

OPEC bulletin ^{3/18}

Special edition:
NIGERIA





OPEC 

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Petroleum – cooperation for a sustainable future

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'The wise build bridges'

One of OPEC's most outstanding strengths is the unity it has achieved despite the wide geographical range of its Member Countries. This unity has not only fostered the growth of what has, in 57 years, become one of the leading energy organizations in the world; it has also strengthened the diplomatic, commercial and political ties among a rather diverse group of countries. And the camaraderie and strength that has come of this continue to be among the Organization's most remarkable qualities.

While OPEC has regularly celebrated this unity through diversity, invoking a common voice in response to the various challenges that have faced the oil markets over the years, it has continued to emphasize the unique importance of each Member Country. In fact, over the years, in the pages of this publication, we have regularly profiled our Member Countries, considering their economies, profiling their energy sectors, exploring their cultures and traditions, and generally celebrating their national achievements.

With this month's 'special edition', we turn our attention to the Federal Republic of Nigeria, which joined the Organization in 1971 and which has, since then, provided able leadership and important support to the Organization. Additionally, since August of 2016, in the august person of OPEC's Secretary General, Mohammad Sanusi Barkindo, Nigeria has provided the OPEC Secretariat with its most recent chief executive.

It was through his untiring efforts during the 'marathon' of consultations and conversations that OPEC was able not only to capitalize on the unity among its Member Countries but, more importantly, reach out to other non-OPEC producing countries and 'build bridges' — in the process establishing a sound framework for cooperation. As an old Nigerian proverb states: "In a moment of crisis, the wise build bridges and the foolish build dams." It was precisely this kind of bridge-building that resulted in the historic 'Declaration of Cooperation' of December 10, 2016.

Nigeria thus holds a unique place far beyond its contribution to the Organization and its recent successes. It is also a land of superlatives. With an area of around 924,000 square kilometres, it is the most populous country within OPEC with around 177 million total inhabitants. The city of Abuja alone — which has served as the country's capital since 1991 — has a population of more than one million.

Located on Africa's western coast on the Gulf of Guinea, Nigeria is rich in many natural resources: natural gas, tin, iron ore, coal, limestone, niobium, lead and zinc. But it is petroleum that is truly the engine of Nigeria's development.

Though oil was not discovered until 1956 — in Oloibiri, Nigeria's Bayelsa State — years of pain-staking work and patient investments have helped develop the hydrocarbons sector. The country has since flourished. Oil and gas now account for about 35 per cent of its gross domestic product, and petroleum exports produce over 90 per cent of total exports revenue.

According to OPEC's *Annual Statistical Bulletin*, in 2016,

Nigeria produced 1.43 million b/d of petroleum and earned a total of \$27.79 billion through petroleum exports. This is set to continue and, looking ahead, with 37.45 billion barrels in proven crude reserves, the country has a place of importance in the energy supply of the future. It also has 5,480bn cubic metres of proven natural gas reserves, which provides it with yet another important national revenue stream.

But it's not just the country's extensive natural resources and enviable raw commercial data that proudly puts Nigeria in the spotlight. Increasingly, the country has become a destination for international events — particularly those related to energy and hydrocarbons.

In February, for example, Nigeria played host to the first ever Nigerian International Petroleum Summit (NIPS) which, as our report in this edition explains, "was aimed at replicating in Africa the type of knowledge exchange, problem-solving discussions and networking opportunities" that other industry events provide. With the esteemed attendance of some of the leading personalities of the oil industry in Nigeria and the region, NIPS was an event not to be missed. (Even if one did, however, our round-up provides readers with the main take-aways of that successful event.)

This 'special edition' of the *OPEC Bulletin* focusing on Nigeria also includes an exclusive interview with Dr Emmanuel Ibe Kachikwu, Nigeria's Minister of State for Petroleum Resources. With years of experience in his country's oil industry — and wisdom that goes far beyond his years — the Minister speaks to us about the success of NIPS, the role of OPEC in energy affairs and the fundamental importance of the landmark 'Declaration of Cooperation'. As he puts it, that decision was responsible for the "great rejuvenation of OPEC."

It's not all business and commerce, however. This edition also offers readers a brief profile of the city of Abuja, as well as an interesting description of some of the country's most colourful and most famous cultural festivals.

Perhaps in the future we might be able to offer readers a report from one of these cultural events and bring the country to life through the written word. For the moment, however, there can be little doubt that a visit to Nigeria is almost requisite for world travellers. Whether it is for business or touristic reasons, a Nigerian sojourn will allow one to experience the country's lush natural beauty, the brightness of its colourful festivals and the sincere warmth of the people.

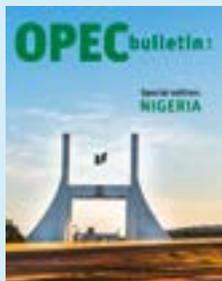
And as one looks out beyond the mesmerizing intricacies of Abuja, perhaps out over the vast panorama of the southern lowlands or across the stunning clearness of the Niger River, one may feel unexpectedly connected to this land — and be in a position to better understand the words of the famed Nigerian poet Olu Oguibe:

*I have walked the footpaths of this land
Climbed the snake-routes of its hills
I have known the heat of its noon
I am bound to this land in blood.*





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Cover
This month's cover reflects the Abuja City Gate. This year, the capital city of Abuja hosted the Nigerian International Petroleum Summit in February (see p4).
Cover image: Shutterstock.

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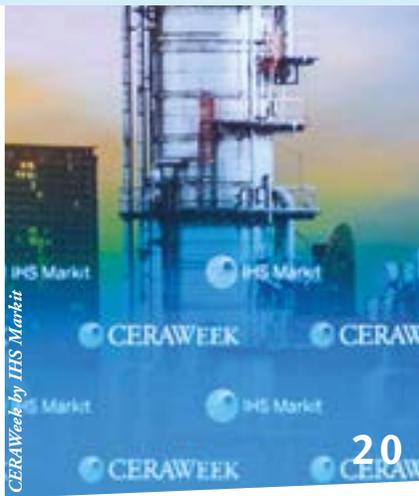
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OPEC Membership and aims

OPEC is a permanent, intergovernmental Organization, established in Baghdad, on September 10–14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective — to coordinate and unify petroleum policies among its Member Countries, in order to secure a steady income to the producing countries; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the petroleum industry. Today, the Organization comprises 14 Members: Qatar joined in 1961; Libya (1962); United Arab Emirates (Abu Dhabi, 1967); Algeria (1969); Nigeria (1971); Angola (2007); Equatorial Guinea (2017). Ecuador joined OPEC in 1973, suspended its Membership in 1992, and rejoined in 2007. Indonesia joined in 1962, suspended its Membership on December 31, 2008, reactivated it on January 1, 2016, but suspended its Membership again on December 31, 2016. Gabon joined in 1975 and left in 1995; it reactivated its Membership on July 1, 2016.



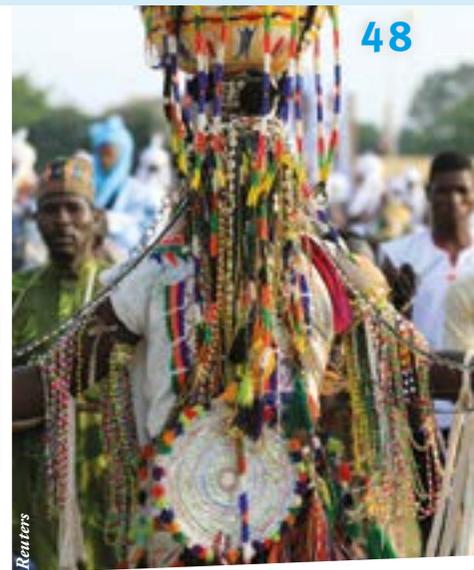
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The *OPEC Bulletin* welcomes original contributions on the technical, financial and environmental aspects of all stages of the energy industry, as well as research reports and project descriptions with supporting illustrations and photographs.

Editorial policy

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*Mohammad
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OPEC's Secretary
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The Nigeria International Petroleum Summit:

Leading Africa's response to global oil and gas challenges

Between February 18 and 22, leading stakeholders and policy makers from across the energy industry descended on Abuja to attend the maiden Nigeria International Petroleum Summit (NIPS). NIPS offered an opportunity to exchange knowledge and views on some of the key challenges facing the industry. The OPEC Bulletin reports from this novel and historic event.

Innovation – lifeblood of the industry

“There is always something thrilling about being part of innovation; and this Summit is truly innovative. I have no doubt that as it evolves into the premier platform for shaping petroleum policies in Africa; years from now, we will all take pride in saying we were at the first edition!” With these words, OPEC’s Secretary General, Mohammad Sanusi Barkindo, summarized how all of the participants at NIPS felt.

The first of its kind, NIPS was aimed at replicating in Africa the type of knowledge exchange, problem-solving discussions and networking opportunities which an event such as the Offshore Technology Conference (OTC) provides. The event was extremely well attended. Not only were discussions productive and outcome orientated, the inaugural edition of NIPS served as a tremendous platform to expand and internationalize the Summit going forward.

Boss Gidahyelda Mustpha, Secretary to the Government of the Federation, delivered the presidential remarks during the opening ceremony, an indication of the high-level support for the Summit from the Federal Government. Goodwill messages were delivered by a broad range of high-level attendees including, Paul Mervin, Chairman of Brevity Anderson Consultants; Dr Maikanti K Baru, Group Managing Director of the Nigeria National Petroleum Corporation;

Mahaman Laouan Gaya, Executive Secretary of the African Petroleum Producers Organization and Dr Sun Xiansheng, Secretary General of the International Energy Forum (IEF). In addition, in his welcome remarks, Dr Emmanuel Ibe Kachikwu, Minister of State for Petroleum Resources, expounded the ministerial vision behind the convening of the Summit.

OPEC Secretary General’s keynote address

OPEC’s Secretary General delivered a keynote address on the ‘World oil outlook 2018 and the energy transition.’ He outlined the transformative effect which the ‘Declaration of Cooperation’ has had on the global oil industry, provided an overview of the 2017 edition of the *World Oil Outlook* and explored issues related to the energy transition. The speech was also an opportunity to pay tribute to Nigeria’s enormous contribution to OPEC’s many successes over the years.

“Muhammadu Buhari, [President and Commander-in-Chief of the Armed Forces of the Federal Republic of Nigeria] demonstrated his diplomatic skills when he played an instrumental role in securing the adoption of the historic Declaration of Cooperation,” said Barkindo. “On behalf of the entire OPEC family, I would like to express our deep appreciation for his open and cooperative stance, his willingness to use his good offices, international respect and admiration to intervene at a head of



Dr Emmanuel Ibe Kachikwu, Minister of State for Petroleum Resources.

state level, and for his flexibility in reaching a consensus solution.”

He continued, “Nigeria is consistently regarded as one of the most admired and respected members of OPEC, particularly in the realm of consensus-building. Our President has made a momentous contribution to making this the case.”

The Secretary General also praised Minister Kachikwu: “Nigeria is also blessed in benefiting from the incredible repertoire of skills possessed by our able and sagacious Minister Kachikwu. The Minister has been a lynchpin for the success which OPEC has enjoyed over the last few years since I assumed office. His talent, wisdom and industriousness have made him an asset to our country and to the OPEC and non-OPEC strategic partnership.”

The Secretary General concluded on an optimistic note, “We are emerging from a dark and painful chapter for our industry; however, with the Declaration of Cooperation providing an anchor of stability, a new page is being written, one which has the interests of producers, consumers and the global economy at its heart. With the OPEC/non-OPEC strategic partnership fulfilling its responsibilities and Nigeria playing a leadership role, one cannot help but brim with confidence that working together, we can achieve a better tomorrow.”

Active OPEC participation

Dr Abderrazak Benyoucef, Head of the Energy Studies at the OPEC Secretariat, took part in a panel discussion entitled ‘Deepening collaboration in the African oil and gas industry — challenges and opportunities for investment’. Also on this panel were Minister Kachikwu; Dr Sun Xiansheng, Secretary General of the International Energy Forum; Mahaman Laouan Gaya, Executive Secretary, the African Petroleum Producers’ Organization (APPO); Ambassador W Stuart Symington, US Ambassador to Nigeria; and Valerie Commelin, Head of the Public Relations Department at the Société des Hydrocarbures du Tchad.

Dr Benyoucef stressed the importance of sustainable oil market stability in attracting the level of investment necessary for the industry, stating, “Demand for oil by 2040 will increase by around 16 million barrels/day, compared to 2016 levels. To cover these growing needs, and compensate for natural declines in oil production, the global oil sector will require investments of \$10.5 trillion in the period to 2040. Naturally, a large part of this investment, in the range of \$1tr, should take place in the oil sector of Africa.” Additionally, he underscored the importance of local content requirements, as well as highlighting several initiatives of OPEC’s sister organization,



Above: Mohammad Sanusi Barkindo, OPEC's Secretary General, with delegates in attendance at the Summit.

Below: Members of the panel entitled 'Deepening collaboration in the African oil and gas industry — challenges and opportunities for investment.'





Above: Boss Gidahyelda Mustpha (c), Secretary to the Government of the Federation; Dr Emmanuel Ibe Kachikwu (r), Minister of State for Petroleum Resources; and Mohammad Sanusi Barkindo, OPEC's Secretary General.

Below: A view of the OPEC exhibition stand at the Summit.



the OPEC Fund for International Development (OFID), in tackling fuel poverty.

Dr Adedapo Odulaja, Head of the Data Services Department in the OPEC Secretariat's Research Division, participated in another panel discussion entitled, 'Sharing of petroleum data and management: a vital tool for resource management.' Dr Odulaja's contribution viewed the topic from a global perspective, stressing the fact that data transparency is essential for energy market stability which is necessary for investment and the security of both supply and demand. He outlined the role of JODI in this endeavor, highlighting the vital role, contribution, support and commitment of OPEC as a founding partner in this initiative. He also lamented the poor coverage of Africa by JODI, urging more awareness and support by African countries.

OPEC had an impeccably designed exhibition stand at NIPS, which saw large numbers of visitors acquire more information on the role and objectives of the Organization. Visitors could have their questions answered by Secretariat staff and also sample the Organization's range of publications. The general public demonstrated a clear appetite to educate themselves on both OPEC's activities and Nigeria's contribution to the Organization.

Discussions throughout the week encompassed a broad range of stimulating and diverse subjects. Topics included the '7 big wins' which are the short- and medium-term priorities to grow Nigeria's oil and gas industry; industrial diversification in the Niger Delta region; as well as local content and environmental issues. Throughout discussions, the transformative impact of the Declaration of Cooperation on the global oil industry was reasserted.



Dr Adedapo Odulaja, Head, Data Services Department, OPEC Secretariat's Research Division, participated in the panel discussion entitled: 'Sharing of petroleum data and management: a vital tool for resource management.'

Showcasing Nigerian culture

Throughout the Summit, participants were treated to an array of performances which demonstrated Nigeria's unique and diverse culture. Particularly apparent was the local audience's love of dance, including traditional forms and those specific to several Nigerian provinces. Dance troupes from Cross River State, Delta State and Rivers State exhibited particular dances from their local areas.

The closing ceremony was a wonderfully entertaining affair. Dancers were in abundance and audience participation was a must. The joyous, festive atmosphere was testament to the warmth and generosity of the gracious hosts.

The first edition of NIPS was an enormous success. Over the coming years, it will cement its position as one of the premier events in the global energy industry calendar.



Mohammad Sanusi Barkindo, OPEC's Secretary General, with members of the Secretariat's team.

An Interview with Minister Dr Emmanuel Ibe Kachikwu

*The success of the inaugural ‘Nigeria international petroleum summit (NIPS): an Africa petroleum and business conference’ is in large part attributable to the drive, energy and vision of Nigeria’s Minister of State for Petroleum Resources, **Dr Emmanuel Ibe Kachikwu**. His two years holding the reigns at the ministry have seen momentous achievements and a pivotal Nigerian contribution to the success of the ‘Declaration of Cooperation’. The Minister generously took the time to speak with the OPEC Bulletin to reflect on the Summit and recent developments in the oil market.*

A Minister who delivers

Participants at NIPS encompassed a broad range of stakeholders: experts from Nigeria’s Ministry of Petroleum and the Nigerian National Petroleum Corporation (NNPC); foreign dignitaries; regional leaders; private sector senior officials and local politicians. Despite the diversity of views expressed, there was one consistent theme across all interventions and statements: the respect and affection with which all colleagues regard Minister Kachikwu.

When one speaks with the Minister, it is not difficult to see where this affection stems from, for he possesses that most coveted of characteristics in abundance: likeability. Disarmingly charming, direct and open, the Minister makes a fascinating subject for an interview.

He also personally devoted a great deal of time to ensuring the Summit was a success, attending the majority of sessions throughout the five days, participating in several panel discussions and taking questions from the floor. His entire conduct throughout the Summit was an exhibition of exemplary dedication and commitment. Indeed, it was an oft repeated refrain that when the Minister puts his mind to something, he follows it through to completion.

These characteristics were crucial in securing the adoption of the landmark ‘Declaration of Cooperation’

of December 10, 2016, and assuring its ongoing successful implementation. Working under the leadership of Nigerian President Muhammadu Buhari, the Minister has contributed to Nigeria’s well-earned reputation as a ‘consensus-builder’. Indeed, in the two years since Kachikwu was appointed Minister in 2015, he has served as President of the African Petroleum Producers’ Association (APPA), the Gas Exporting Countries’ Forum (GECF) and OPEC in 2015.

NIPS: changing mindsets

The Minister is personally invested in NIPS because he sees it as equivalent to the country’s Offshore Technology Conference (OTC). “NIPS offers an opportunity to change mindsets, bringing the leading experts to Nigeria to have a full dialogue on the key issues,” said Kachikwu. NIPS was also extremely timely because, as the Minister stated, “the oil industry is at a very critical stage.” Transparency was a key component of the Summit, as the Minister saw it as a platform to exchange views. Additionally, there is the crucial element of information exchange which such a forum can facilitate. The Minister stressed the importance of the “cross-pollination” of ideas between experts, especially within stakeholders in Nigeria.

*Dr Emmanuel Ibe Kachikwu,
Nigeria's Minister of State for
Petroleum Resources.*

The presence of OPEC at the Summit was quite important to the Minister — from the delivery of a keynote address by the Secretary General, Mohammad Sanusi Barkindo, at the opening ceremony of the Summit to the participation of senior officials from the OPEC Secretariat in several panel discussions. “This gave the Summit a stamp of authority,” said the Minister. “If you don’t have the presence of the individuals who make oil matter, something is amiss.”

For future editions of the Summit, Minister Kachikwu would like to see an even greater representation by OPEC, especially from other Member Countries. “I’d like to collaborate a lot more with OPEC in the planning ... We are not just discussing issues which are relevant to Nigeria, but other issues relevant to the policies which OPEC is pursuing. In the future, I would like to see some structured deals, decisions, all done under the umbrella of the internationalization of this conference.”

“OPEC’s best ever decision”

While acknowledging the many challenges facing the oil industry, there is recognition of more industry wide optimism than was the case one or two years ago. A large reason for this is the success of the ‘Declaration of Cooperation’, which the Minister describes as being responsible for the “great rejuvenation of OPEC.”

The Minister had another pithy description of the Declaration of Cooperation: “the best decision OPEC ever made.” He continued, “It has created an extra relevance for us in the world space. It gave an opportunity for countries that had not played a leading role in oil ... The world now sees OPEC as a global body looking for stability in the oil industry. Compliance being so high (133 per cent in January) is testament to the fact that members are serious about implementation and those administering it are rigorous about their checks and follow-ups.”

Minister Kachikwu also noted that when he accompanied Equatorial Guinea’s Minister of Industry, Mines and Energy, Gabriel Mbagha Obiang Lima, to the recent APPA Conference in Angola, Minister Lima encouraged



other attendees to join OPEC, for the sheer quality of the market data that the Organization provides its Member Countries. This global perspective in the market analysis is an enormous value added to being a member of OPEC.

Unwavering commitment

Kachikwu remains adamant about Nigeria’s commitment to the ‘Declaration of Cooperation’. “Despite the difficulties we have had, we are determined to stick to our numbers. Even as we look at new projects, we consider how they impact on our commitments,” the Minister said. “Nigeria will not only support the ‘Declaration of Cooperation’, we will continue to play a leadership role.”



Dr Emmanuel Ibe Kachikwu (c), Nigeria's Minister of State for Petroleum Resources; with Hasan Hafidh (l), Head, PR & Information Department, OPEC; and Mathew Quinn (r), Editor in OPEC's PR & Information Department.

The second year of the 'Declaration of Cooperation' has also seen a remarkable unity in messaging by leading members of the OPEC family. The day before the *OPEC Bulletin* spoke with Minister Kachikwu, the President of the OPEC Conference, Suhail Mohamed Al Mazrouei, Minister of Energy and Industry of the United Arab Emirates, told reporters on the margins of the International Petroleum Week in London that he hoped the OPEC/non-OPEC cooperation would last forever. "This is music to my ears," said an enthusiastic Kachikwu. "The cooperation allows us to be a global forecaster and leader, who wants the best for the entire economy."

Indeed, the Minister would like to see the partnership deepen and reach out to producers in Canada and the US. "We should work with major companies and find a link with shale producers," he said.

As a key protagonist during the arduous negotiations which lead to the 'Declaration of Cooperation', Minister Kachikwu appreciates that the current successes have been hard earned. Yet he remains rooted to a faith in the capacity of cooperation among nations to overcome challenges: "Going our separate ways was not an option."

Impressions of Nigeria

Kachikwu's optimism about his country's future is infectious. For many of the attendees at NIPS, this was their first opportunity to visit Nigeria. The Minister was very clear about his hopes for the impression they would have of the country when they returned home.

"I hope people leave Nigeria knowing this country has a bunch of people who are very talented, very excited about their country and believe in its potential. This is a country where everyone is looking for solutions; we saw that in many discussions throughout the Summit. This country has been in this business for over 50 years. It possesses the best reserves in Africa, some of the best reserves in the world. I'd like people to leave with a better understanding of our people and our culture."

This message of hope, as well as the beauty of the country, and the incredible warmth and hospitality of the Nigerian people, means everyone who had the privilege of attending this Summit left Nigeria with an extremely positive impression of this great country. Great things lie ahead!



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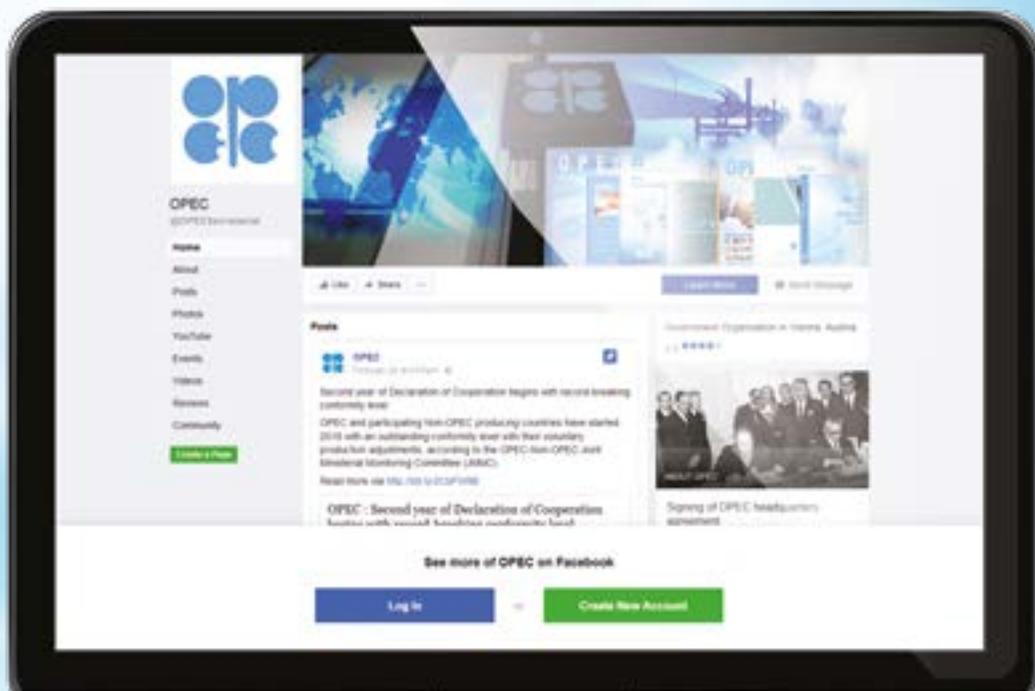
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IP Week 2018

OPEC Conference President addresses IP Week



Felipe Gonzalez

Suhail Mohamed Al Mazrouei (l), Minister of Energy & Industry, United Arab Emirates, and President of the OPEC Conference for 2018.

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The annual International Petroleum (IP) Week, hosted by the Energy Institute (EI), has become one of the most important events in the global oil and gas calendar. The 2018 edition, held February 20–22, saw industry leaders, decision makers, policy leaders and a plethora of analysts and media gather to debate, learn, discuss and share knowledge on current issues that are shaping the industry's future direction. In addition, the event counted with the participation of Suhail Mohamed Al Mazrouei, the United Arab Emirates Minister of Energy & Industry and President of the OPEC Conference for 2018, who delivered a keynote address, and Dr Ayed S Al-Qahtani, OPEC's Director, Research Division, who also spoke. The OPEC Bulletin reports from the event.



Felipe Goncalves

IP Week has become a firmly established global industry get together, attracting over 1,500 senior executives from all around the world every year. Its speakers, the ever evolving thematic sessions and briefings, and its renowned company receptions held at a variety of locations across London, make it a must for many across the oil and gas industry.

The 2018 event, which was held from February 20–22 under the theme ‘Re-engineering the oil and gas operating models: an industry in transition’, saw Suhail Mohamed Al Mazrouei, the United Arab Emirates Minister of Energy & Industry and President of the OPEC Conference for 2018, open proceedings with a keynote address.

Al Mazrouei provided an update on the landmark ‘Declaration of Cooperation’ between 24 OPEC and non-OPEC producing countries, which is focused on reducing oil inventories; returning balance to supply and demand, and helping sustainable stability return to the market in the short-, medium- and long-term.

He said that although there were many sceptics and naysayers who said OPEC and its non-OPEC partners would achieve little in 2017, they “had been proven wrong.” In this regard, he underscored the unprecedented conformity levels to the production adjustments in 2017. He said that the monthly average conformity level for the year “was an impressive 107 per cent” and added that “such cohesion between any 24 nations in any industry in such a short period of time is rare.” He noted that conformity levels in 2018 had also started strongly, with a level of 133 per cent in January.

In terms of inventories, Al Mazrouei said that the OECD stock overhang against the five-year average had fallen by around 260 million barrels since the start of 2017. Moreover, he noted other

positives, such as the gathering momentum of the global economic recovery, with further strong growth expected in 2018, as well as robust oil demand growth.

Al Mazrouei said that all this was evidently providing more optimism and confidence to the industry and market, but he recognized “that our work is not yet done. We remain focused on our goal of bringing stocks down to normal levels.” He affirmed that there is “no doubt” that participants in the ‘Declaration of Cooperation’ will stay the course, and that “we are flexible, adaptable and support each other within OPEC and within the OPEC and non-OPEC framework of cooperation.”

Investments

In looking ahead, Al Mazrouei also stressed the importance of the ongoing market rebalancing to the investments required to maintain future market stability, in the interests of both producers and consumers.

He highlighted that “oil prices fell by an extraordinary 80 per cent between June 2014 and January 2016. From an investment perspective, this led to exploration and production spending falling by a massive 27 per cent in both 2015 and 2016. Overall, we have seen nearly one trillion dollars in investments frozen or discontinued, and many hundreds of thousands of jobs were lost.”

Underscoring the importance of stability and balance across all timeframes to ensure that future demand growth is met, Al Mazrouei noted that in OPEC’s *World Oil Outlook (WOO) 2017*, oil demand is set to pass 100 million barrels/day in 2020 and reach over 111m b/d by 2040, an increase of around 15m b/d from current levels.

Suhail Mohamed Al Mazrouei (l), Minister of Energy & Industry, United Arab Emirates, and OPEC Conference President in 2018, with Steve Sedgwick, CNBC Anchor.

He also pointed out the fact that oil producers and companies must invest heavily simply to offset the impact of natural decline rates.

To put this in an investment context, he said that OPEC's WOO "estimates that the required global oil sector investment to 2040 is \$10.5 trillion." He added that "global investments did pick up slightly in 2017, and the same is expected in 2018, but this is not

constructive relationship that has been built during the first year of the OPEC and non-OPEC 'Declaration of Cooperation'."

Al Mazrouei stressed that it is too early to know what exact shape any future cooperation may take, but said that "we seek continuity through the further institutionalization of the 'Declaration of Cooperation'" in some way, shape or form. He added that "this



Delegates to the IP Week that took place in London in February.

close to past levels. This needs to be rectified to ensure future market shocks are avoided."

Continuity in cooperation

Throughout the three-day event, as part of OPEC's ongoing efforts to engage more frequently with the media, Al Mazrouei also conducted TV interviews, hosted a press briefing with print media, conducted an on-stage interview with Steve Sedgwick, anchor at CNBC, during a themed Middle East Energy Summit organized by Gulf Intelligence and EI, and visited the offices of S&P Global Platts.

In addition to further underscoring the state of the current oil market during these engagements, Al Mazrouei also highlighted that in his role as OPEC Conference President in 2018, he will work with OPEC Secretary General, Mohammad Sanusi Barkindo, to "proactively pursue opportunities to institutionalize the very

could go beyond the short-term and look at some of the broader challenges and opportunities that the oil industry will face in the decades ahead. Our collective voice must remain clear, concise and consistent."

He also talked about the importance of maintaining and evolving OPEC's other dialogues. This included making specific reference to US tight oil producers as part of questions directed to him concerning the recent growth in US oil production. He said that this dialogue would continue at the upcoming CERAWEEK in Houston in March (*for report see page 20*), as a means to better understand viewpoints, forecasts and projections.

OPEC's Director of Research

OPEC's Director, Research Division, Dr Ayed S Al-Qahtani, also presented on the first morning of IP Week, covering the whole gamut of the oil market situation with a review of the period 2014–16,

the ‘Declaration of Cooperation’, projections for 2018–19, and the long-term supply and demand outlook.

Dr Al-Qahtani underlined the importance of the historic ‘Declaration of Cooperation’ in helping overcome the market imbalance that occurred during the period 2014–16. He also noted the high conformity levels to the production adjustments and the fact that market fundamentals for 2018 are robust and healthy.

In concluding, he stated that the world will need more oil in the years ahead, with no peak oil demand envisaged for the foreseeable future. He said that “oil is expected to remain the most important fuel in the long-term.”

In terms of where future oil supply is expected to come from, he said that in the latest WOO, total non-OPEC supply peaks at close to 64m b/d in the mid- to late 2020s, with growth in the medium-term driven predominantly by the US tight oil sector. It is then expected to decline modestly to 60.4m b/d by 2040.

As a result, he added, demand for OPEC crude, which is relatively steady in the medium-term, rises after 2025 to reach 41.4m b/d by 2040. In terms of the share of OPEC liquids in the total global liquids supply, Al-Qahtani said that the share is estimated to increase to 46 per cent by 2040 from 40 per cent in 2016.

Positive outlook

The general mood at IP Week 2018 was evidently more upbeat than at the previous event in February 2017. A number of presenters spoke about the improved optimism being driven by the ‘Declaration of Cooperation’ and the advancement of the market fundamentals over the past year.

While the importance of the short-term rebalancing remained paramount, it was clear that many were now looking at the longer term, both in terms of the challenges and the opportunities. Al Mazrouei remarked that it will be a world that will need all forms of energies, which will need to compete on three priorities of affordability, sustainability and security of supply.

For the oil market, there is no doubt that more stability is returning, but as Bob Dudley, BP’s Chief Executive Officer, noted, the only certainty for us “is uncertainty”. However, he added that “the industry has always had to adapt.” It was a point expanded on over the whole three days, with presentations highlighting a variety of possible future outlooks, regulatory developments and technological evolutions.

However, despite the challenges the industry faces, what is clear, as Al Mazrouei noted, is the fact that oil will be a key part of the energy future, just as it has been an essential part of the energy past. “Talk that the era of oil is ending is irresponsible and unfair to the billions of people still without modern energy services,” he said, before adding that “while the global energy mix is diversifying — many OPEC Members are also investing heavily in renewables, for example — oil and gas will still account for 52 per cent of the global energy mix in 2040.”



Dr Ayed S Al-Qahtani, OPEC’s Director, Research Division, during his presentation at IP Week.



During IP Week, Suhail Mohamed Al Mazrouei (l), Minister of Energy & Industry of the United Arab Emirates, and President of the OPEC Conference for 2018, visited S&P Global Platts and met Martin Fraenkel (r), President of the group.

International Diplomacy Award

International oil diplomacy person of the year: Khalid A Al-Falih

At the Energy Institute's International Petroleum (IP) Week in London on February 22, Khalid A Al-Falih (pictured left), Saudi Arabia's Minister of Energy, Industry & Mineral Resources and Chairman of Saudi Aramco, picked up the prestigious 'International oil diplomacy person of the Year' award. The OPEC Bulletin reports.

During the 2nd Gulf Intelligence IP Week Middle East Energy Summit, Khalid A Al-Falih, Saudi Arabia's Minister of Energy, Industry & Mineral Resources and Chairman of Saudi Aramco, was honoured with the 'International oil diplomacy person of the year' award. The award was established to recognize the successful legacy of an individual with an outstanding record of achievement in the advancement of collaboration and cooperation within the global oil industry.

In introducing Minister Al-Falih, Sean Evers, Managing Partner at Gulf Intelligence, said that in 2017 Al-Falih — not only in his capacity as Saudi Arabia's Minister of Energy, Industry & Mineral Resources but also as OPEC Conference President for the year — “travelled the world in helping bring about the unprecedented oil supply adjustments” through the ‘Declaration of Cooperation’.

Evers added that the “mammoth role” Al-Falih played last year, in providing the experience and guidance necessary to achieve a level of conformity of over 100 per cent for the year, has “probably benefitted everyone in this room.” He noted that the Minister has led Saudi Arabia “back to the forefront of the oil and gas industry.”

This has continued in 2018 as he undertakes the co-chair position on the Joint Ministerial Monitoring Committee (JMMC) alongside Alexander Novak, Minister of Energy of the Russian Federation, following the November 2017 decision to extend the production adjustments to the end of 2018.

Al-Falih, who was unable to attend the ceremony given prior commitments, said he was “flattered” to receive the accolade. The award was picked up on his behalf by Adeeb Y Al-Aama, Saudi's Governor to OPEC, who Evers introduced as playing a key role in helping put together and administer the ‘Declaration of Cooperation’. The award was presented by Louise Kingman, Chief Executive of the Energy Institute.

Al-Aama thanked those who had been involved in bestowing the award on Al-Falih, and said he was “humbled” to receive such an award on behalf of his Minister.

Malcolm Brinded, President of the Energy Institute, said: “As the President of the OPEC Conference, you have shown exemplary vision and leadership through 2017 with your stewardship of the implementation of the ‘historical’ agreement to seek oil market stability among some 20 OPEC and non-OPEC countries to the benefit of producing and consuming nations alike.”

OPEC Secretary General, Mohammad Sanusi Barkindo, also publicly offered his congratulations, stating that “this is a well-deserved recognition of the outstanding leadership that you demonstrated last year in your capacity as President of the Conference, as you guided and inspired the OPEC family throughout the first year of the ‘Declaration of Cooperation’. On behalf of all the staff at the OPEC Secretariat, allow me to extend our most sincere congratulations to you for this magnificent accolade.”

He added that “navigating the first year of implementing our production adjustments was an arduous challenge, but it was one which you rose to admirably. Your wonderful partnership with Alexander Novak, Minister of Energy of the Russian Federation, provided our endeavours with a pillar of stability and a rock of dependability. The ultimate testament to your skills, diplomatic tact and commitment is the fact that monthly conformity levels with the voluntary adjustments in production averaged an astonishing 107 per cent throughout 2017, a level unprecedented in the history of our Organization.”

“The ‘Declaration of Cooperation’ partnership is now an established fact,” he continued, “constituting a new player in the global energy industry. We must remember that this was not inevitable; indeed, the original ‘Declaration of Cooperation’ agreed at the joint OPEC/non-OPEC producing countries’ ministerial meeting held on December 10, 2016, was valid for only six months. The fact that it was extended twice during your tenure as Conference President, at the second joint OPEC and non-OPEC Producing Countries’ Ministerial Meeting, held on May 25, 2017, and at the third joint OPEC and non-OPEC Producing Countries’ Ministerial Meeting, held on November 30, 2017, speaks volumes about your statesmanship, diplomatic nous and discernment.”

“I have no doubt that future historians of our industry will characterize your presidency of the OPEC Conference as momentous, with its positive ramifications being felt for many subsequent years,” said the Secretary General. “It is also very reassuring to know that we will continue to benefit from your skills in 2018, as you guide us in your capacity as Chairman of the JMMC.”



The award was presented by Louise Kingman, Chief Executive of the Energy Institute, and was picked up on behalf of Al-Falih by Adeeb Y Al-Aama, Saudi Arabia's Governor to OPEC.

Houston, we see more optimism

Houston greets visitors with signs telling them they are visiting ‘the energy capital of the world’. The reason for this tagline is evident on the journey from the airport to the Hilton Americas hotel in downtown Houston. Advertising hoardings promote oil and gas businesses – the city says it is home to around 5,000 energy-related firms, and it is of course, host to the annual CERAWeek conference that brings together oil, gas and power executives from around the world. With the OPEC Conference President and the OPEC Secretary General in attendance, the OPEC Bulletin reports from this year’s event, held on March 5–9, that saw around 4,300 attendees, the most in the event’s 35-year history.

L–r: Fatih Birol, Executive Director, International Energy Agency; Mohammad Sanusi Barkindo, Secretary General, OPEC; Daniel Yergin, Vice Chairman, IHS Markit.





*Suhail Mohamed Al Mazrouei,
Minister of Energy & Industry,
United Arab Emirates,
and President of the OPEC
Conference in 2018.*

In early March, thousands of delegates from 70 countries gathered in Houston for the annual CERAWeek conference, organized by IHS Markit. Under the theme, ‘Tipping point: strategies for a new energy future’, the conference brought together global energy industry heads, experts, government officials and policymakers, as well as leaders from the technology, financial, and industrial communities.

Suhail Mohamed Al Mazrouei, the UAE’s Minister of Energy & Industry and the President of the OPEC Conference in 2018, said that the conference represents a global platform for the exchange of knowledge and expertise, and for establishing partnerships between different governments to face up to the global challenges besetting the global energy industry. This certainly came to the fore during the five-day event.





Mohammad Sanusi Barkindo, Secretary General, OPEC.

Optimism returning

The first day of the event (March 5) saw Mohammad Sanusi Barkindo, OPEC Secretary General, and Dr Fatih Birol, Executive Director of the International Energy Agency (IEA), appear together for a special dialogue on the future of the oil market, moderated by Daniel Yergin, Vice Chairman of IHS Markit and conference chair.

Yergin said that “each brings a keen understanding reflective of a position at the forefront of the global oil market at a turbulent and transformative time in our

energy world. Their exchange and viewpoints will be a very important and most-timely dialogue at this year’s conference.”

The Secretary General noted in his opening remarks that “more optimism had returned to the industry compared to CERAWEEK in 2017.” He added that the ‘Declaration of Cooperation’ between 24 OPEC and non-OPEC participants had helped pull the industry out of what he called the “most injurious” down cycle in the industry’s history. “Everybody has benefitted” from the ‘Declaration of Cooperation’, Barkindo said, adding that the decision had also helped put the industry back on a “path of sustainable growth.”

A number of OPEC and non-OPEC Ministers, speaking on a Ministerial panel session with the OPEC Secretary General on the second day, reaffirmed this more positive market outlook.

Kuwait’s Minister of Oil and its Minister of Electricity & Water, Bakheet S Al-Rashidi, said that he believed that the “oil market was on the right track”, with expected healthy, robust oil demand and strong global economic growth in 2018. This was also noted by Dr Mohammed Bin Saleh Al-Sada, Qatar’s Minister of Energy & Industry.

There was also much talk of the importance of the high levels of conformity with the production adjustments in the ‘Declaration of Cooperation’, with Eng

L–r: Steven Winberg, Assistant Secretary for Fossil Energy, US Department of Energy; Sally Benson, Director, Precourt Institute for Energy, Stanford University; Vicki Hollub, President & CEO, Occidental Petroleum Corporation; Suhail Mohamed Al Mazrouei, Minister of Energy & Industry, United Arab Emirates, and President of the OPEC Conference in 2018; Atul Arya, Senior Vice President and Chief Energy Strategist, IHS Markit.



Carlos E Pérez, Ecuador's Minister of Hydrocarbons underlining how vital this has been to the oil market rebalancing.

The UAE's Al Mazrouei also noted these factors in his appearances at the event, but reminded delegates in a media interview that reducing global crude supply inventories remained the focus of the 'Declaration of Cooperation': "We feel there is still some market overhang."

Institutionalizing the Cooperation

Barkindo also chalked up the success of the 'Declaration of Cooperation' to the unprecedented conformity levels, which averaged 107 per cent in 2017, and added that "it is in the interests of this industry, as well as consumers, that we should continue with this framework, in order to ensure sustainability and stability in the market and in this industry."

The Secretary General said that Al Mazrouei is leading the continuity consultations to institutionalize a longer term framework for the cooperation, and stressed that we see this as an "insurance against future volatility for both producers and consumers." He further underscored the importance of working together, stating that "no one can be an island in this industry." He added that the 'Declaration of Cooperation' remained open to all producers.

Oil demand & US tight oil

Birol also talked about healthy oil demand growth in the coming years, and it was evident at the event that there was little talk surrounding peak oil demand. Amin Nasser, the CEO of Saudi Aramco said that "I am not losing any sleep over peak oil demand or stranded resources."

In both OPEC's World Oil Outlook and the IEA's World Energy Outlook, there is no peak oil demand expected in the central reference cases over the long-term timeframes to 2040.

In the near-term, what was stressed by the IEA is that it believes that US supply will fulfill most of the world's growing appetite in the near term. There is no doubt that expectations for US production in 2018 have

expanded over the past six months or so and there was certainly a lot of bullish talk at CERAWeek about the Permian basin, but some cast doubt on the potential of US tight oil production as a whole and its ability to meet growing global oil demand in the years ahead.

Tight oil legend Mark Papa, who made his name as head of EOG Resources Inc, and is now Chairman and CEO of Centennial Resource Development, told a panel audience that "the impression of US shale as the big bad wolf is perhaps a bit overstated." He said that US oil production growth is "likely to disappoint" over the next few years because the most productive portions of the country's two other major shale plays, the Bakken Formation in North Dakota and the Eagle Ford in South Texas, have been largely tapped out.

That means "you will have to rely primarily on the Permian to carry the load," he said. And "the Permian will be quite powerful, but not enough to propel the total US production to the levels that people expect."

Barkindo noted that US industry's rebound from the crisis has been impressive, specifically with regard to the more efficient drilling practices that have been developed. "The entire industry could learn something from them. They are able to raise production and raise efficiency," he said.

In fact, a number of OPEC Ministers, including the OPEC Conference President, alongside the OPEC Secretary General, attended a reception and dinner dialogue with CEOs of North American oil & gas independents. The meeting, following a similar event at CERAWeek 2017, was an opportunity to informally engage with these key industry stakeholders

Following the dinner, Barkindo said: "It was worthwhile, very educating listening to experiences from various players ... We had a very open, frank and lively conversations on a current state of the cycle and we also



Suhail Mohamed Al Mazrouei, Minister of Energy & Industry, United Arab Emirates, and President of the OPEC Conference in 2018.



L–r: Carlos Pascual, SVP, IHS Markit; Mohammad Sanusi Barkindo, Secretary General, OPEC; Bakheet S Al-Rashidi, Minister of Oil, Electricity & Water, Kuwait, Chairman of the Board, Kuwait Petroleum; Eng Carlos Pérez, Minister of Hydrocarbons, Republic of Ecuador; Gabriel M Obiang Lima, Minister of Mines & Hydrocarbons, Equatorial Guinea; Makhambet Dzholdasgalievich Dosmukhambetov, First Vice-Minister of Energy, Republic of Kazakhstan; and Mohammed Saleh Abdulla Al-Sada, Minister of Energy and Industry, Qatar.

compared noted from our experiences during these cycles, how we should proceed going forward. I was very surprised by the high-level of turnout, as well as the interest they have shown in continuing this energy dialogue.”

He added that he was not worried about further US production growth this year. “It is a welcome development. Demand is very robust, very strong.” He also stressed it is important to remember that the future baseload for the industry remains OPEC, with over 80 per cent of proven global reserves.

The interactive nature of the talks was viewed as extremely constructive, with Tim Dove, CEO of Pioneer Natural Resources, speaking to reporters after the dinner, saying that “we had a really good conversation about what really matters today in the oil business and what is going to be the effect of shale in the future.”

The investment challenge

While the industry has seen the return of short-cycle investments over the past year or so, it was evident that

there are concerns about investment levels in the industry as a whole. This was noted by the UAE’s Al Mazrouei on more than one occasion, who underlined the importance of maintaining market stability and drawing more investments to meet the growing energy demand in the coming years.

Both Barkindo and Birol issued warnings during their joint discussion that the ongoing lack of industry investment could result in a future energy crisis. They both noted the significant drop in industry investments in the past few years. The OPEC Secretary General said: “We have seen a very sharp reduction in investment, particularly in long-cycle projects, both onshore and offshore, for almost two consecutive, right into three consecutive years. And as Fatih (Birol) has said, 2018 is not looking positive at the moment.”

In an interview with CNBC, the OPEC Secretary General said that the consensus emerging at CERAWEEK is that “if the trend of the past few years continues ... we would be sowing seeds for a future global energy crisis that nobody wants to see.”

He added that “oil producers and consumers are equally concerned” about the drop-off in investments and, in this regard, it was important to recall that both the IEA and OPEC saw no peak oil demand in their long-term outlooks, that there is expected to be an additional 1.8 billion people on the planet by 2040, as well as the critical issue of energy poverty, with around one billion people still having no access to electricity and almost two billion having no access to commercial energy.

Barkindo added that the basic challenge is how to restore adequate and timely investment to meet expected future demand growth, and at the same address how this growth can be achieved in a sustainable way, balancing the needs of people in relation to their social welfare, the economy and the environment.

Climate change and technology

In relation to the issue of the environment and sustainable development, Barkindo noted on his panel with Birol that OPEC and non-OPEC Ministers, including the OPEC Conference President and himself, as well as a delegation from the OPEC Secretariat, had participated in a climate and sustainability roundtable with a host of leading authorities, including Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC), earlier in the day.

The Secretary General said the roundtable had been extremely positive and highlighted OPEC’s “transparency and openness to engage.” He stated that there had been a significant focus on how we can apply technology to continue to benefit from oil and gas, and at the same time reduce emissions. He said that it is vital that we collectively develop and adopt technologies, as well as all-inclusive energy policies, that transform the environmental credentials of all energies.

Al Mazrouei, participating in a panel session with international experts on the future of carbon capture, noted the UAE’s advancements in this field. He highlighted ADNOC’s Al Reyadah, the Middle East’s first specialized initiative focused on exploring and developing

commercial-scale projects for carbon capture, usage and sequestration (CCUS).

In their panel session, both Barkindo and Birol also emphasized the vital technology of CCUS as a means of reducing emissions.

The issue of technology and the environment was a point taken up by a number of other speakers during CERAWeek.

Bob Dudley, BP’s Chief Executive Officer (CEO), said that “our industry can and must be part of the solution.” He added that some “think our industry has had its day and now it is time for different forms of energy to take over ... I do not think that is the best answer.”

He stressed that he was no trying to discredit alternatives, such as electric vehicles, as “they have a really important role to play, particularly in urban areas where they can improve air quality, and we see tremendous business opportunities for BP.”

However, he stressed that electric vehicles are not the silver bullet that everyone is looking for. Moreover,



Amin Nasser, Saudi Aramco’s Chief Executive Officer, speaking at CERAWeek.



L-r: Carlos Pascual, SVP, IHS Markit; Bernard Looney, Chief Executive, Upstream, BP plc; Dr Mohammed Bin Saleh Al-Sada, Minister of Energy & Industry, Qatar; Mark Papa, Chairman & CEO, Centennial Resource Development; Keisuke Kuroki, President, JOGMEC.

he added, “what we take from this, and 20 years of low carbon experience going back to our Beyond Petroleum days, is that a race to renewables will not solve the dual challenge. Instead, we need to be agnostic about fuels and focused on a race to lower emissions.”

It was also a point referenced by Nasser of Saudi Aramco who said that the hot topic in the energy transition is the future role of oil in transport and at “the heart of it is the light duty road passenger vehicles segment that accounts for about 20 per cent of global oil demand today.”

He added that “many wrongly believe that it is a simple matter of electric vehicles quickly and smoothly replacing the internal combustion engine. Nor is it an “either/or” future, but far more complex.” Thus, given the “world’s focus on climate change, there should be a global priority on improving the efficiency and lowering carbon emissions from internal combustion engines, as well as fuels.”

He said “we must challenge mistaken assumptions about the speed with which alternatives will penetrate markets” and highlight that as an industry we are “the heart of the much larger global economy that continues to reliably meet the energy demands of billions of people for decades to come, helping to meet society’s lower carbon goals, and remaining at the cutting edge of technology.”

Industry digitalization

Technology sessions on such hot industry issues as automation, artificial intelligence, 3D printing, Big Data, Blockchain and robotics were also extremely well at-

tended. The general sentiment was that the industry has a huge amount of potential to benefit from these ever-evolving technologies.

There have been figures bandied around that the industry could save some 10–20 per cent on oil production costs through the adoption of these types of technologies, as well as expand the total volume of technically recoverable oil and gas reserves.

Financial and investment roundtable

OPEC and non-OPEC Ministers, as well as the OPEC Secretary General and an OPEC Secretariat delegation, also took the opportunity to meet with leading actors from the financial and investment community. The dialogue was an opportunity to exchange viewpoints and further explore interactions between financial and physical markets, with a broad range of global institutional investors active in the energy space.

In a media interview following the roundtable, Barkindo said: “There is no doubt that the financial markets are continuing to have an impact on oil, particularly on physical oil. This is one area where we have been battling to understand the dynamics and complexities of sophisticated markets.”

The meeting was a follow up to a similar event at last year’s CERAWEEK and also follows meetings in New York and Abu Dhabi. The roundtable came a week or so before the OPEC Secretariat hosted the 6th IEA-IEF-OPEC Workshop on ‘Interactions between physical and financial energy markets in Vienna’ (to be featured in the next edition of the OPEC Bulletin).

A healthy dialogue

CERAWeek 2018 provided an optimistic outlook for the industry's future. The 'Declaration of Cooperation' has helped return more stability and balance to the market; economic growth is strong; oil demand is robust, with no peak demand envisaged for the foreseeable future; digital technologies and constant innovation are driving the industry forward; sustainable development and reducing emissions are to the fore; and dialogue and partnerships among stakeholders are alive and well.

Carlos Pascual, IHS Markit Senior Vice President, said in correspondence with the Secretary General that the sessions with the OPEC Ministers touched on virtually all of the important industry trends and "your participation in these sessions particularly underscored the new role of partnerships in the industry."

He added that "never has the industry been more competitive, and never have partnerships become more essential to bring the skills, technology, capital and market relationships that are necessary to succeed."



Fatih Birol, Executive Director, International Energy Agency.

Barkindo stated that he believed "the best for the industry is yet to come", and as OPEC's engagements at CERA Week showed, a healthy dialogue, and cooperation as and when necessary, will no doubt be an integral part of the Organization's future. As the old adage goes, 'it's good to talk.'

All images courtesy of CERAWeek by IHS Markit.

Mohammad Sanusi Barkindo (c), Secretary General, OPEC; Daniel Yergin (l), Vice Chairman, IHS Markit; and Lance Uggla (r), Chairman of the Board and Chief Executive Officer, IHS Markit.





OPEC CITIES IN FOCUS

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The Abuja City Gate monument is the entry point into the city centre of Abuja, Nigeria.

Abuja:

the rise of a modern city

There is much to do and see in Nigeria’s purpose built capital. Located in the geographical centre of the country, this city has undergone a transformation in recent decades, evolving into a modern, vibrant metropolis. The OPEC Bulletin explores the many jewels this city has to offer.



*Aerial view of
Abuja Federal
territory capital.*

*Note: In the April 2017 edition of the OPEC Bulletin, we introduced a new series — **OPEC Cities In Focus** — which would endeavour to provide an overview of the major cities in OPEC’s Member Countries and highlight their many attributes. Though each OPEC Member Country has played a prominent role in the oil and gas sector over the years, and has maintained a steadfast commitment to the Organization’s broader objectives in regards to market stability, they all have much more to offer than just energy resources. Through this series, we hope to spotlight the history and development of their principal cities.*

Our motivation is to highlight some of the other features of our Member Countries apart from oil and gas. And our desire is to offer readers a window into the rich urban life in our Member Countries and their cultural diversity.

The Abuja National Mosque is the biggest mosque in Nigeria and West Africa.



The National Church of Nigeria, Abuja.



Alamy

Shutterstock

In many ways, Abuja shares several characteristics with Astana in Kazakhstan or Brasilia in Brazil. Centrally located in their countries' respective geographical centres and recently designated their nations' capital cities, all three are planned cities which have successfully developed their own souls and identities. Abuja's geographical centrality serves as a symbol for national unity.

The International Planning Associates (IPA) — a consortium of three American firms, namely, the Planning Research Corporation; Wallace, McHarg and Todd; and Archisystems, a division of the Hughes organization — were originally responsible for developing the master plan for Abuja and the Federal Capital Territory. Construction began in the 1970s. Abuja's current major design elements and general structure stem from this master plan. Kenzo Tange, a world-famous Japanese architect, along with his team of city planners at Kenzo Tange and the Urtec company, were responsible for a more detailed design of the central areas of the capital, especially its monumental core.

On December 12, 1991, Abuja became Nigeria's capital city, prompting much celebration across the country.

Former President Ibrahim Babangida took a special flight from Lagos (the previous capital) to Abuja. Most countries moved their embassies to Abuja and the Economic Community of West African States (ECOWAS) has its headquarters in the city. The Presidential Complex, National Assembly and Supreme Court are all located here. In the centre of the city is the Nigerian National Mosque which has a distinctive golden dome. Very close to the Mosque is the National Church of Nigeria, the primary place of Christian worship in the country. This interdenominational church building is designed in a postmodern version of the neo-gothic style.

Warm welcome for visitors

Two very distinctive landmarks are notable on the journey from Nnamdi Azikiwe International Airport to the city centre. One of the first sights for visitors is the Abuja city gate. This wonderful structure was built to commemorate the movement of the seat of Federal Government from Lagos to Abuja and was also intended to be a ceremonial pavilion. With the words "YOU ARE WELCOME" emblazoned across the structure, this monument has come to be a moving manifestation of the depth of the warm hospitality of the Nigerian people.

Not far from the gate is the National Stadium, a 60,000 multi-purpose arena which will be familiar to sports fans. It hosted many of the 8th African Games in 2000 and is the official home stadium for the Nigerian National Football Team.



Zuma Rock

One of the most distinctive features of the immediate terrain surrounding Abuja is Zuma Rock. This monolith is evocative of similarly world famous monoliths like Uluru in Australia or Gavea Rock in Rio de Janeiro, Brazil. Zuma Rock is an igneous intrusion consisting of gabbro and granodiorite. Perhaps it is most famous as being the ‘monolith with a human face’ as it does appear to be somewhat anthropomorphic.

In the 15th century, the Zuba and the Koro people settled in the immediate vicinity of the rock. The Zuba people named the rock, ‘Zumwa’, which means “the place of catching Guinea-Fowls”. This eventually evolved into the word Zuma. With a circumference of about 3.1 kilometres, it rises about 725 metres (2,379 feet) above its surroundings. Located along the main road from Abuja to Kaduna off Madala, it is sometimes referred to as the ‘Gateway to Abuja from Suleja’. The rock is also iconic because it is depicted on the 100 Naira note.

Usuma Dam

Another wonderful natural geographic feature of the area around Abuja is the scenic lake of Usuma. It is also home



to the magnificently picturesque Usuma dam. The Federal Capital Territory Water Board (FCTWB) operates the Lower Usuma Dam Water Treatment Plant (LUDWTP). The continuously expanding treatment facilities were constructed as part of an initiative to improve water infrastructure and the necessary potable water needs of the territory. This is important as population growth is extremely fast in this area, as demonstrated by the fact that according to the United Nations, Abuja grew by 139.7 per cent between 2000 and 2010, making it the fastest growing city in the world.

Above: Zuma Rock is one of the most distinctive features of the immediate terrain surrounding Abuja. It is an igneous intrusion consisting of gabbro and granodiorite.

Below: Another wonderful natural geographic feature of the area around Abuja is the scenic lake of Usuma. It is also home to the magnificently picturesque Usuma dam.



Wares from the Abuja Arts and Crafts Village on display.



According to the website of the expansion project for the dam, water-technology-net, “the water treatment technology involves aeration followed by removal of large solids implementing drum screens. The water then passes through the lamella sludge blanket clarifier/inclined-plate clarifier in place of conventional settling tanks for clarification. The technology makes use of highly compact settlers, reducing the space requirements compared with the latter by up to 90 per cent. This clarified water is put to rapid gravity filtration by passing it through a filter medium consisting of sand filters, by gravity or under pumped pressure. The filter removes flocculated materials trapped in the sand.”

Beyond the technological innovation which the project incorporates, the placid lake provides remarkably peaceful and scenic surroundings. It is no wonder that this location is extremely popular for weekend excursions out of the city, family picnics and a place of relaxation. After the whirlwind pace of the Nigeria International Petroleum Summit, Usuma Lake was a wonderful destination for quiet contemplation and reflection.

Abuja Arts and Crafts Village

Perhaps one of Nigeria’s most famous exports is its outstanding and unique heritage of traditional art. Encompassing sculpture, masks, pottery, textiles, embroidery, weaving and much, much more, Abuja, like the rest of Nigeria, offers so much to whet the appetite of the art connoisseur. Just outside the city lies the Abuja Arts and Crafts village which is a ‘must’ for all

visitors. Picturesque thatched huts with round red-brick walls entice visitors with an appealing range of hand-crafts such as wooden animal statues and other baubles. Jewellery, necklaces and other trinkets are all on sale here.

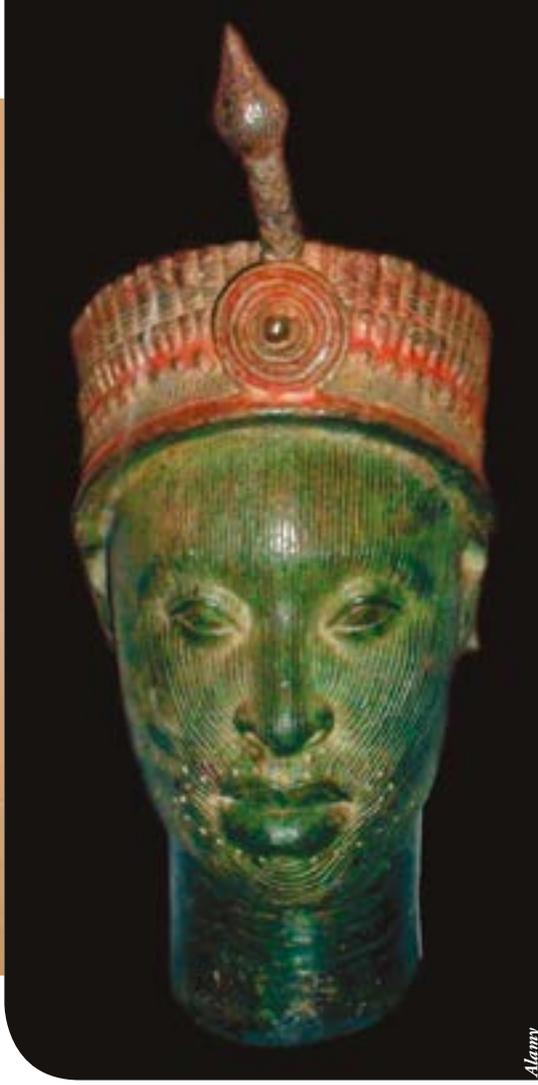
Perhaps one of the most influential components of Nigerian, and indeed African, art are the world famous traditional African masks. Masks often have a ritual or spiritual significance, used in dance and social ceremonies. Each mask can have a very specific symbolic and ceremonial meaning, particular to an area, province or tribe. Yet there remains something enduringly universal in appeal about this great art form.

This familiarity may stem from the influence African masks had on twentieth century artistic movements such as cubism, fauvism and expressionism. Or perhaps it is related to the thesis of one of Nigeria’s noble prize winning writers, Wole Soyinka, who wrote extensively on the analogies between the use of the traditional mask in the ceremonies of the Yoruba and Edo peoples of Nigeria and the theatre of Ancient Greece, and the theatre of the West in general.

One of the added bonuses of the Abuja Arts and Crafts Village is that the artists and craftspeople operating their businesses there are also experts on the history of their art. This leads to fascinating discussions as they explain the connection between many of the masks and particular regions of Nigeria.



Traditional African mask.



Cast brass head with red pigment produced by the Yoruba people, Ife, Nigeria (12th–15th century).



A range of masks from different regions in Nigeria.

Ife Head

For regular visitors to the British Museum in London, when one is surrounded by this array of masks one cannot help but be reminded of the Ife Head, famously used by Neil MacGregor, former Director of the British Museum, in his seminal work, ‘A history of the world in 100 objects.’ The Ife Head probably depicts an Ooni, a ruler of the West African kingdom of Ife that flourished between AD 1100 and 1500.

The Ife head differs somewhat from traditional masks given its outstanding realism. Indeed, when the Ife heads were first brought to Europe in the early twentieth century, some European explorers, reflecting the prejudices of the time, were convinced it could not have been originally produced by Africans but rather settlers from Ancient Greece, possibly the basis for the Atlantis myth. According to MacGregor, Ife is regarded as the spiritual heartland of Yoruba people in south-west Nigeria.

What links the Ife Head with the traditional African masks is of course the fact that they depict the head, in the case of the masks either human or animal. Regarding

Ife, this was important as artists believed the ‘Ase’ — the inner power and energy of a person — was contained in the head. Comparable beliefs about the importance of the head may be behind the traditional masks. This may offer an explanation of why such art is somehow both exotic yet familiar at the same time.

Delightful city

Abuja is a fascinating, dynamic city which can cater to all tastes. Between its majestic landscapes, joyous culture and unique heritage, future attendees of the Nigeria International Petroleum Summit should be sure to take the time to enjoy some of the city’s local sights and sounds. This is true of the rest of Nigeria — a country which is truly a privilege to visit.



L–r: Dr Ayed S Al-Qahtani, Director, OPEC Research Division; Herman Franssen, Herman T Franssen, Executive Director, Energy Intelligence Group; Keisuke Sadamori, Director, Energy Markets and Security, IEA.

Energy Mexico 2018

OPEC 2018 Energy Mexico Expo and Congress

*From January 30–February 1, some of the world’s top representatives from across the energy industry gathered in Mexico City for the 2018 Energy Mexico expo and congress. With the outlook for the oil market improving, the continuing push for renewables in some advanced economies and uncertainties in some of the world’s most important producing regions, the event was an opportunity for leading experts from around the world to share their insights and their outlooks for the market and the energy industry in general. OPEC’s Director of research, **Dr Ayed Al-Qahtani**, spoke on behalf of the Organization to a packed auditorium. The OPEC Bulletin reports.*

For three days at the end of January and early February, Mexico City became the veritable ‘centre’ of the energy world — at least in the Americas. With thousands in attendance, the 2018 Energy Mexico expo and congress took place, bringing together chief executive officers, technicians, field worker, economists and academics, as well as governmental authorities, consulting firms, and others from the energy and financial services industry.

The event, which was held at the modern Centro Citibanamex, aimed at bringing together manifold perspectives in order to illuminate the cross-section of energy and industry, market and state. It was the successful culmination of a year’s work on the part of organizers — and marked Mexico’s growing prominence in international energy events.

The event, which was held under the Chatham House Rule, included the participation of very high-level people. These included Mexico’s Minister of Energy, Pedro Joaquín Coldwell; the Director of Energy Markets and Security of the IEA, Keisuke Sadamori; and numerous other corporate and private sector leaders.

Presiding over the entire event was Jesús Reyes Heróles, the former CEO of PEMEX and now President of EnergeA, a consulting firm, and Herman Franssen, Executive Director of the Energy Intelligence Group.

Geopolitics and markets

One of the main and underlying themes of Energy Mexico was geopolitics and its effect and impact on the energy markets, particularly oil. As many participants noted during discussions and in informal discussions between session and after plenary events, geopolitics lately seems to have dominated the news cycle. Whether one considers South America, the Middle East, Asia, or North America and Europe, political uncertainties have emerged as a major factor to consider — with their potential impact on commercial and business enterprises, and investment and financial decisions.

But most attendees seemed to sound a rather optimistic note, especially since recent events have brought a more positive light to energy in general and oil in particular. OPEC’s growing collaboration with other non-OPEC oil producing countries, as exemplified by the negotiations and decisions that began in 2016, was seen by some as the harbinger of the stability that we are beginning to see return to the markets.

Some of the other recurring topics included shale oil

and its impact on the markets, the growing importance of Asia, transportation trends, regional tensions in parts of the developing world, US foreign policy, and the impact of the recent production adjustment decisions of OPEC and participating non-OPEC countries — particularly as enshrined in the historic ‘Declaration of Cooperation’.

A research congress

The ‘congress’ part of the event offered three main areas where presenters could make their mark: oil and gas, fuel and power markets, and Mexico’s own energy reform



The world-famous ‘Pyramid of the Moon’, one of the many Aztec temple pyramids at the archaeological zone of Teotihuacán, located nearly 50 km north-east of Mexico City. Mexico was host to the Energy Mexico 2018.

plan. The sessions and presentations within each ranged from then theoretical to the practical and applied.

Under the ‘oil and gas’ section, papers and presentations focused on such topics as NAFTA and the trade of energy in North America, expanding oil frontiers in the Gulf of Mexico, and changing geopolitics and its influence in oil and gas markets.

Under the ‘fuel and power markets’ section, presentations focused on regional natural gas markets, refining in the Gulf of Mexico, key developments and prospects in the midstream, and new trends in logistics and the retail of fuels.

Under the section focusing on the theme of ‘Mexico’s

energy reform implementation’, sessions ranged from credit ratings in the oil and gas industry, the social impact assessment of energy projects, and the emergence of new technologies to increase infrastructure capacity and operational efficiency.

It was within the ‘oil and gas’ section that one session focused on the relationship between OPEC and the International Energy Agency (IEA). OPEC’s Director of research, Dr Ayed Al-Qahtani, gave a speech, which was well-received. We offer the following highlights.

Recent OPEC achievements

In his remarks, Dr Al-Qahtani began by recalling the prolonged downturn seen in the oil markets from 2014 to 2016. “In terms of depth, duration and magnitude, it marked one of the most severe oil price cycle downturns in history,” he said.

While price cycles are each different and can be seen as an inherent part of the commodity markets, he noted that it was its impact on investments that was of greatest concern. “International upstream spending during those two years saw consecutive double-digit declines — with a cumulative drop of around 45 per cent,” he said. “Between 2014 and 2016, losses totalled about \$340 billion.”

It was the broad recognition of such facts that convinced OPEC Member Countries and a group of non-OPEC producers to take action in late 2016. Dr Al-Qahtani then provided an overview of the extensive negotiations and consultations during the second half of 2016, and the subsequent meetings in Algiers in September 2016, the meetings between OPEC and other non-OPEC producers in Vienna on November 30 and December 10, 2016, and the final culmination of these efforts in the landmark ‘Declaration of Cooperation’ and the voluntary production adjustments totalling 1.8 million b/d.

This, he explained, was followed by the important ‘implementation phase’ of the decision, in which the outcomes of the Declaration were consolidated. The technical aspects of this implementation began to take shape in early 2017, he noted. “One of those aspects had to do with developing a sustainable structure for broad OPEC and non-OPEC collaboration — and establishing effective mechanisms for the monitoring of the adjustments.”

That “sustainable structure” for cooperation were, of course, the Joint Ministerial Monitoring Committee (JMMC) and the Joint Technical Committee (JTC), bodies which were tasked with assessing conformity among those countries participating in the Declaration. “Both

Committees are thriving,” Dr Al-Qahtani noted, “and regularly produce high-quality market analyses on the impact of the Declaration.” Such efforts, he added, are seen as contributing to the development of “a sound framework for continuity” — that is, “a long-term strategy for collaborative supply management.”

Positive outcomes

The efforts of OPEC and the participating producers have had an effect, Dr Al-Qahtani explained. From a falling stock overhang to falling crude oil in floating storage, from improving global economic growth prospects to rising oil demand growth, to the gradual return of investments in the industry and overall positive sentiment in the market, things are looking better and better.

“These outcomes have only been possible because of the successful continuity of efforts supporting the ongoing process,” said Dr Al-Qahtani, which have helped to sustain the joint achievements into the medium- and long-term. “Thus, along with our non-OPEC partners, we have steadily been putting in place the building blocks for a broad institutionalization of the ‘Declaration of Cooperation’ — one that goes beyond a short-term rebalancing of the market.”

OPEC’s continuing role

In his remarks, Dr Al-Qahtani also offered a very clear message to all those in attendance: that the only way to meet expected future demand for oil is if we ensure investments now. Given expected world oil demand, which is expected to grow by 16 million barrels/day from 94.4m b/d in 2016 to 111m b/d in 2040, an estimated \$10.5 trillion in investments will be required, he said, citing figures from OPEC’s latest *World Oil Outlook*.

“Investments are necessary for the development, adoption and promotion of new technologies across all aspects of the industry,” he emphasized. “Innovative and break-through technologies are critical in our industry — particularly given the challenges of ... frontier fields and natural decline rates.”

Pointing to the other benefits of advanced and new technologies — such as efficiency improvements, environmentally-friendly solutions and then reduction of carbon foot-prints — Dr Al-Qahtani underscored the importance of investments. “It is really no exaggeration to say that technology is a key element in our ongoing quest for new solutions to the industry’s challenges.”



L–r: Herman T Franssen, Energy Intelligence Group; Keisuke Sadamori, IEA; and Dr Ayed S Al-Qahtani, OPEC.

Having a sustainable and stable oil market that encourages long-cycle investments is nothing short of a necessity, he said. And this, once again, points to the importance of the achievements of the ‘Declaration of Cooperation’.

The decisions that grew out of the broad consultative process useful and productive. But it is now not the time to lose our focus, he suggested.

All those collective actions and decisions “were part of a ‘decision chain’ designed to eventually address the medium- to long-term dimension of sustainable market stability,” he said. And OPEC and its Member Countries will continue to play a role as “reliable partners for effective, lasting and sustainable solutions for the world community.”

A broad and receptive forum

The speech by Dr Al-Qahtani touched on many of the most important themes of the Energy Mexico event. His words were a reminder to all in attendance — whether producers or consumers — that the need for collaboration is more important than ever. Though there are various geopolitical factors that have arisen as challenges, the future of the oil market and of continuing supply for the future remains in the hands of all those who for part of the value chain — and the “interwoven energy networks” that span the globe, weaving together countries near and far. OPEC has a role to play in these networks — and events such as the one in Mexico are the ideal forum in which to share its outlooks and expertise for the benefit of all. 🌐





Khalid A Al-Falih (r), Saudi Arabian Minister of Energy, Industry and Mineral Resources, and (then) President of the OPEC Conference, gave the recitation in honour of Dr Alirio Parra (second r); seen with Mohammad Sanusi Barkindo (l), OPEC Secretary General; and Dr Nelson Martínez (second l), (then) People's Minister of Petroleum, Venezuela.

Alirio Parra: a true OPEC icon

It was with great sadness that OPEC has learnt of the passing of one of the Organization's and the petroleum industry's most respected and legendary leaders, Dr Alirio Parra. The OPEC Secretariat extends its deepest and heartfelt condolences to the family of Dr Parra.

Mohammad Sanusi Barkindo, OPEC Secretary General, said: "This is an extremely sad day, not only for his family, his wife Sally and their children, who are in our thoughts and prayers, but for the entire OPEC family which Dr Parra was a founding member and remained a treasured part of his entire life. But we should also

recall the great life of this quintessential gentleman: one of the great men of the industry, a proud son of Venezuela and a citizen of the world, a scholar, a real oil man — and, to many of us, a very dear friend."

Dr Parra was a true OPEC pioneer, an oil industry innovator, a man who was always willing to share his great wisdom with others, and a witness to many historic OPEC moments, including the establishment of the Organization at the historic Baghdad meeting in 1960.

At the time of OPEC's founding, Dr Parra was an





Dr Alirio A Parra, during an interview at the OPEC Secretariat in 2010.

assistant to Venezuela's legendary Minister of Mines and Hydrocarbons, Juan Pablo Pérez Alfonzo. It would prove to be the beginning of a long and distinguished career; one with many great accomplishments spanning several decades.

Early years

Early in his career, as a member of the Presidential Commission on Oil Nationalization in 1975, he participated in the creation of Petroleos de Venezuela SA, or PDVSA.

In fact, as a founding Board Member of PDVSA, he spent 15 years helping to shape the company into an efficient, global commercial enterprise.

In this, he modernized PDVSA's downstream sector and revamped the entire refinery sub-sector, while also making sure the company was more efficiently integrated into world markets. He also initiated and facilitated the development of Orinoco heavy crude.

Dr Parra was Venezuela's Minister of Energy and Mines from 1992–94 and during this period he also served as President of the OPEC Conference.

These eminent achievements alone are venerable but over the years Dr Parra was involved with many other professional activities.

He was a former President of the International

Association of Energy Economists (1988), Chairman of the British Institute of Energy Economics (1997) and the Oxford Energy Policy Club (1984-95). He was also a former President of the Latin American Energy Organization (OLADE) and a Member of the International Advisory Board of the French oil company, Total.

In October 2006, he was elected an Honorary Fellow of the British Institute of Energy Economics.

He was also Chairman of the Advisory Board of the Energy Intelligence Group in Washington DC, and Vice-President of the Anglo-Venezuelan Society in London.

From 1997, he served as a Member of the Board of CWC Associates Limited, the famous energy consultancy in London.

In 2017, at a gala dinner among OPEC and non-OPEC participants which commemorated the landmark 'Declaration of Cooperation', the Organization honoured his distinguished career and life achievements. In receiving the award, Dr Parra said: "I am humbled, surprised, but delighted to be the recipient of this tremendous and incredible honour."

Dr Parra also noted that "back in 1960 there were many people who believed that OPEC would not last long; but it is still here today and I believe its best days are yet to come." To the last, he was true to his modest and respectful nature, always there to listen, offer guidance and show leadership; a genuine OPEC icon. 

*Dr Parra during
the OPEC Seminar
in 1977.*



Dr Alirio Parra died peacefully in London, England, on Friday, March 9, 2018. A funeral service was held at Our Lady of Victories Church in Kensington (London). A reception was held afterwards in the library of the esteemed Reform Club, considered to be one of the finest Victorian buildings in England. Below is the full text of the OPEC Secretary General's eulogy for Dr Parra.

Eulogy for Dr Alirio Parra By Mohammad Sanusi Barkindo OPEC Secretary General

Dear family and friends of Alirio,

It is truly humbling to have been asked by Alirio's dear wife, Salli, and their children, who continue to be in our thoughts and prayers, to deliver this eulogy to one of my very dearest friends. It is an honour beyond words. I just hope I can find the right words to do justice to such a great, wise, generous and respectful man.

Over the past week or so we have heard many people articulate their thoughts and memories of Alirio. There were some who talked about his legendary career, some about his wonderful character, and some who recalled delightful and amusing anecdotes of this very special man. Each of us here will no doubt have our own special memories of Alirio.

I would like to thank 'each and every one' of you for

your words, support and prayers over the past two weeks. I know it means a lot to Salli and the children to hear how much this great man touched so many lives. For all of us who dearly loved him, and ache with his passing, it has helped to somewhat ease the pain.

As you all know so well, the passage of time never fully heals the pain of such a great loss, but we carry on, because we have to, because Alirio would want us to, and because there is still light to guide us in the world from the love and inspiration he gave us. So while we gather today in mourning for Alirio's passing, we should also remember and be grateful for his life.

It was a life that began in Venezuela in 1928. And from a career perspective, it was a life that would help change the face of the modern global oil industry. By

L–r: Dr Alirio Parra; Dr Rilwanu Lukman, (then) Minister of Petroleum Resources, Nigeria; and Hisham M Nazer, (then) Minister of Petroleum & Mineral Resources, Saudi Arabia; during an OPEC Conference in 1987.



the late 1950s, Alirio had quickly worked his way up to become an assistant to Venezuela's then Minister of Mines and Hydrocarbons, Juan Pablo Pérez Alfonzo.

It was a time of great change and upheaval in the oil industry, with producing countries looking to exert their sovereign rights over their natural resources. It was with this in mind, that Alfonzo and Alirio began brainstorming ideas in Caracas. It was the incubation of a plan to bring together a small group of developing nations to defend their legitimate national interests.

I know it was a project that was very close to Alirio's heart. He worked tirelessly, coordinating with other like-minded countries and all these efforts eventually led to a seminal meeting in Cairo at the time of the First Arab Petroleum Congress in April 1959.

On the last day of this Congress, a number of visionary leaders — namely Alirio's boss, Alfonzo, Abdullah al-Tariki of Saudi Arabia, Dr Fuad Rouhani of Iran, Dr Tala'at al-Shaibani of Iraq, and Ahmed Sayed Omar of Kuwait — slipped off one-by-one to meet secretly at the Cairo Yacht Club in Maadi. They forged what has become known as a 'gentlemen's agreement' in Cairo. It was there where the idea of OPEC was nurtured, before it came into the world in Baghdad in September 1960.

The formation of OPEC was a pioneering act, an act that demonstrated that even developing countries had rights. Alirio played a central role in all this. And of course, the initial small group of developing countries has now evolved into a group of 14 that is respected far and wide as an established part of the international energy community. OPEC has a great deal to thank Alirio for.

It would also prove to be the beginning of a long and distinguished career; one with many great accomplishments spanning several decades. He participated in the creation of *Petróleos de Venezuela SA*, or PDVSA, and as a founding Board Member, he

spent 15 years helping to shape the company into an efficient, global commercial enterprise.

Alirio served as Venezuela's Minister of Energy and Mines from 1992 to 1994 and head of its OPEC delegation, and also held the OPEC Presidency. In fact, throughout his life Alirio would try to be in Vienna for every OPEC meeting.

In recent years, you may not have seen him at the OPEC Secretariat, but ministers and people would come to see him. He was quietly influential. His diplomacy, tact and gravitas were a joy for all to see. This was true in all areas of his life.

He would continue to be associated with OPEC throughout his whole life. It was an unalloyed passion for him.

Over the years he also served on a variety of industry and company boards, and chaired a whole host of eminent industry organizations. And of course, over the past two decades he has served as a Member of the Board of CWC, helping put on industry exhibitions and conferences around the world, including many in my home country of Nigeria.

These are only a few of the highlights. It could take me all day to list them all!

Alirio's remarkable career only tells part of the story of his life. He was also a man of the people; equally at home talking and providing guidance to ministers, offering support to young scholars entering the industry, conversing with small children, and generally enjoying life with family, friends and colleagues.

I know that I have tapped into Alirio's deep knowledge and wisdom on many occasions. We have spoken for hours; long into the night. He was truly an inspiration, and a guiding light on the journey I have personally taken. His relaxed nature, his wealth of stories, and his eye for the truth also made him the perfect dinner companion. I will truly miss our chats.



Dr Parra (r) seen with Dr Subroto, (then) OPEC Secretary General, during the 87th OPEC Conference in 1990.

Over the past weeks, I have also heard many stories from some of today’s renowned industry experts on the encouragement and advice they received from Alirio at the beginning of their careers.

He was a true believer in attracting the most able and talented people into our industry. And this support continued as their careers progressed. He also had the most infectious and youthful sense of humour. He had a twinkle in his eye, a mischievous smile and an invigorating presence. It was compelling to us all, and irresistible to children.

This is perfectly summed up by his driver in Nigeria, who said on hearing of Alirio’s passing: “I am indeed saddened and devastated at the moment. My entire family will forever miss Dr Parra. His name has been a song on the lips of my kids who daily wish to see him.”

And of course, he always lived life to the full. He certainly enjoyed having fun. I heard a colleague of Alirio’s recall a story of him, and the late, great, Dr Rilwanu Lukman, another oil industry and OPEC legend. The colleague said they would never forget the two of them dancing on the stage to the R&B artist Akon at the NNPC Awards dinner in Nigeria in 2012. In fact, I vividly remember it too. He was then in his mid-80s!

He would always be the last to leave those functions, even though he may have been up since the early hours of the morning. I should also add that he would still be immaculately dressed at the end of every day. He was the best dressed person wherever he went. He could teach us all something about style! To the last, he was true to his modest and respectful nature, always there to listen, offer guidance and show leadership.

In 2017, at a gala dinner among OPEC and non-OPEC participants which commemorated the landmark ‘Declaration of Cooperation’, OPEC honoured his distinguished career and life

achievements. In receiving the award, Alirio said: “I am humbled, surprised, but delighted to be the recipient of this tremendous and incredible honour.” He was a humble man, who did great things.

To all of you here; and to those that we know who wished they could have been here: We cannot lose sight that we have lost a loving husband, an adoring father, an oil industry pioneer, an OPEC legend, and a noble and greatly respected man.

But we should also recall the remarkable life of this quintessential gentleman: one of the legends of the industry, a proud son of Venezuela, a citizen of the world, a scholar, a real oil man, a very dear friend and a true family man. He was a marvellous human being.

I would like to leave you with a poem by Robert Burns, which I think fits beautifully to the person Alirio was, and how I hope we might remember him:

*“An honest man here lies at rest,
The friend of man, the friend of truth,
The friend of age, and guide of youth:
Few hearts like his, with virtue warmed,
Few heads with knowledge so informed;
If there’s another world, he lives in bliss;
If there is none, he made the best of this.”*



IR Iran extends its gas production portfolio

The President of the Islamic Republic of Iran, Hassan Rouhani, officially launched a gas processing complex in the Hengam joint oil field.

The highly anticipated plant, which can process 80 million cubic metres/day of flared natural gas, is expected to generate return on investment within the first year for the local contractors, advisors and manufacturers, according to *Shana*, a leading Iranian information portal.

The project is also set to maintain \$700,000 of revenues on a daily basis through injecting processed gas in the OPEC Member Country's trunklines. The estimated cost of the project is around €70 million.

In the opening ceremony, the Managing Director of the Iranian Offshore Oil Company, Hamid Bovard, emphasized the key benefits of the strategic project to the country. The gas processing complex aims to save IR Iran more than \$300 million, once operating at full capacity.

During the ceremony, Bovard said: "The operation of this complex, in addition to preventing the burning of gases in the oil field, has considerable environmental advantages and improves the injection of the processed gas to the gas distribution network of the country."

He also added that IR Iran formerly flared gas equal to 14,000 b/d in this oil field.

According to OPEC's *2017 Annual Statistical Bulletin*, IR Iran exported around 8,567 million standard cubic metres in 2016, and enjoys tremendous gas reserves of 33,721 billion standard cu m.

IR Iran, which is a Founding Member of OPEC, is also a Founding Member of the Gas Exporting Countries Forum (GECF), which was established in 2008 as an international organization. Its headquarters are located in Qatar, another fellow OPEC Member Country. 



Total expands its market share in Libya

The French oil major Total SA acquired an additional stake in the hydrocarbons industry of OPEC Member Country, Libya. The continuous solid cooperation among the energy firm and the oil producing country witnessed a new milestone, with Total purchasing a substantial 16.33 per cent of Libya's Waha, one of Libya key export grades, for \$450 million.

According to an official statement by the French company, the acquisition will grant the firm with access to around 500 million barrels of crude oil. Total will also be able to immediately extract and trade 50,000 b/d on average, upon completion of the agreement. Additionally, the firm will gain notable potential in the upstream sector.

Total's CEO, Patrick Pouyanne, emphasized the strategic importance of such an acquisition for the

enhancement of the energy giant's portfolio. He also complimented the high quality crude that Libya possesses and the solid infrastructure that the country has developed over the years, indicating that the low extract costs was an asset for the petroleum sector in the oil producing country.

This agreement strengthens the existing solid ties between Libya and Total. The company already operates in several fields in the North African country, including the onshore Sharara field and the offshore Al Jurf field.

According to a report by *Reuters*, the Waha Oil Company, which is owned and controlled by Libya's National Oil Company, produces 300,000 b/d. It is also expected that its production capacity will soon reach 400,000 b/d. 

Saudi Arabia and Russia forms a new giant joint venture



The solid cooperation between the Kingdom of Saudi Arabia and the Russian Federation is set to reach a new milestone in the petrochemical industry.

The OPEC Member Country's oil giant, Aramco, and Russia's Sibur are currently in advanced talks to establish a joint venture to produce synthetic rubber, among other petrochemical products.

Dialogue

Dmitry Konov, Sibur's Head of Management, highlighted the growing cooperation between the two oil producing nations, and praised the benefits that have been seen since its commencement. The continuous dialogue between the two countries has provided the public and private sectors with a healthy platform, which has encouraged investors from both countries to use emerging opportunities and develop bilateral agreements.

Commenting on the establishment of the joint venture, Konov said: "The Saudi-Russian dialogue has probably accelerated the project, even though we started discussion some four years ago."

According to *Reuters*, while Sibur possesses advanced technology for the production of synthetic rubber, Russia lacks the required feedstock to carry out commercial operations. Being one of the world largest petrochemical producers, Saudi Arabia enjoys a substantial feedstock, thus making the Kingdom an ideal strategic partner for Russia.

The announcement of the mega project follows a memorandum of cooperation signed during the visit of Saudi Arabia's monarch and the Custodian of the two Holy Mosques, King Salman Bin Abdulaziz Al-Saud, where he met with his counterpart the President of the Russian Federation, Vladimir Putin.

The landmark visit, which took place in October of last



*Dmitry Konov,
Chairman of the
Management Board of
Sibur Holding.*

year, witnessed solid and unprecedented developments in the relations between the Kingdom and Russia. It also saw the finalization of many agreements in the field of hydrocarbon, renewable energy, defence, investment and space exploration, among others.

In recent comments, the Paris-based International Energy Agency (IEA) emphasized the importance of petrochemicals and their role in the international oil market. The 29-member agency said petrochemicals will become one of the main triggers for the acceleration of oil and gas demand growth in the coming years. 



Downstream strategy will be announced soon: ADNOC CEO

As part of solid efforts to expand its portfolio and enhance its value, Abu Dhabi National Oil Company (ADNOC) will soon announce a new downstream strategy. The oil giant also plans to double its refining capacity and triple its petrochemical output, while identifying new sustainable capital structure.

Going downstream to unlock value

In a panel discussion held in the Emirati capital, Abu Dhabi, Dr Sultan Ahmed Al Jaber, Minister of State and ADNOC Group Chief Executive Officer said: “While we appreciate the impact of our operations on the upstream, we have clearly indicated that ADNOC has to go downstream in order for us to be able to unlock value.”

He added: “There are some new creative capital structure ideas also that we are going to be introducing very soon.”

According to *The National*, a leading newspaper

based in the UAE, Al Jaber also emphasized the importance of finding new capital and financial opportunities to solidify the company’s position. In December 2017, the company offered its distribution and retail unit to the public through a significant initial public offering.

In turn, the OPEC Member Country announced its strong commitment toward the transformation of its National Oil Company. The five-year plan, which is set to end by 2025, will aim invest Dh400 billion (€88bn, approximately) in the diversification of the downstream sector attempting to triple the production capacity of petrochemicals.

Additionally, it will also renovate and modernize the Ruwais refinery. The project, which is estimated to cost around \$3bn, aims to enhance the refinery’s capability to process various crude grades, in addition to the flagship Murban.

ADNOC also announced an increase of 6.8 per cent in fourth quarter profits recently.



Dr Sultan Ahmed Al Jaber, Minister of State and ADNOC Group Chief Executive Officer.

Mexico offers first shale oil tender to private firms



Private sector companies in Mexico were invited to submit bids to operate in shale oil areas after the National Hydrocarbons Commission (CNH), Mexico's premier oil regulator, launched a call for nine contractual blocks.

The contracts, which will be awarded in the beginning of September of this year, mark a landmark shift in Mexico's oil and gas industry, as they offer private companies an unprecedented opportunity to develop tight oil fields.

Unparalleled chance

The President of the Commission, Juan Carlos Zepeda, underlined the unparalleled chance that winning firms will gain. He elaborated that those firms that succeed in the bidding process will be able to tap conventional, as well as non-conventional, resources that lie above and beneath the surface of the field.

"The auction's winners will have the right to explore and carry out activities at any depth, throughout the column, involving shale formations, as well as conventional sand formations," he added.

The nine blocks which are being offered possess outstanding reserves of natural gas, equalling 1.16 billion barrels of oil, in addition to 53 million barrel of conventional oil and gas deposits.

While the difficulties that oil firms may face when exploiting these reserves are minimal, the lack of water could potentially be a challenge, as shale production require notable amount of water for the hydraulic fracturing process.

In an ongoing attempt to solidify and develop its energy sector, Mexico has introduced a set of historic reforms in 2013 and 2014. The landmark strategy is set to enhance the productivity and efficiency of one of the country's most vital industries.

According to the NHC, the state body which governs and conducts auctions, the awarding of 90 contracts — for both offshore and onshore fields — is expected to generate more than \$150bn over their lifetime, if successfully operated.

The blocks are located in the basin of Burgos, in the oil-rich state of Tamaulipas, where Mexico's state-owned PEMEX has drilled around 20 wells.



Juan Carlos Zepeda,
President of the
National Hydrocarbons
Commission (CNH).

Reuters

Nigerian festivals

The rich heritage of Nigeria

In spite of the tremendous influence of foreign traditions and religions, the importance of indigenous culture and local customs to a country's people has in no way lost its relevance. Hence, there is no better no way to explore the rich cultural diversity of the Nigerian people than by taking part in the celebration of its cultural festivals. The *OPEC Bulletin's* Suraj S Matori writes on some of the most popular and exciting festivals in Nigeria.

Nigeria is the largest African nation on Earth with an approximate population of over 180 million inhabitants, and a very rich and diverse cultural heritage that includes over 500 ethnic tribes and more than 500 languages. The people of Nigeria are aware of their cultural diversity, and this is evident in the various traditional festivals put on display across various communities and regions in the country. As a colourful and beautiful country, whose citizens live a rich and happy life, Nigeria is a place where people always love an opportunity to cheer up and have fun.





Participants attend a street carnival at Tafawa Balewa square Lagos, Nigeria.



Above: Durbar festival Kano Nigeria Africa



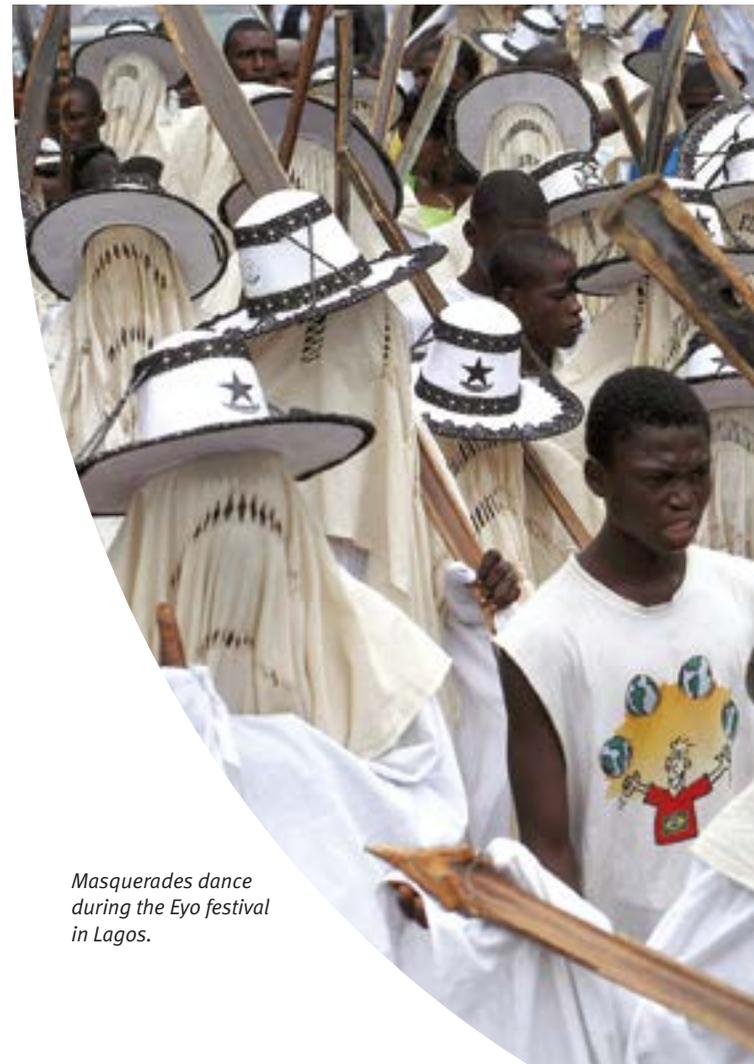
Right: A Nigerian Durbar horse rider peers behind his decorated horse during Abuja cultural festival.

Latin American countries such as Brazil are known for their popularized festivals all over the world. But with time, other countries and societies, including Nigeria, are now rising up and boosting their local festivals so much that they even now stand a chance at competing with other festival like Brazil.

While festivals are not new to Nigeria, in recent times, some major festivals have been popularized so much that tourists from around the world visit the country annually for the events. There are a variety of events and festivals that celebrate Nigeria's cultural heritage, including its religious history, traditional music and art. Most of these feature local music, costumes, parades, dancing and food.

Each part of the country has something unique to offer tourists all year long. For many years the diversity of Nigeria's cultural festivities has increasingly become more colourful and captivating, to both local and international audience, offering a wide array of rich traditional festivals that showcase the beauty of each ethnic group within the country.

Annually, across Nigeria there are different festivals which make certain parts of the country a favourite destination for travellers at home and abroad. Cultural festivals are a high point on Nigeria's tourism calendar and each part of the country has something unique to offer tourists all year long. Some of the most popular and prominent ones are described below.



Masquerades dance during the Eyo festival in Lagos.

Durbar festival

The most ancient and prominent festival in the northern regions of Nigeria, the Durbar festival is popular in Bauchi, Kano, Katsina, Zaria (Kaduna), and Yola (Adamawa) states. Originally intended to mark the advent of a war between ancient kingdoms, or regarded as a form of military parade to the emirs and their councils to showcase the fighters who defended the territories, the festival is now performed and considered a ceremonial parade.

'Hawan Sallah' or 'Hawan Daushe' as it is locally called, is a royal parade of thousands of men on horses adorned with garments and regalia. It is a colourful display of culture full of pageantry, as well as a spectacular traditional concert and music bazaar with elements from different African countries. It is celebrated at the end of Muslim festivals Eid al-Fitr and Eid al-Adha. It begins with prayers, followed by a parade of the Emir and his entourage of horses, traditional title holders and their entourage, accompanied by music players, the parade ends at the Emir's palace. The festival features a colourful procession led by the Emir and features a competition between the Royal Calvary, drummers, trumpeters, praise singers and wrestlers, making it a widely viewed event in Northern Nigeria. The festival also showcases the full procession of people, showing how they gather at the public square or in front of the Emir's palace where the final takes place.



Eyo festival

The Eyo festival in Lagos Island is a spectacular celebration that attracts tourists from all over the country. Participants are dressed in white clothing, and the main attraction of the festival is the Eyo masquerades all of whom perform in white regalia, too. They lead a colourful procession through the city, and it is a fabulous celebration to be witnessed, as one can experience the traditional values of the people of Lagos. The masquerades are regarded as representing people's ancestors and each day a participant, supposedly possessed by one of the ancestors, dances through the town. On the last day, a priest offers animal sacrifices at a local shrine which afterwards serve as food for those attending the festival.

Major highways in the heart of the city are usually closed to traffic on the day of the Eyo festival to make room for the procession's parade. The large procession usually pays homage to the reigning Oba of Lagos (traditional ruler of Lagos) and spectators are expected to take off their shoes to show respect.



A Nigerian woman dressed in the country's flag colours dances during Abuja cultural festival.

Sharo-Shadi festival

The Sharo-Shadi festival demonstrates endurance and bravery in a most dramatic way. It is celebrated by the Fulfude speaking nomads — commonly called the Fulani — who are found along the northern parts of the countries that make up West Africa, spreading from Nigeria to Senegal. It is a major event usually held twice a year within the settlements and eagerly anticipated by participants and audiences alike, both national and international.

The main attraction is the raw display of physical endurance. Though many other cultural activities in Nigeria have ceased due to the spread of a more austere religious outlook, the Fulani tribe has firmly adhered to its culture and traditions.

The main ritual of the Sharo-Shadi festival is a rite of passage for the nomadic Fulani tribe. It involves bare-chested contestants, surrounded by beautiful ladies who form a ring around them. The contestants attempt to impress the ladies — and avoid being called ‘cowards’ — by withstanding as many floggings as possible from an opponent, all the while trying to remain oblivious to the cheers and the drumming going on around them.

by music, drums and dance — try to outdo each other by ending with the biggest catch.

At the end of the festival, the winner is enthusiastically celebrated, and there is jubilation across the river towns. The river is then sheltered to ensure that it may yield fish for the next festival. The Argungu festival is an opportunity for the many different tribes in the North to unite and compete in a healthy way for fun.



Argungu fishing festival

To mark the end of the farming season, once a year — between February and March in Kebbi State — the Argungu River’s 64-mile stretch plays host to this unique festival. The river is a sight to behold with many fishermen who throng there for the festival, all of them using gourds and fishing nets to gather fish. The competitive festival is really a show of skill for the locals who — accompanied

Calabar carnival

This carnival has come a long way: a month-long carnival in Cross River state has grown to become a phenomenal force to be reckoned with, gathering repute both locally and internationally. It is the perfect occasion to raise awareness and recognition of one the country’s most famous festivals. Dancers are usually decked out in beautiful, vibrant costumes with feathered head dresses, while the street parades are an opportunity to showcase many different

Fishermen search for fish in the Matan Fada river during the Argungu fishing festival in Nigeria’s Kebbi state.





Representatives of the Kastina state troupe dance during the Abuja cultural festival.

colourful attires and sensational music. The carnival is now known as the biggest street party in Africa.

The carnival was held for the first time in 2004. Because of this, a considerable attention has been paid to the culture, history and heritage of the people of Cross River state. The event brings together people from different regions and countries who come here to relax and have fun. It attracts many tourists from around the world.

At the same time, the carnival facilitates the participation of local residents and visitors who bring in business that helps the economy of the state. The carnival has so far served not only as an avenue for relaxation and fun but also to promote many more aspects of local culture and heritage, while at the same time strengthening the capability of local people to take part in an economically beneficial event. It takes place between December 1 and 31 and attracts about two million people annually.

New Yam festival

The New Yam festival is an annual cultural festival by the Igbo people. It is held at the end of the rainy season. Observed mostly by the people of the Middle Belt, in southern and eastern Nigeria, the festival symbolizes the conclusion of a harvest and the beginning of the next farm work cycle — that is, it symbolizes the abundance of produce yielded from the recently concluded farming season.

This celebration is conducted throughout Africa but especially



Children parade the street during the annual Calabar street carnival in Nigeria's Delta region.



Palace guards ride on horses during the Durbar street procession in Katsina.

in Nigeria. In fact, it is as old as the culture of the Igbo people, which goes back centuries. The festival's main purpose is to gain the approval of the ancestors and of the gods. People thank the gods for their help in growing the crop, which in this case is yam.

The festival takes place annually, from early August through October. Spectators from all over the world often come to witness it and is one of the most well attended events in Nigeria. It brings together the many different communities of the Igbo people and is as colourful and rich event one can find.





Stability for growth in Nicaragua

OFID supports agriculture productivity, climate change resilience and financial inclusion in Central America.

By Justine Würtz



OPEC Fund for International Development (OFID)

OFID has provided a subordinated loan to BANPRO bank of Nicaragua of \$10 million — which has been matched by the French Development Agency PROPARCO for a total financing of \$20m — that will contribute to strengthening BANPRO’s capital structure. The funding will also be used for on-lending to small-and medium-sized enterprises (SMEs).

Although poverty has decreased during the last ten years, Nicaragua remains the second poorest country in Latin America. The Central American country is dependent on agricultural productivity for exports, as well as for food security. But recent extreme weather has brought devastating droughts and floods to the nation of six million people.

BANPRO, Nicaragua’s leading bank, is mobilizing private sector financing to help it better support Nicaragua’s food security. About 20 per cent of the bank’s portfolio is dedicated to agriculture. This financing is helping small-scale farmers to secure their businesses.

Financing irrigation projects

More specifically, BANPRO is expected to use three-quarters of the new funds to finance irrigation projects allowing farmers to combat the effects of severe drought associated with climate change. BANPRO already has an extensive network across Nicaragua that will help promote financial inclusion for the most vulnerable populations living in the country’s most underserved regions (in particular, those along the Atlantic coast).

The long-tenor and nature of the funding supplied helps provide BANPRO with a stable platform for future investment and growth. As a subordinated loan it will also have a multiplier effect by strengthening the Bank’s capital base and so supporting the expansion of its loan book and SME portfolio allocation.

“We are pleased to support MSME’s and financial inclusion among some of the world’s most vulnerable communities,” says OFID’s Acting Assistant Director-General, Private Sector and Trade Finance Operations Tareq Alnassar. “OFID is fully committed to supporting



The 2017 Global Climate Risk Index places Nicaragua fourth on its list of countries most affected by, and most at risk of, climate change. Small-scale and family farmers without the resources to upgrade irrigation and farming methods are the worst hit.

the United Nations Sustainable Development Goals and this loan agreement contributes to a number of SDG focus areas such as ending poverty, achieving food security and promoting inclusive and sustainable economic growth, employment and decent work for all.”

The government of Nicaragua is responding to the need to support agriculture by formulating national policies to promote production and output, while targeting sustainable agriculture, water and resource management and improving access to credit. Working together, the public and private sectors have the potential to make significant progress within the 2030 Agenda for Sustainable Development.



Briefings

Students and professional groups wanting to know more about OPEC visit the Secretariat regularly in order to receive briefings from the Public Relations and Information Department (PRID). PRID also visits schools under the Secretariat's outreach programme to give them presentations on the Organization and the oil industry. Here we feature some snapshots of such visits.

Visits to the Secretariat



January 17 Teachers from the Europäische-Akademie Bayern, Munich, Germany.



January 24 Students from the University of Long Island, Brooklyn, NY, USA.



January 25 Delegates from the Oil and Natural Gas Corporation (ONGC) and Indian Institute of Management, India.



January 30 Students from Centro Universitário de Brasília, Brazil.



February 7 Students from the Research Centre of the United Nations and International Organizations, Beijing, China.



February 8 Students from the Seoul National University, Seoul, South Korea.

Forthcoming events

MCEDD deepwater development, April 9–11, 2018, Milan, Italy. Details: World Oil, PO Box 2608, Houston, TX 77252, USA. Tel: +1 713 529 4301; fax: +1 713 520 4433; e-mail: energyeventeditor@gulfpub.com; website: <http://mcedd.com>.

13th Russia and CIS bottom of the barrel technology conference and exhibition, April 10–11, 2018, Moscow, Russia. Details: Euro Petroleum Consultants Ltd, 44 Oxford Drive, Bermondsey Street, London SE1 2FB, UK. Tel: +44 207 357 8394; fax: +44 207 357 8395; e-mail: enquiries@europetro.com; website: <https://europetro.com/event/69/O>.

Global oil and gas Atyrau exhibition, April 10–12, 2018, Atyrau, Kazakhstan. Details: ITE Group plc, Oil and Gas Division, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5233; fax: +44 207 596 5106; e-mail: oilgas@ite-exhibitions.com; website: <https://oil-gas.kz/en/>.

5th Kuwait oil and gas, April 16–17, 2018, Kuwait City, Kuwait. Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16–18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 000; fax: +44 207 978 0099; e-mail: sshelton@thecwcgroup.com; website: www.cwckuwait.com.

3rd Argus Iran base oils and lubricants conference, April 17–18, 2018, Tehran, IR Iran. Details: Argus Media, Argus House, 175 St John Street, London EC1V 4LW, UK. Tel: +971 44 34 51 16; email: me.events@argusmedia.com; website: www.argusmedia.com/events/argus-events/middle-east/argus-iran-base-oils-and-lubricants-conference/home.

3rd Argus Iran LPG and petrochemicals conference, April 17–18, 2018, Tehran, IR Iran. Details: Argus Media, Argus House, 175 St John Street, London EC1V 4LW, UK. Tel: +971 44 34 51 16; email: me.events@argusmedia.com; website: www.argusmedia.com/events/argus-events/middle-east/argus-iran-lpg-conference/home.

Argus LPG Moscow 2018, April 19–20, 2018, Moscow, Russia. Details: Argus Media, Argus House, 175 St John Street, London EC1V 4LW, UK. Tel: +971 44 34 51 16; email: me.events@argusmedia.com; website: www.argusmedia.com/events/argus-events/russia/argus-lpg/home.

24 BBSPA annual conference, April 19–20, 2018, Bucharest, Romania. Details: Cedigaz, 1 & 4 Avenue de Bois-Préau, 92852 Rueil Malmaison, France. Tel: +33 1 47 52 67 20; e-mail: contact@cedigaz.org; website: www.bbspetroileum.com/24-bbspa-annual-conference.

26th annual Middle East petroleum and gas conference, April 22–24, 2018, Abu Dhabi, United Arab Emirates. Details: Conference Connection Administrators Pte Ltd, 105 Cecil Street #07-02, The Octagon, 069534 Singapore. Tel: +65 6222 0230; fax: +65 6222 0121; e-mail: info@cconnection.org; website: www.mpgc.cc.

Jordan international energy summit, April 23–24, 2018, Amman, Jordan. Details: dmg :: events, 6th floor, Northcliffe House, 2 Derry Street, London W8 5TT, UK. Tel: +44 20 3615 2873; fax: +44 20 3615 0679; e-mail: conferencemarketing@dmgevents.com; website: <http://dmgeneryevents.co.uk/event-list>.

21st Asia refining technology conference, April 23–25, 2018, Kuala Lumpur, Malaysia. Details: The World Refining Association, Bedford House, Fulham Green, 69–79 Fulham High Street, London SW6 3JW, UK. Tel: +44 207 38 48 013; fax: +44 207 38 47 843; e-mail: enquiry@wraconferences.co.uk; website: <http://artc.wraconferences.com>.

Lebanon international oil and gas summit, April 24–25, 2018, Beirut, Lebanon. Details: dmg :: events, 6th floor, Northcliffe House, 2 Derry Street, London W8 5TT, UK. Tel: +44 20 3615 2873; fax: +44 20 3615 0679; e-mail: conferencemarketing@dmgevents.com; website: <http://liog-summit.com>.

ICS cyber security, April 24–26, 2018, London, UK. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; https://icscybersecurity.iqpc.co.uk/?utm_medium=portal&mac=IQPCCORP.

4th China LNG and gas international summit and exhibition, April 25–26, 2018, Beijing, PR of China. Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16–18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 000; fax: +44 207 978 0099; e-mail: sshelton@thecwcgroup.com; website: www.chinalngsummit.com.

6th Mozambique mining, oil and gas and energy conference and exhibition, April 25–26, 2018, Maputo, Mozambique. Details: AME Trade Ltd – Africa and Middle East Trade Ltd, Unit 408, United House, 39–41 North Rd, London N7 9DP, UK. Tel: +44 207 70 04 949; fax: +44 207 68 13 120; e-mail: trade@ametrade.org; <http://ametrade.org/mozmec>.

Base oil and lubes Middle East 2018, April 25–26, 2018, Abu Dhabi, United Arab Emirates. Details: Conference Connection Administrators Pte Ltd, 105 Cecil Street #07-02, The Octagon, 069534 Singapore. Tel: +65 6222 0230; fax: +65 6222 0121; e-mail: info@cconnection.org; website: www.baseoilubes.com.

Offshore technology conference, April 30–May 3, 2018, Houston, TX, USA. Details: OTC, 10777 Westheimer Road, Suite 1075, Houston, Texas 77042 USA. Tel: +1 972 952 9494; fax: +1 713 779 4216; e-mail: meetingsotc@otcnet.org; website: <http://2018.otcnet.org/?ga=2.33593185.1917615084.1520521583-796556766.1520521583>.

DrillTech Middle East, May 7–10, 2018, Kuwait City, Kuwait. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; website: https://drilltech.iqpc.ae/?utm_medium=portal&mac=IQPCCORP.

3rd Mediterranean oil and gas summit 2018, May 8–9, 2018, Athens, Greece. Details: 10–18 Vestry Street, Hoxton, London N1 7RE, UK. Tel: +44 207 11 11 615; fax: +44 207 18 37 945; e-mail: info@irn-international.com; website: <http://medoilgassummit.com>.

Argus global gasoline 2018, May 8–9, 2018, London, UK. Details: Argus Media, Argus House, 175 St John Street, London EC1V 4LW, UK. Tel: +971 44 34 51 16; email: me.events@argusmedia.com; website: www.argusmedia.com/events/argus-events/europe/argus-global-gasoline/home.

Argus West Africa LPG 2018, May 9–10, 2018, Accra, Ghana. Details: Argus Media, Argus House, 175 St John Street, London EC1V 4LW, UK. Tel: +971 44 34 51 16; email: me.events@argusmedia.com; website: www.argusmedia.com/events/argus-events/europe/argus-west-africa-lpg.

16th international exhibition for the energy industry: ‘Oil and gas Pakistan’ and ‘Power technology Pakistan’, May 10–12, 2018, Lahore, Pakistan. Details: Pegasus Consultancy (Pvt) Ltd, 2nd Floor Business Centre, Mumtaz Hassan Road, Karachi 74000, Pakistan. Tel: +9221 11 17 34 266; fax: +9221 32 41 07 23; e-mail: info@pegasusconsultancy.com; website: www.pogepakistan.com. 

Assessment of the global economy

March 2018

Global economic growth has recovered significantly over the past year and is now forecast at 3.8 per cent in both 2017 and 2018. Positively, all major economies saw higher growth in 2017, with the exception of India, due to major economic structural reforms, and the UK, which was impacted by Brexit. This dynamic has been supported to a large extent by Central Banks' unprecedented monetary stimulus over the past years in major advanced economies. In addition, this dynamic is now buoyed by considerable fiscal stimulus measures in the US. However, growth limitations have become apparent with major Central Banks normalizing monetary policies, some economies reaching, or growing above, growth potential and FY 2017 GDP growth in some countries such as Japan, the UK, India and Russia, being lower than anticipated. Moreover, in addition to these limitations, the most recent US announcement to impose tariffs on steel and aluminum, as well as the potential consequences of the US fiscal stimulus on the nation's debt may dampen the growth momentum.

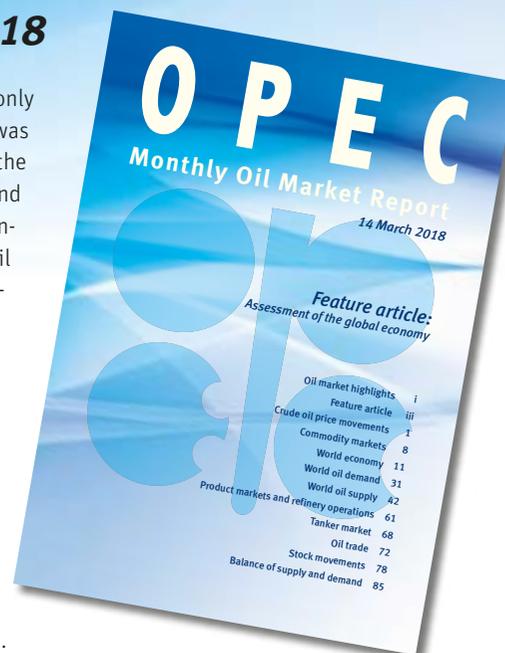
In the OECD, the US continues to show a solid underlying growth trend, supported by ongoing improvements in the labour market, transferring into healthy consumer and business sentiment. This, together with the existing fiscal stimulus is expected to push growth to 2.7 per cent in 2018, following growth of 2.3 per cent in 2017. However, political developments and decisions on monetary policy could dampen growth going forward. In the Euro-zone, GDP growth has also improved considerably, supported by the ECB's ongoing accommodative monetary policy and declining unemployment levels. GDP is forecast to grow at 2.2 per cent in 2018, following 2.5 per cent for 2017, although numerous political uncertainties in combination with ongoing high sovereign debt-levels and some weakness in the banking system remain. Japan is expected to see slightly lower growth of 1.5 per cent in 2018, compared to 1.7 per cent in 2017. Structural reforms and ongoing monetary stimulus, together with fiscal support all provide the basis for ongoing growth momentum in Japan, yet the upside is considered to be limited.

In the emerging markets, growth continues at a healthy level. China is forecast to grow at 6.5 per cent in 2018, after reported strong growth of 6.9 per cent in 2017. In light of the ongoing high provincial and private sector debt levels, China's government has confirmed it will continue to monitor and balance financial instabilities. India is forecast to recover to growth of 7.2 per cent

in 2018, after it reported only 6.4 per cent in 2017, which was considerably impacted by the introduction of the Goods and Services Tax (GST) and demonetization. Meanwhile, Brazil and Russia are forecast to continue to recover with 2018 growth of 1.9 per cent and 1.8 per cent respectively, after 1.0 per cent and 1.6 per cent in 2017. Uncertainties remain, however, ranging from domestic political challenges in Brazil to external political challenges and commodity price development in Russia.

The gradual normalization of monetary policies in the major OECD economies is likely to continue. In fact, considering the US fiscal stimulus, the Fed has signalled that it may accelerate its monetary policy normalization. This could negatively impact emerging economies, leading to capital outflows, while foreign investments have been an important source of funding for economic activity, supporting oil demand in the past years. In addition this may become more accentuated as the US administration has incentivized the repatriation of foreign holdings of around \$2.6 trillion in its latest tax bill. The ECB may also normalize its monetary policies faster than anticipated as growth has accelerated considerably. However, inflation remains low and wages have not improved significantly.

Low interest rates have been an important driver for increased investments in the oil industry, particularly in the development of tight oil and other unconventional resources. However, this may change if interest rates rise quicker. Given the improvements in economic activity across the world, oil demand will be well supported in 2018. However the most recent trade-related developments may provide challenges to the growth momentum as global trade has been an important factor contributing to the world economy. Nevertheless, the current healthy momentum in the global economy, together with the efforts undertaken by the OPEC and non-OPEC oil producing countries under the 'Declaration of Cooperation', is supporting the rebalancing of the oil market fundamentals.



MOMR ... oil market highlights

March 2018

Crude oil price movements – In February, the OPEC Reference Basket (ORB) dropped five per cent m-o-m, lower for the first time in six months, to average \$63.48/b, but remains above levels seen in more than two years. Year-to-date, the ORB was 23.4 per cent, or \$12.37, higher than seen in the same period a year earlier, at \$65.25/b. Similarly, Dated Brent dropped by \$3.97 m-o-m to average \$65.16/b and spot WTI declined by \$1.55 to average \$62.15/b. Oil futures also ended lower, but by varying amounts. The sell-off in crude oil futures started early in the month with oil prices pulled lower, as major US stock markets declined sharply and the dollar firmed. The ICE Brent was \$3.35, or 4.8 per cent, lower, at \$65.73/b, while NYMEX WTI slipped \$1.48, or 2.3 per cent, to \$62.18/b compared to a month earlier. Year-to-date, ICE Brent was \$11.77 higher than the same period a year earlier at \$67.48/b, while NYMEX WTI rose by \$9.93 to \$62.96/b. The Brent-WTI spread narrowed significantly to around \$3/b by the end of the month, on steep declines in inventories in Cushing, Oklahoma. Hedge funds reduced net long positions in ICE Brent and NYMEX WTI to 1.01 million contracts. Brent and Dubai backwardation eased, while that of WTI strengthened. The sweet-sour differentials narrowed globally, except in Europe.

World economy – The global GDP growth forecast remains at 3.8 per cent for both 2017 and 2018. US growth is expected to stand unchanged at 2.7 per cent in 2018, after growth of 2.3 per cent in 2017. Growth in the Eurozone is expected to remain at 2.2 per cent in 2018, following growth of 2.5 per cent in 2017. Japan's 2018 growth forecast is revised down to 1.5 per cent, after actual growth of 1.7 per cent in 2017. India's GDP growth forecast remains unchanged at 7.2 per cent in 2018, higher than actual growth for 2017 at 6.4 per cent. China's GDP growth is projected to remain at

6.5 per cent in 2018, after reported growth of 6.9 per cent in 2017.

World oil demand – In 2017, world oil demand growth is revised higher by 23,000 b/d from February's assessment to reflect the latest data. Total world oil demand growth for 2017 is now pegged at 1.62 million b/d, averaging 97.04m b/d. For 2018, oil demand growth is now forecasted at around 1.60m b/d, marginally higher than February's projections, with total oil demand at 98.63m b/d. Oil demand growth in the OECD region was revised higher in 1Q18, now showing growth of 320,000 b/d for 2018. In the non-OECD region, growth projections were also adjusted higher by 20,000 b/d in 1Q18, now showing growth of 1.27m b/d in 2018.

World oil supply – For 2017, non-OPEC supply is revised up slightly by 10,000 b/d from February's assessment, mainly due to higher-than-expected output growth in 4Q17, representing growth of 870,000 b/d y-o-y. For 2018, non-OPEC supply is revised up by 280,000 b/d, representing y-o-y growth of 1.66m b/d, with total non-OPEC supply reading 59.53m b/d. The upward revision is mainly due to higher-than-expected output in 1Q18 by 360,000 b/d in OECD (Americas and Europe), FSU and China. OPEC NGLs are now expected to grow by 180,000 b/d in 2018, following 170,000 b/d a year earlier. According to secondary sources, OPEC crude production decreased by 77,000 b/d in February 2018, averaging 32.19m b/d.

Product markets and refining operations – Product markets in all main trading hubs showed positive results last month, mainly driven by improved fundamentals. In the US, and despite losses seen through most of the month, refinery margins showed outstanding seasonal y-o-y growth on strong support from gasoline and diesel stocks, which fell by 800,000 b/d and

600,000 b/d, respectively, in the last week of the month, due to refinery maintenance. In Europe, product markets strengthened, supported by higher gasoline demand and improved fuel oil export opportunities. Similarly, product markets in Asia recorded gains all across the barrel, except in the diesel complex. Support came from higher product demand, in line with seasonal trends, and higher heating requirements due to colder weather in northeast Asia, amid firm jet fuel demand.

Tanker market – Tanker market spot freight rates continued to drop as seen in the previous months. Average dirty tanker spot freight rates declined further by six per cent in February. Lower rates were seen in all reported dirty classes as limited tonnage demand and lengthy tonnage lists prevented rates from rising in several regions, despite some weather and ports delays. The clean tanker market was mostly quiet in February and spot freight rates were generally weak, due to holidays and insufficient activity despite cold weather and occasional delays.

Stock movements – Preliminary data for January showed that total OECD commercial stocks rose by 13.7m b m-o-m to stand at 2,865m b, which is 50m b above the latest five-year average. Crude stocks indicated a surplus of 74m b, while product stocks witnessed a deficit of 24m b to the seasonal norm. In terms of days of forward cover, OECD commercial stocks fell slightly in January to stand at 60 days, which is 0.6 days lower than the last five-year average.

Balance of supply and demand – In 2017, demand for OPEC crude is estimated to remain unchanged to stand at 32.9m b/d, 600,000 b/d higher than the 2016 level. In 2018, demand for OPEC crude is forecast at 32.6m b/d, down by 200,000 b/d from the previous assessment and 200,000 b/d lower than a year earlier. 

The feature article and oil market highlights are taken from OPEC's Monthly Oil Market Report (MOMR) for March 2018. Published by the Secretariat's Petroleum Studies Department, the publication may be downloaded in PDF format from our Website (www.opec.org), provided OPEC is credited as the source for any usage. The additional graphs and tables on the following pages reflect the latest data on OPEC Reference Basket and crude and oil product prices in general.

Table 1: OPEC Reference Basket spot crude prices

\$/b

Crude/Member Country	2017											2018		Weeks 5-9/2018 (week ending)				
	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Feb 2	Feb 9	Feb 16	Feb 23	Mar 2
Arab Light – Saudi Arabia	53.63	50.68	51.64	49.30	45.21	47.12	49.63	53.29	55.73	61.08	62.50	67.42	64.03	67.66	64.43	61.91	63.56	64.07
Basrah Light – Iraq	52.66	49.82	50.75	48.56	44.55	46.43	49.26	53.03	55.02	60.21	61.44	66.11	62.31	65.95	62.70	60.08	61.91	62.33
Bonny Light – Nigeria	55.24	51.91	53.02	50.77	46.92	48.66	51.69	56.55	57.97	63.29	64.64	69.92	66.02	68.89	66.22	63.51	66.08	66.82
Es Sider – Libya	53.46	50.00	51.04	48.90	44.87	46.96	50.31	55.07	56.48	61.58	63.09	68.23	64.36	67.22	64.56	61.85	64.42	64.96
Girassol – Angola	55.21	51.89	52.68	50.36	46.46	48.75	52.31	56.83	57.88	62.97	64.97	69.77	66.09	68.86	66.26	63.55	66.12	67.02
Iran Heavy – IR Iran	53.16	50.27	51.12	49.00	44.62	46.01	48.70	52.27	54.29	59.27	60.87	65.85	62.27	66.10	62.80	60.12	61.73	62.03
Kuwait Export – Kuwait	52.85	49.87	50.81	48.65	44.37	46.19	48.70	52.23	54.50	59.58	60.94	65.74	62.14	65.95	62.61	60.02	61.60	62.06
Marine – Qatar	54.14	50.89	52.39	50.24	46.26	47.45	49.71	52.91	55.14	60.47	61.54	66.36	63.14	66.81	63.72	61.16	62.36	63.02
Merey – Venezuela	47.03	44.14	46.15	45.16	42.49	43.41	45.38	49.13	50.70	55.86	56.04	59.14	57.68	60.07	58.05	56.52	57.16	57.05
Murban – UAE	56.31	52.96	54.32	51.96	47.86	49.02	51.51	54.94	57.39	62.76	63.84	68.81	65.88	69.32	66.46	63.96	65.21	65.82
Oriente – Ecuador	50.08	46.83	48.70	46.91	43.11	45.21	47.45	51.30	53.77	59.23	59.66	63.53	60.28	63.29	59.83	58.24	60.54	60.87
Rabi Light – Gabon*	54.04	50.63	51.71	49.48	45.45	47.54	50.69	55.10	56.31	61.66	63.17	68.16	64.19	67.11	64.39	61.68	64.25	64.87
Saharan Blend – Algeria	55.06	51.40	51.84	49.80	46.07	47.96	51.31	56.32	57.88	63.23	64.74	69.93	66.01	68.90	66.21	63.50	66.07	66.67
Zafiro – Equatorial Guinea*	54.75	51.73	51.98	49.96	45.92	48.19	51.67	56.57	57.73	62.75	64.34	69.23	65.19	68.08	65.36	62.65	65.22	66.04
OPEC Reference Basket	53.37	50.32	51.37	49.20	45.21	46.93	49.60	53.44	55.50	60.74	62.06	66.85	63.48	66.89	63.86	61.34	63.09	63.58

Table 2: Selected spot crude prices

\$/b

Crude/country	2017											2018		Weeks 5-9/2018 (week ending)				
	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Feb 2	Feb 9	Feb 16	Feb 23	Mar 2
Arab Heavy – Saudi Arabia	51.97	48.86	49.97	47.92	43.64	45.76	48.55	51.78	53.99	59.03	60.47	65.24	61.60	65.56	62.24	59.45	60.89	61.42
Brega – Libya	54.86	51.40	52.19	49.85	45.77	47.61	50.76	55.34	56.78	61.99	63.54	68.68	64.96	67.73	65.16	62.45	65.02	65.62
Brent Dtd – North Sea	55.06	51.60	52.59	50.45	46.42	48.51	51.66	56.07	57.28	62.63	64.14	69.13	65.16	68.08	65.36	62.65	65.22	65.84
Dubai – UAE	54.41	51.21	52.31	50.47	46.38	47.59	50.24	53.51	55.63	60.81	61.61	66.15	62.69	66.59	63.34	60.63	61.92	62.57
Ekofisk – North Sea	55.17	51.50	52.57	50.43	46.40	48.63	52.30	57.15	57.85	63.28	64.98	69.99	65.81	68.43	65.88	63.24	65.98	66.86
Iran Light – IR Iran	52.35	49.13	50.04	47.34	43.85	47.03	50.85	54.45	56.25	62.12	63.37	68.32	62.64	66.32	63.14	60.01	62.39	63.18
Isthmus – Mexico	56.09	52.26	53.81	51.85	48.21	50.75	52.92	55.20	56.08	61.35	62.57	67.57	64.83	67.75	64.73	62.81	64.87	65.05
Oman – Oman	55.12	51.71	52.82	50.57	46.50	47.63	50.37	53.95	55.63	60.84	61.63	66.42	63.00	66.79	63.64	60.76	62.36	63.01
Suez Mix – Egypt	51.97	48.24	49.71	47.31	43.82	46.12	49.59	53.19	55.11	60.83	62.04	66.99	61.31	64.99	61.81	58.68	61.06	61.85
Minas – Indonesia*	51.19	48.35	47.95	45.96	42.65	43.96	45.91	49.20	50.55	55.50	56.95	60.91	58.15	60.91	58.61	56.27	57.67	58.40
Urals – Russia	53.67	49.94	51.55	49.04	45.52	47.82	51.30	54.89	56.81	62.53	63.75	68.69	63.01	66.69	63.51	60.38	62.76	63.55
WTI – North America	53.40	49.58	51.06	48.56	45.17	46.67	48.03	49.71	51.57	56.67	57.94	63.70	62.15	65.21	61.94	60.42	62.28	62.16

Note: As per the decision of the 109th ECB (held in February 2008), the OPEC Reference Basket (ORB) has been recalculated including the Ecuadorian crude Oriente retroactive as of October 19, 2007. As per the decision of the 108th ECB, the ORB has been recalculated including the Angolan crude Girassol, retroactive January 2007. As of January 2006, monthly averages are based on daily quotations (as approved by the 105th Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the ORB has been calculated according to the new methodology as agreed by the 136th (Extraordinary) Meeting of the Conference. From January 2009–December 2015, the ORB excludes Minas (Indonesia). As of July 2016, the ORB includes Rabi Light (Gabon).

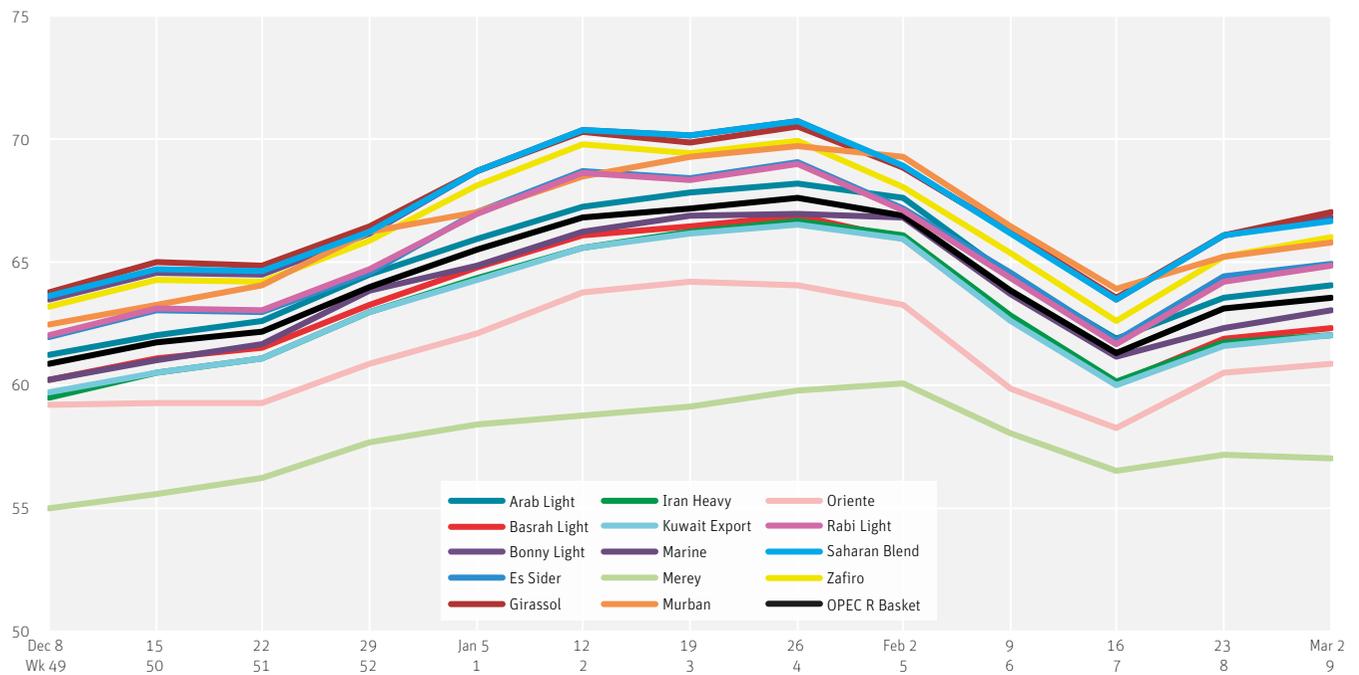
* Indonesia joined in 1962, suspended its Membership on December 31, 2008, reactivated it again on January 1, 2016, but suspended its Membership again on December 31, 2016. Gabon joined in 1975 and left in 1995; it reactivated its Membership on July 1, 2016. Equatorial Guinea joined on May 25, 2017.

Brent for dated cargoes; Urals cif Mediterranean. All others fob loading port.

Sources: The netback values for TJK price calculations are taken from RVM; Platt's; as of January 1, 2016, Argus; Secretariat's assessments.

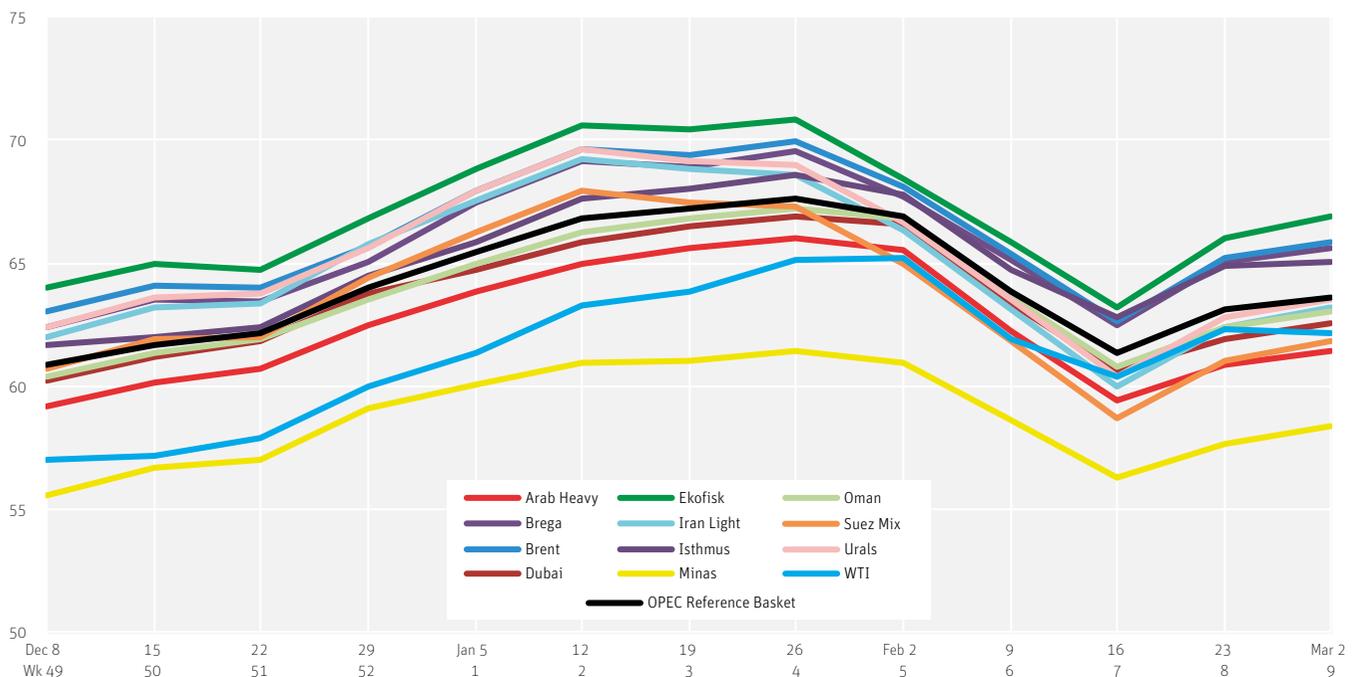
Graph 1: Evolution of the OPEC Reference Basket spot crude prices, 2017–18

\$/b



Graph 2: Evolution of selected spot crude prices, 2017–18

\$/b

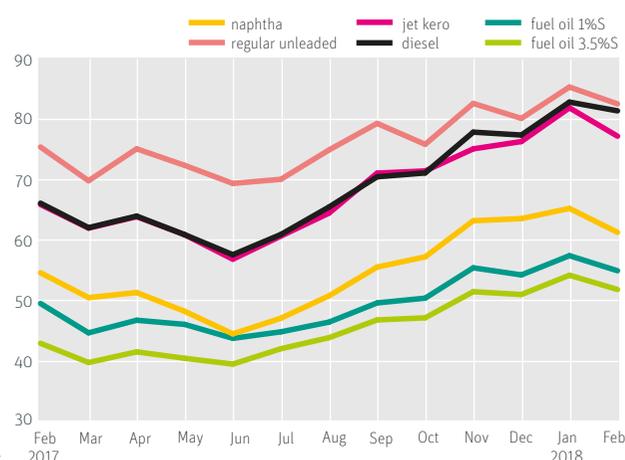


Note: As per the decision of the 109th ECB (held in February 2008), the OPEC Reference Basket (ORB) has been recalculated including the Ecuadorian crude Oriente retroactive as of October 19, 2007. As per the decision of the 108th ECB, the basket has been recalculated including the Angolan crude Girassol, retroactive January 2007. As of January 2006, monthly averages are based on daily quotations (as approved by the 105th Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the ORB has been calculated according to the new methodology as agreed by the 136th (Extraordinary) Meeting of the Conference. As of January 2009, the ORB excludes Minas (Indonesia). Indonesia suspended its OPEC Membership on December 31, 2008, this was reactivated from January 1, 2016, but suspended again on December 31, 2016.

Table and Graph 3: North European market – spot barges, fob Rotterdam

\$/b

		naphtha	regular gasoline unleaded	diesel ultra light	jet kero	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2017	February	54.82	75.66	66.35	66.13	49.73	43.13
	March	50.70	70.06	62.29	62.21	44.86	39.94
	April	51.54	75.36	64.21	64.11	46.95	41.71
	May	48.43	72.61	61.13	61.11	46.26	40.64
	June	44.69	69.62	57.81	57.06	43.95	39.68
	July	47.29	70.31	61.17	60.90	45.03	42.23
	August	51.00	75.17	65.71	64.70	46.64	44.06
	September	55.76	79.57	70.72	71.33	49.82	47.00
	October	57.45	76.10	71.36	71.69	50.61	47.35
	November	63.44	82.88	78.12	75.35	55.64	51.68
	December	63.79	80.40	77.64	76.56	54.46	51.21
	2018	January	65.48	85.60	83.10	82.15	57.65
February		61.52	82.80	81.65	77.45	55.15	52.04



Note: Prices of premium gasoline and diesel from January 1, 2008, are with 10 ppm sulphur content.

Table and Graph 4: South European market – spot cargoes, fob Italy

\$/b

		naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2017	February	54.46	68.26	67.52	50.41	45.75
	March	49.55	62.59	63.15	46.24	42.34
	April	50.67	67.89	65.24	48.03	43.95
	May	47.31	63.74	62.28	47.10	42.85
	June	43.57	59.92	58.01	45.56	42.13
	July	46.31	61.17	62.06	45.35	43.60
	August	50.46	66.85	65.54	46.70	44.94
	September	54.97	71.24	71.77	49.97	48.10
	October	56.67	68.30	72.03	51.51	48.88
	November	62.85	72.97	76.17	56.06	53.14
	December	62.72	72.85	77.24	55.51	52.65
	2018	January	64.29	78.36	82.91	59.24
February		60.54	74.32	78.73	56.29	53.44

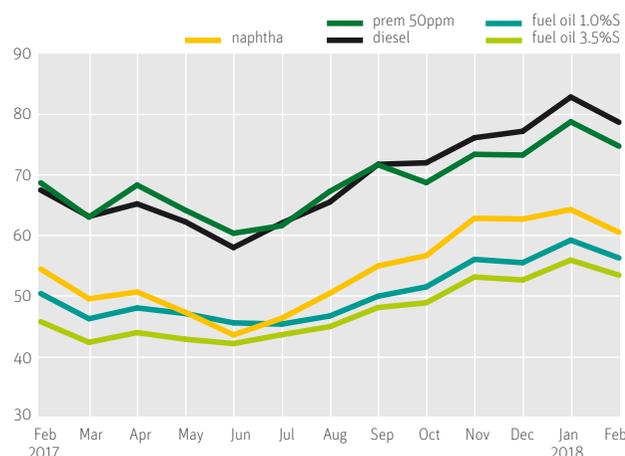
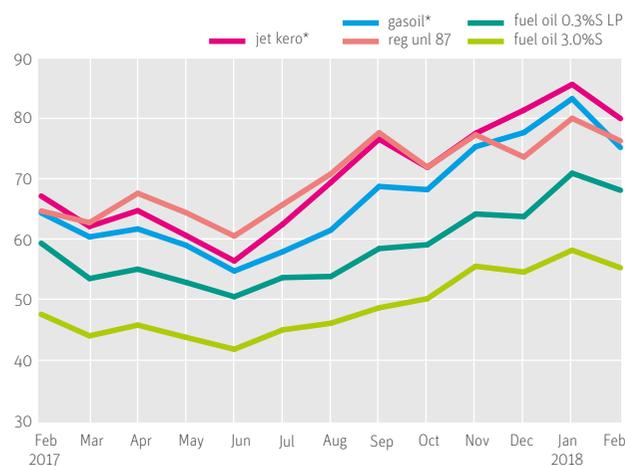


Table and Graph 5: US East Coast market – spot cargoes, New York

\$/b, duties and fees included

		regular gasoline unleaded 87	gasoil*	jet kero*	fuel oil 0.3 per cent S	fuel oil 3.0 per cent S
2017	February	64.75	64.43	67.20	59.44	47.74
	March	62.83	60.48	62.20	53.62	44.19
	April	67.65	61.79	64.80	55.17	45.96
	May	64.47	59.10	60.71	52.99	43.94
	June	60.62	54.86	56.52	50.63	41.98
	July	65.78	58.03	62.55	53.78	45.17
	August	70.86	61.59	69.45	53.97	46.26
	September	77.64	68.78	76.57	58.56	48.81
	October	71.96	68.26	71.93	59.19	50.31
	November	77.29	75.33	77.53	64.25	55.65
	December	73.63	77.66	81.35	63.83	54.69
	2018	January	80.00	83.24	85.59	70.96
February		76.27	75.20	79.96	68.16	55.40



* FOB barge spot prices.

Source: Platts. As of January 1, 2016, Argus. Prices are average of available days.

Table and Graph 6: Singapore market – spot cargoes, fob

\$/b

		naphtha	premium gasoline unl 95	premium gasoline unl 92	gasoil	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
2017	February	56.58	69.90	67.54	66.76	66.26	54.59	49.07
	March	50.82	64.28	61.94	62.94	61.93	50.74	45.64
	April	52.31	67.66	64.81	64.68	63.88	52.47	47.34
	May	48.71	64.40	61.68	61.19	60.82	51.58	46.01
	June	44.94	59.78	57.41	57.54	57.03	50.17	44.60
	July	45.92	61.76	59.02	61.05	59.77	50.45	45.58
	August	50.58	67.51	64.70	63.51	63.11	51.91	47.08
	September	55.20	70.43	67.55	68.49	68.08	55.73	50.55
	October	57.79	70.04	67.37	68.61	68.36	57.07	51.72
	November	64.67	75.59	73.07	73.14	74.02	62.02	56.67
	December	65.21	75.32	73.26	75.27	75.45	62.10	56.20
	2018	January	66.26	78.61	76.65	80.78	81.00	64.40
February		61.41	77.02	74.15	77.46	80.01	62.58	56.56

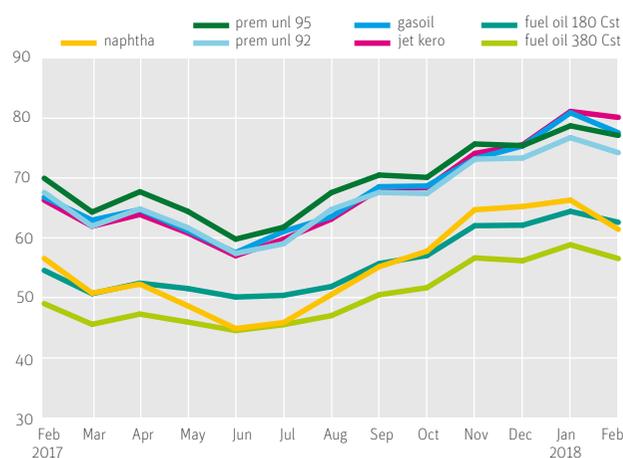
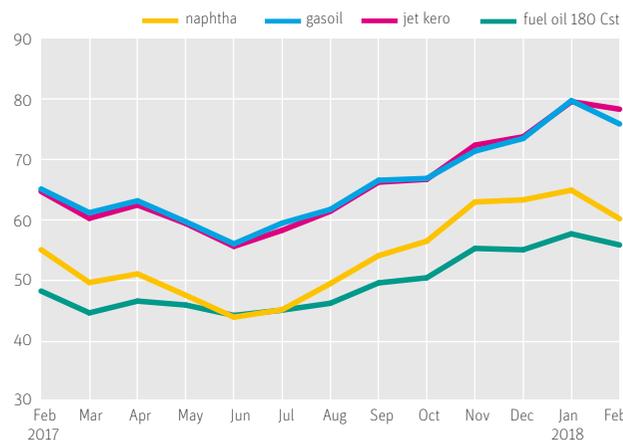


Table and Graph 7: Middle East Gulf market – spot cargoes, fob

\$/b

		naphtha	gasoil	jet kero	fuel oil 180 Cst
2017	February	55.08	65.11	64.70	48.24
	March	49.65	61.19	60.26	44.63
	April	51.07	63.16	62.46	46.58
	May	47.55	59.70	59.42	45.93
	June	43.92	56.05	55.62	44.21
	July	45.16	59.47	58.28	45.09
	August	49.48	61.73	61.43	46.22
	September	54.09	66.55	66.24	49.59
	October	56.49	66.85	66.71	50.43
	November	62.97	71.37	72.35	55.29
	December	63.31	73.46	73.74	55.06
	2018	January	64.91	79.71	79.55
February		60.19	75.86	78.30	55.86

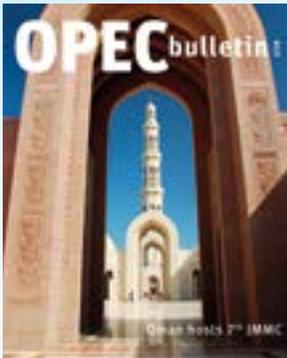


Source: Platts. As of January 1, 2016, Argus. Prices are average of available days.

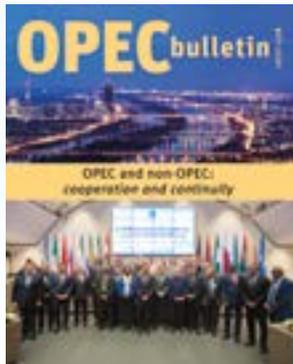
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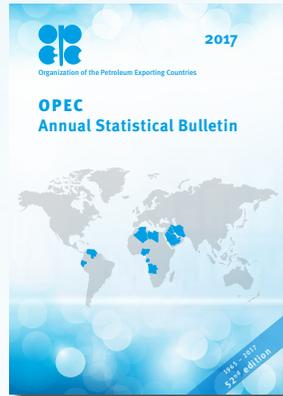


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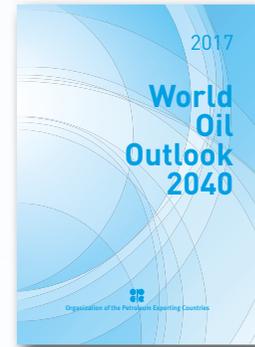
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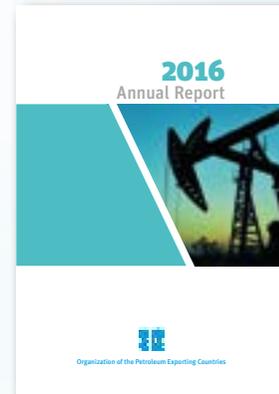


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