARKINDO
Secretary General, OPEC

H.E. PATRICK TRONQUOA
Prime Minister, São Tomé and Príncipe

H.E. FERNANDO MAQUENGO FREITAS
Executive Director, ANP-STP

H.E. HOUSSOU
Minister of Energy, Water and Mines, Benin

H.E. SERGE BLAISE ZONIABA
Minister of Energy, Republic of the Congo

H.E. ERNEST GBWABOUBOU
Minister of Mines, Industry and Technological Development, Cameroon

H.E. ERNEST GBWABOUBOU
Minister of Mines, Industry and Technological Development, Cameroon

H.E. DR. DHIEU MATHOK DIING WOL
Minister of Energy and Dams, South Sudan

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Minister of Energy, Water and Mines, Benin

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Minister of Energy, Republic of the Congo

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Minister of Energy, Republic of the Congo

H.E. ERNEST GBWABOUBOU
Minister of Mines, Industry and Technological Development, Cameroon
**PROGRAM MAIN STAGE**

**DAY 1  ENERGY COALITIONS**

08:00  08:30  Registration and coffee

08:30  09:30  Opening speeches and ministerial keynotes

09:30  10:45  Networking break

10:45  11:15  Lunch

11:15  12:30  Panel: ENERGY COALITIONS

Moderator: LERATO MBELE-ROBERTS
Presenter: BBC World News

Panelists:
- H.E. YURY SENTYURIN, Secretary General Gas Exporting Countries Forum
- H.E. MAHAMAN LAOUAN GAYA, Secretary General African Petroleum Producers’ Organization
- H.E. GUILLAUME DOANE, CEO, Africa Oil & Power
- H.E. HASSAN KASSIM FARAH, General Manager Kengas

12:30  14:00  Lunch

14:00  15:30  Panel: THE GAS ECONOMY

Moderator: ANDRI HUGO, CEO, Novo Energy

Panelists:
- DR. OLIVER QUINN, Director, Africa and Global New Ventures, Ophir Energy
- DR. SUN XIANSHENG, Secretary General, International Energy Forum
- H.E. MOHAMMED SANUSI BARKINDO, Secretary General, OPEC
- H.E. TORBJORN TORNQVIST, CEO, Gunvor

15:30  16:00  Networking break

16:00  17:30  Panel: TRADING

Moderator: ELENI GIOKOS
Correspondent: CNNMoney Africa

Panelists:
- DR. OLIVER QUINN, Director, Africa and Global New Ventures, Ophir Energy
- ROY GIDLEY, CEO and Co-Founder, Maatschappij Gas Afrika
- H.E. SEBASTIAN WAGNER, Executive Director, DMWA Resources
- TOPE SHONUBI, Co-founder and Director, Sahara Group
- ANDRI HUGO, CEO, Novo Energy

17:30  19:00  ENERGY COALITIONS GALA DINNER & BIG FIVE AWARDS CEREMONY

Hosted by: NJ AYUK, CEO, Centurion Law Group

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**DAY 2  DAY OF POWER**

08:00  09:00  Registration and coffee

09:00  10:30  Panel: POWER MINISTERS’ INSIGHTS

Moderator: ROY GIDLEY, CEO and Co-Founder, Maatschappij Gas Afrika

Panelists:
- H.E. HASSAN KASSIM FARAH, General Manager, Kengas
- H.E. JACOB FLEWELLING, Regional Manager, U.S. Trade and Development Agency
- H.E. HASSAN KASSIM FARAH, General Manager, Kengas
- H.E. JACOB FLEWELLING, Regional Manager, U.S. Trade and Development Agency

10:30  11:00  Networking break

11:00  11:30  Country Spotlight – South Africa

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**Country Spotlight – South Africa**

**Panel: PETROLEUM MINISTERS’ INSIGHTS**

Moderator: ELENI GIOKOS
Correspondent: CNNMoney Africa

Panelists:
- H.E. BILAL EL MIQUARD, Minister of Energy and Dams, South Sudan
- H.E. HASSAN KASSIM FARAH, General Manager, Kengas
- H.E. JACOB FLEWELLING, Regional Manager, U.S. Trade and Development Agency
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- H.E. GUILLAUME DOANE, CEO, Africa Oil & Power
- H.E. HASSAN KASSIM FARAH, General Manager, Kengas

**Panel: THE GAS ECONOMY**

Moderator: ANDRI HUGO, CEO, Novo Energy

Panelists:
- DR. OLIVER QUINN, Director, Africa and Global New Ventures, Ophir Energy
- DR. SUN XIANSHENG, Secretary General, International Energy Forum
- H.E. MOHAMMED SANUSI BARKINDO, Secretary General, OPEC
DAY 2
DAY OF POWER

Panel: PRIVATIZED POWER

Moderator: IGGI HULÁK
Partner, Utilities and Oil & Gas Practices, A.T. Kearney

12:30 - 14:00

HITOSHI NAGANO
Chief Representative
Japan Bank for International Cooperation

JONATHAN BERMAN
Managing Director
Fieldstone

AKINWOLE OMOBORIOWO II
Chairman and CEO
Genesis Energy

LLOYD MANOKORE
Partner and Founder
Manokore Attorneys

11:00 - 12:30

PANEL: National Oil Companies

12:30 - 14:00

Lunch

14:00 - 15:30

Panel: RENEWABLES IN THE ENERGY MIX

Moderator: WILL HULL
Managing Director, Rich Energy Investments

15:30 - 16:00

Networking break

16:00 - 18:00

Panel: GAS TO POWER

Moderator: NAILI NASSER
CEO, South Africa Oil & Gas Alliance

18:00 - 19:30

Country Spotlight - Equatorial Guinea

Country Spotlight - Nigeria

Ask questions during panel discussions on Twitter at @AfricaOilPower using the hashtag #AOP18

DAY 3
SPOTLIGHT ON PROJECT

Panel: UPSTREAM AFRICA

Moderator: ROBERT PERKINS
EMEA Editor for Oilgram News
S&P Global Platts

10:30 - 11:00

Networking break

10:30 - 12:30

PANEL: Local Content

12:30 - 14:00

Lunch

14:00 - 15:30

Panel: CLOSING DEALS

Moderator: PAUL BURKHARDT
Journalist
Bloomberg News

15:30 - 16:00

Press Conference

16:00 - 18:00

Panel: THE OUTLOOK ON MEGA PROJECTS

Moderator: PAUL DURAND
Managing Director
Bloomberg News

18:00 - 19:30

Country Spotlight - South Sudan

Closing remarks from AOP Advisory Board Members / Closing drinks
**Country Spotlight: SOUTH AFRICA**

- Hon. Jeff Radebe, Minister of Energy, South Africa
- Dr. Nolane Nkobese, Director, Infrastructure Financing & PPP, Municipal Infrastructure Support Agency, South Africa
- Tolani Azezi, Oil South Africa, Pheu

**Country Spotlight: SENEGAL**

- H.E. Macky Sall, President of Senegal
- Hussain Nokate, Permanent Secretary, COS-PETROGAS
- Mamadou Faye, Director General, Petrosen

**Country Spotlight: EQUATORIAL GUINEA**

- H.E. Gabriel Mbaga Ondimba, Minister of Mines and Hydrocarbons, Equatorial Guinea
- Alfredo Oló Lima, President, LNG2Africa
- Rakesh Dudder, Managing Director, Shree Hari Group
- Oscar Berniko, DG State Petroleum Companies, Ministry of Mines and Hydrocarbons

**Panel: NATIONAL OIL COMPANIES**

- Hon. Dr. Chele Abi Deng, Managing Director, Nilepet
- Mamadou Faye, Director General, Petrosen
- Dr. Maikanti Baru, General Managing Director, NNPC

**Panel: LOCAL CONTENT**

- Eric Williams, President, Royal Triangle
- Frank Enye, Managing Director, RoyalGate Energy
- Dr. Emmanuel Ibe Kachikwu, Minister of State for Petroleum Resources, Nigeria
- Kola Karim, CEO, Shoreline International

**Country Spotlight: SOUTH SUDAN**

- Hon. Dr. Chele Abi Deng, Minister of Energy and Energy, South Sudan
- Hon. Ezekiel Lol Gatkuoth, Minister of Petroleum, South Sudan
- H.E. Orlando Pontes, Executive Director, ANP-STP

**Country Spotlight: NIGERIA**

- Hon. Dr. Emmanuel Bemach, Director of State for Petroleum Resources, Nigeria
- Dr. Maikanti Baru, Group Managing Director, Nigerian National Petroleum Corporation
- Akin Odumakinde, CEO, Deltatek Group

**Join the Conversation**

Ask questions during panel discussions on Twitter at @AfricaOilPower using the hashtag #AOP18
AOP 2018/SCHEDULE

DAY 1  ENERGY COALITIONS

On Day 1 of AOP 2018, our esteemed ministers of petroleum and the OPEC Secretary General introduce the conference, followed by a presentation on the theme of this year’s event: Energy Coalitions. Delegates can watch and ask questions to our feature oil and gas finance panel, followed by our upstream and trading panels and our first country spotlight in the afternoon. In the evening we host the Energy Coalitions Gala Dinner and Big Five Energy Awards, honoring the best of the industry.

08:00 – 08:30 Registration and coffee
08:30 – 09:30 Opening speeches and ministerial keynotes
09:30 – 10:45 Panel: ENERGY COALITIONS
10:45 – 11:15 Networking break
11:15 – 12:30 Panel: MINISTERS’ INSIGHTS
12:30 – 14:00 Lunch
13:15 – 14:00 Press Conference*
14:00 – 15:30 Panel: THE GAS ECONOMY
15:30 – 16:00 Networking break
16:00 – 17:30 Panel: TRADING
19:00 – 21:00 Energy Coalitions Gala Dinner and Big Five Awards Ceremony

DAY 2  DAY OF POWER

Day 2 is dedicated exclusively to power, with keynotes from energy ministers to start the day. These are followed by a panel evaluating the state of power privatization projects, a panel discussing gas to power projects, and a panel on renewable energy policy and projects. The feature country spotlight for the day is on South Africa, a power leader in Africa, and the final panel of the day is the Power Pool, a focus on Southern Africa’s electricity industries and networks. The day ends with an exclusive off-site evening function.

08:00 – 09:00 Registration and coffee
09:00 – 10:30 Panel: MINISTERS’ INSIGHTS
10:30 – 11:00 Networking break
11:00 – 12:30 Panel: THE PRIVATIZED POWER SECTOR
12:30 – 14:00 Lunch
13:15 – 14:00 Press Conference*
14:00 – 15:30 Panel: RENEWABLES IN THE ENERGY MIX
15:30 – 16:00 Networking Break
16:00 – 17:30 Panel: GAS TO POWER
19:00 – 21:00 Power Brokers evening function
AOP 2018 / SCHEDULE

On the final day of AOP 2018 we host some of our flagship panels, including the national oil companies panel looking at state-led developments across Africa; a panel on the gas economies being built in many African states (and in some cases, across borders); and our Outlook on Megaprojects panel. The day closes with keynotes from Africa Oil & Power Advisory Board members. VIPs and delegates are invited to drinks following closing remarks.

08:00 – 09:00  Registration and coffee

09:00 – 10:30  Panel: UPSTREAM AFRICA

09:00 – 10:30  Panel: LOCAL CONTENT

10:30 – 11:00  Networking break

11:00 – 12:30  Panel: CLOSING DEALS IN 2018

12:30 – 14:00  Lunch

12:30 – 14:00  Press Conference

14:00 – 15:30  Panel: THE OUTLOOK ON MEGA PROJECTS

14:00 – 15:30  Country Spotlight - South Sudan

15:30 – 16:30  Closing remarks and speeches from AOP Advisory Board Members

16:30 – 18:00  Closing drinks

THE AOP Panels

ENERGY COALITIONS

Our theme for 2018 concentrates on the best way to drive Africa’s energy sectors forward — through energy coalitions. The oil price environment forced a conversation on possible collaborations, and, throughout the industry, new and improved energy coalitions are forming. Perhaps for the first time, this new emphasis on coalition-building has the ability to transform the energy sector from the inside out. The Secretary Generals of OPEC, IEF, APPO and GECF discuss how this newfound unity can move the sector forward.

MINISTERS INSIGHTS (POWER)

A lack of power is easily one of Sub-Saharan Africa’s greatest challenges to sustainable development and economic diversification. The need to create more power generation is clear, but the strategy to do so varies greatly by country, as do the available resources and the challenges to overcome. Power ministers from a diverse range of countries and a wide range of policies talk solutions to Africa’s power problem.

MINISTERS INSIGHTS (PETROLEUM)

Africa’s ministers of petroleum are leading figures in the development of Africa’s hydrocarbon resources — instrumental in the development of regulatory frameworks, implementation of local content, creating an attractive environment for investment and guiding the overall growth of the sector. Some of the continent’s top ministers — from mature producers to frontier exploration environments like South Sudan — will highlight the opportunities and tackle the challenges facing Africa’s oil and gas sector.

NATIONAL OIL COMPANIES

Africa’s national oil companies were largely ignored by the global oil and gas sector for decades, but that didn’t stop the development of the continent’s most mature producers, such as Nigeria and Angola, from building strong state-owned petroleum firms. Other countries, such as South Sudan, are now building up the involvement of the national oil companies in Africa’s oil sector. But much still needs to be done. As a whole, Africa’s NOCs are underdeveloped and under-involved in the sustainable development of the hydrocarbons sector.

TRADING

Oil traders were perhaps one of few groups in the energy business to benefit from the price crash in 2014, taking advantage of market volatility to bring in record-breaking profits during the downturn. The stabilizing oil price — a boon for the oil industry — is a wide range of policies talk solutions to Africa’s power problem.

THE GAS ECONOMY

Recent discoveries of major gas fields across Africa have the potential to completely transform economies. Technology like LNG, CNG and LPG are playing an increasingly vital role in the monetization of Africa’s gas resources, but an estimated $721 billion is needed to develop Africa’s gas infrastructure between 2013 and 2035, from pipelines to LNG. The full transformative potential of Africa’s 600 trillion cubic feet of gas can only be realized when the necessary infrastructure is in place, strong pricing models are developed, and regulations support new development.
Upcoming EVENTS CALENDAR

Africa Oil & Power connects an audience of ministers, executives and entrepreneurs at the flagship AOP conference, at country specific events all over the continent, and at investor focused events worldwide.

South Sudan Oil & Power 2018
November 21-22, 2018
Juba, South Sudan

APPO Cape VII
March 18-22, 2019
Malabo, Equatorial Guinea

AOP Investor Forum
June 11, 2018
London, UK

Angola Oil & Power 2019
June 20-21, 2019
Luanda, Angola

AOP 2019
October 2019
Cape Town, South Africa

GECF Ministerial Meeting and Conference
December 2-4, 2019
Malabo, Equatorial Guinea

Book your delegate passes at www.africaoilandpower.com

THE PRIVATIZED POWER SECTOR

A lack of power is easily one of Africa's most pressing issues. The estimated annual investment needed to achieve universal electricity access between 2015 and 2040 to in all sectors of power production ranges between $334 billion to $636 billion per year. But most state-owned enterprises often can't foot the bill, and many governments in Africa have been turning to the private sector to boost power generation capacity. But a wide-range of issues are holding back investment in key sectors, including lack of a regulatory regime, bankability of projects, viability of the off-taker and the establishment of independent regulators.

RENewables in the energy mix

Renewable energy is playing a vital role in solving Africa's power problem, with African consumption powered by renewables expected to jump from 5 percent in 2013 to 22 percent by 2030. Drivers of renewable growth in Africa include lower costs, an abundance of renewable resources, environmental benefits and off-grid and rural capacity. Obstacles that historically held back renewables, such as high cost and intermittency, are becoming less of an issue. Finding funding and building the necessary infrastructure for renewables remains challenging, however, especially since much of the technology is imported.

GAS TO POWER

With proven gas reserves of 503.3 trillion cubic feet found across Africa, gas has the potential to provide 400 GW of power. Countries that have already discovered gas are working to turn exploration success into a tangible benefit for their citizens, in the form of electricity. Even countries without gas reserves are planning gas to power projects, and are building the infrastructure to import gas from their neighbors. Finding the funds to finance these projects is challenging, however, and Africa's infrastructure deficit has been a main obstacle to monetizing gas.

FISCAL ENVIRONMENT

The outlook for Africa in 2018 and 2019 is positive, providing much-needed relief for the oil and gas sector. Financiers are regaining confidence in African markets. Money is crossing borders again, with inflation easing and exchange rates stabilizing. With new-found confidence, projects are again looking forward, including a wave of new gas monetization, infrastructure and strategic upstream projects. Though the financial sector is stabilizing fast, financing in Africa's energy space is still expected to be tight, and with several years of delayed and cancelled projects already in the books, there is a lot at stake.

OUTLOOK ON MEGA PROJECTS

Africa has hosted several of the world's biggest oil and gas discoveries in recent years. Major gas finds in Senegal, Mauritania, Tanzania and Mozambique stand out in particular. However, since 2014 the monetization of many of these discoveries was put on the back burner, and financial institutions and international oil companies are cherry-picking the best projects to move forward. Africa is also a hub for downstream opportunities, with a severe lack of refining and petrochemicals infrastructure limiting the continent's further development. Only the most economical projects are expected to reach FID in this competitive landscape.

LOCAL CONTENT

National capacity building is quickly becoming a top priority in Africa. For a select few countries, ensuring a strong local sector is not a new concept. Nigeria has one of the oldest and strongest local content frameworks on the continent and has also built one of the strongest domestic sectors. Equatorial Guinea is fast becoming a leader for enforcement of local content laws — evicting international companies from operating due to noncompliance. What lessons can be learned about local content and what steps still need to be taken to ensure Africans benefit from natural resources?
An estimated $194 billion will be spent on 93 planned oil and gas projects between 2018 and 2025.

**NIGERIA**
Projects in Nigeria are expected to account for 25 percent of the total planned CAPEX investments in Africa.

- **Ultra-deepwater**
  - Zabazaba-Eni project ($11 billion CAPEX planned)

- **Deepwater**
  - Bonga North ($8.9 billion)
  - Bonga Southwest/Aparo ($3.9 billion)

**MOZAMBIQUE**
An estimated $35 billion is needed between 2017 and 2022 to develop planned LNG projects in Mozambique.

- **Golfinho-Atum Complex** ($14.9 billion CAPEX planned)
- **Ultra-deepwater Mamba Complex** (Mozambique, $10.2 billion)
- **Ultra-deepwater Coral South** (Mozambique, $9.5 billion)

**ANGOLA**
An estimated $35 billion is needed between 2017 and 2022 to develop planned LNG projects in Mozambique.

- **Kaombo Complex** ($5.1 billion CAPEX planned)
- **Orca** ($3.7 billion)
- **Lucapa** ($3.2 billion)

**EQUATORIAL GUINEA**
Acquisition of Cebia and Okume field developments in Equatorial from Hess Corp. by Kosmos Energy and Trintend Energy in 2017.

- **Fortuna FLNG**
- **Assa North/Dhaj South**
- **Nigeria LNG Train 7**

**NAMIBIA**
- **Kudu gas-to-power**

**MOZAMBIQUE**
- **Anadarko’s Area 1 project**

**SENEGAL**
- **BP/Kosmos’ Tortue LNG**

**POWER PROJECTS**
The World Bank estimates the annual investment in generation, distribution and transmission needed to achieve universal electricity access between 2015 and 2040 is between $33.4 billion and $63 billion. Power Africa aims to complete 16,000 megawatts of gas to power projects in nine countries by 2030, with projected capital costs of $175 billion.

**SOUTH AFRICA**
- 27 renewable energy IPP deals signed in 2018
- New renewable energy IPP bidding round to launch in November, to add 1,800 MW to grid
- Jasper Solar Plant
- Ingula Pumped Storage Scheme 3,126 MW LNG-to-power IPP plan

**KENYA**
- Olkaria Geothermal Power Plant
- Lake Turkana Wind Project

**RWANDA**
- Rwanda Solar Power Field

**DR CONGO**
- Inga 3 Hydropower Project

**MOOROCCO**
- Noor Complex Solar Power Plant
- Tatafaya Wind Farm

**ETHIOPIA**
- Grand Renaissance Dam

**TANZANIA**
- 240 MW Kinyerezi II gas power plant

**GHANA**
- 1,300 MW Ghana 1000 gas power plant

**NIGERIA**
- 450 MW Azura-Edo IPP completed in May 2018
Since OPEC extended its production adjustments in December 2017, oil prices have increased significantly. At this stage can OPEC still justify these production levels?

Now that the oil industry is in a better, more positive place than it was a few years ago, there is the risk that the lessons from the last downturn are forgotten. We should never underestimate how severe and potentially ruinous that last downturn was: by July 2016, OECD commercial stock levels reached a record high of about 403 million barrels (mb) over the five-year average. The OPEC Reference Basket price fell by an extraordinary 80% between June 2014 and January 2016. Investments were choked-off, with exploration and production spending falling by an enormous 27% in both 2015 and 2016, with nearly one trillion dollars in investments frozen or discontinued. Many hundreds of thousands of jobs were lost and a record number of companies in our industry filed for bankruptcy. It was one of the most calamitous downturns in the long history of oil.

This was the context behind the historic ‘Declaration of Cooperation,’ that was put together on 10th December 2016. OPEC Member Countries and our non-OPEC partners sought to build consensus about the strategic urgency to rebalance the global oil market in a collective manner. Twenty-four oil producing nations agreed on a concerted effort to accelerate the stabilization of the global oil market through voluntary production adjustments of around 1.8 million barrels per day (mb/d).

The core aim of this cooperation can be summarized in just four words: sustainable oil market stability. Therefore, it is very clear that these nations are not seeking a quick-fix to temporary alleviate the oil industry’s woes. This is why the “sustainable” aspect of our core aim is so important. It is a long-term commitment.

So while the oil industry is enjoying better health than it did two or three years ago, we have to ensure this is set on surer footing; that it can endure, and that consumers and producers can enjoy a period of sustained oil market stability.

Walking away from our cooperation could potentially undo the good work achieved so far. Rather than opt for this course, OPEC and its non-OPEC partners are exploring possibilities for further institutionalizing our cooperation. As we seek to strengthen the framework for our cooperation, we hope this can mitigate potential market volatility in the future.

Given the decline in capital expenditures in oil exploration in recent years, what is the likelihood of another oil price shock before 2020?

As I mentioned earlier, OPEC and its non-OPEC partners are focused on contributing to sustainable oil market stability and this inherent logic underpins the ‘Declaration of Cooperation.’ One of the advantages of oil market stability is that it provides investors and companies with a degree of predictability in order to make informed decisions.

Currently, investment levels are lagging behind the improved conditions for market fundamentals. However, we are hopeful that with sustained stability in the oil market, this situation will improve. Investments are the

OPEC seeks
LONG TERM COMMITMENT IN AFRICA

In an interview with Africa Oil & Power, H.E. Mohammed Barkindo, Secretary General of the Organization of the Petroleum Exporting countries, talks about the long-term collaboration planned between OPEC and non-OPEC member countries behind the Declaration of Cooperation.
lifeblood of our industry. It is vital, for both producers and consumers, that the necessary investments are made.

To put the requirements in a monetary context, in the period to 2040, OPEC’s World Oil Outlook (WOO) 2018 sees the required global oil investment at a huge $10.5 trillion.

Does OPEC view the mass production of electric vehicles (EVs) as a long-term threat to oil demand?

The OPEC Secretariat acknowledges that significant progress has been made in the development and promotion of EVs in recent years. However, one should bear in mind that in 2017, EVs accounted for only 0.2 percent of the global passenger fleet. It is coming from a low base. In OPEC’s World Oil Outlook (WOO) 2017 it was underscored that EVs will witness a further penetration of the passenger fleet market in the decades ahead. It is expected to account for around 12 percent of the market by 2040.

It is important to note, however, that many uncertainties and constraints for EVs remain. The cost competitiveness of EVs is still questioned, particularly if generous subsidies are eliminated. In this regard, the cases of Estonia and Denmark where EV sales plunged significantly after government subsidies were slashed provide an interesting insight. Moreover, the investment required to develop a reliable infrastructure for charging, as well as electricity generation, could also be seen as a constraint to further growth.

Moreover, a broad range of industries’ authorities recognize that oil demand is going to increase in the foreseeable future. According to the WOO, long-term oil demand is expected to increase by 14 million barrels per day by 2040, rising to 111.1 million barrels per day in 2040 from levels observed in 2017. Another important consideration is that by 2040, oil and gas combined are still expected to provide more than half of the world’s energy needs. Critical-ly, there is no expectation for peak oil demand over the forecast period to 2040.

In the last two years two African countries – Gabon and Equatorial Guinea – have joined OPEC and another – the Republic of Congo – is bidding for accession in 2018. How is Africa increasingly shaping the OPEC narrative?

Six African countries are currently members of OPEC: Algeria, Angola, Equatorial Guinea, Gabon, Libya, and Nigeria. Like all of our 14 Member Countries, they make a vital contribution to the successful functioning of our Organization. OPEC is a better Organization for their membership and I look forward to all of our African Member Countries continuing to positively influence our Organization.

With more African countries newly becoming oil producers, do you foresee more new OPEC members coming from the continent?

Article 7 of OPEC’s statute says, “Any other country with a substantial net export of crude petroleum, which has fundamentally similar interests to those of Member Countries, may become a Full Member of the Organization, if accepted by a majority of three-fourths of Full Members, including the concurrent vote of all Founder Members.”

We welcome the interest of producers wanting to join the Organization. And we are always delighted to have new members of OPEC.

Africa has enormous proven resources, but it trails other parts of the world in attracting exploration investment. Do you think countries should improve fiscal terms to attract more FDI?

Fiscal terms are a sovereign decision of a given country and nothing changes that OPEC, as an inter-governmental organization, can comment on specifically. What I can say is that I am sure every producer looks at their fiscal terms, taking into account a variety of issues, as a means to attract the necessary investment to their petroleum industry.

At 200,000 bpd, Gabon’s oil output is half what it was 20 years ago. How can the country encourage a reversal of production declines?

OPEC can provide support and guidance as a country looks to develop or redevelop their oil industry, but again, the particulars are a sovereign decision for Gabon and not for OPEC to comment on.

I would say that Gabon is a valued and important Member of the OPEC family. I met with Gabon’s President, HE Ali Bongo Ondimba, and with the country’s Minister of Petroleum and Hydrocarbons, HE Pascal Houangni Ambouroue and other government officials, when I visited Gabon in July of last year. The warm and friendly dynamic which was apparent at these meetings is testimony to the enor-mous and invaluable contribution Gabon makes to OPEC. OPEC stands ready to further deepen technical cooperation and facilitate closer interaction among its Member Countries in addressing common challenges.

HE Mohammed Barkindo delivers an opening keynote speech at this year’s Africa Oil & Power conference, and will take part in the Energy Coalitions panel. AOP is honored to present H.E. Barkindo with the Africa Oil Man of the Year award at the Energy Coalitions dinner.

Power Pools

Power without Borders

Crossing national boundaries to fix Africa’s power deficit.

The total investment needed to achieve universal power access in Africa by 2040 is around $48 billion per year. But the African Development Bank estimates that regional integration in the power sector could save about $33 billion annually – making power pools one of the most cost-effective and efficient solutions to Africa’s power problem.

And power pools solve more problems than just cost.

A pan-African approach to power could be a simple solution to renewable energy’s intermittency, especially in the case of hydropower, which is affected by seasonal rainfall patterns.

While one country may be experiencing a drought and a power deficiency, another country could be experiencing a surplus. The ability to share power across borders becomes a critical stopgap solution.

Despite the great promise of power pools, they are notoriously under-utilized and face very specific limitations — from extensive cross-border infrastructure requirements and complicated funding structures to a lack of regulation on key issues such as access. Even technical differences, like using different transmission technology, can pose problems.

For sovereign nations, being dependent on another country for a vital aspect of the economy, can be seen as a security issue. A lack of trust in cross-border cooperation is consistently a top obstacle.


While most of Africa participates in a power pool, the Southern Africa Power Pool, or SAPP, is by far the most effective. SAPP has the highest level of energy trade among the power pools, at 7.5 percent compared to 0.2 percent in Central Africa. The African Development Bank calls it “the most advanced power pool on the continent.”

First, SAPP is clearly regulated, with four agreements governing the operation of the power pool and pricing, as well as a 20-year expansion masterplan. SAPP also stands out in the creation of Short-Term-Energy markets, which allow operators to run on both daily and hourly contracts and creates a very competitive market.

Even though it has been largely successful, issues remain. Electricity tariffs, for example vary greatly among the utility companies in the bloc and are largely criticized for being too low, thereby limiting the ability to invest in infrastructure and maintenance.

Though problems remain, expert bodies like the UN Economic Commission for Africa have said power pools are the best strategy to deal with Africa’s energy problems. For SAPP, plans are in place for new investments, such as the new 330 kV interconnector between Zambia and the Democratic Republic of Congo, and the strengthening of the regulatory environment to create a more competitive market place and attract fresh investment.

Developments are also underway to include the three remaining SADC members – Angola, Malawi and Tanzania - into the SAPP network by the year 2022.

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Africa Energy Series is a series of documentaries and reports that explore the energy industries of African petroleum exploring and producing countries. Produced by Africa Branding Corporation, these investment reports and 30-minute programs provide a complete portrait of each country’s oil and gas sectors via the perspective of its government leaders and industry professionals. Each book and documentary brings the industry to a life through a combination of one-on-one interviews, expert analysis, images and stunning aerial footage of oil and gas facilities in operation.

2018 EQUATORIAL GUINEA

The Africa Energy Series: Equatorial Guinea 2018 report follows 2016’s AES documentary film on the petroleum sector. Designed to be the most comprehensive report ever published on Equatorial Guinea’s energy leaders, resources, main actors and future potential, AES Equatorial Guinea 2018 is an essential tool for investors and an important milestone in the nation’s development as an energy powerhouse for Africa. AES Equatorial Guinea 2018 launches today at the AOP Investor Forum in London and celebrates Equatorial Guinea’s 50th anniversary of independence. The book is accompanied by a commemorative edition book presented to the Ministry of Mines and Hydrocarbons.

2017 SOUTH SUDAN

The Africa Energy Series: South Sudan 2017 investment report, produced in partnership with the Ministry of Petroleum of South Sudan, features interviews with South Sudan’s leadership and with private sector entrepreneurs, information on all the major actors in the energy sector, and resources including exploration maps. In Africa Energy Series: South Sudan 2017 we examine the conditions for doing business and investing in East Africa’s most established oil play. The book was presented at the AOP 2017 conference in Cape Town and at the South Sudan Oil & Power 2017 conference in Juba, which marked the first ever energy and infrastructure conference held in South Sudan.

2018 NIGERIA

This upcoming AES film deals exclusively with Nigeria’s gas-to-power initiatives. From indigenous producers of gas in the Niger Delta to government reformers, financiers and independent power project operators, Nigeria’s energy sector is undergoing a pivot towards gas. The utilization of this national resource heralds a new period of industrialization if projects can be brought on-stream and tariffs made attractive enough for gas and power producers and users. The documentary includes interviews with private sector executives; plus analysts and experts from Nigeria, the US, South Africa and the UK; and feature interviews with the Minister of State for Petroleum Resources Dr. Emmanuel Kachikwu and the Minister of Power Babatunde Fashola.

2016 EQUATORIAL GUINEA

The first Africa Energy Series documentary focused on Equatorial Guinea. Like many of its fellow petroleum exporters in Africa, the country is working to reverse systemic declines in oil production by bringing online new discoveries and encouraging more exploration. Equatorial Guinea is also diversifying the energy industry through large-scale gas developments and petrochemical projects that capitalize on its abundant natural gas reserves. Before the end of the decade, Equatorial Guinea will become Africa’s first country to launch a deepwater floating liquefied natural gas terminal when it completes the Fortuna FLNG development. “Africa Energy Series – Equatorial Guinea” aired on CNBC Africa in November 2016.
The AOP Community

In addition to the AOP Cape Town conference, Africa Oil & Power brings you news, views, publications, country-focused events and more, all year round. Keep up to date on all things AOP at www.africaoilandpower.com.

Presentations and Animations

You can find all the presentations from ministerial and other keynote speakers from AOP 2018 at the www.africaoilandpower.com website within one week of events.

Photos and Video

Post event, a gallery will be available on www.africaoilandpower.com with photos available to download, and conference recap and panel videos will also be posted to the site to view.

Africa Energy Series

Throughout 2018 and 2019, AOP will be announcing the publication of new Africa Energy Series books and films. Look out for our South Africa edition, coming next.

News and Opinions

Check the www.africaoilandpower.com website daily for African petroleum and power news, interviews and op-eds from the AOP community, and analysis.

Country Conferences

Register for upcoming country conferences, including South Sudan Oil & Power 2018 (November 21-22), the London Investor Forum (June 2019), and our Equatorial Guinea 2019 functions, online.

A&D / Consultancy Services

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