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A warm welcome to Gabon: expanding our stability

Commentary

One of the advantages of international intergovernmental organizations like OPEC is the diversity of their members and staff. As part of their mission, such multilateral entities represent — and advocate for — the interests of their members. OPEC has enshrined such objectives in the OPEC Statute.

But international organizations also have to operate at the formal, diplomatic and stately level of the international community. In short, they not only have to represent a broad range of views and opinions — those of its members — but also have to act as one, with the unity required to be an effective voice for the common interests of their members. This goal is strengthened any time additional member countries join.

The decision then of Gabon to rejoin OPEC, effective July 1, promises to expand and strengthen the Organization in both these regards. On the one hand, the sub-Saharan African country represents a rich amalgamation of native (primarily but not only Bantu) and French culture. It has a history that goes back centuries. And today Gabon affirms its own proud identity, celebrating the triumph of independence over colonialism. At the same time, the country is an important economic and commercial leader in the region, with significant timber, mining, and energy activities. According to data from official sources, Gabon has the third highest GDP per capita (at PPP) in sub-Saharan Africa and counts with the fourth-highest Human Development Index too.

Thus, on various fronts, Gabon brings to OPEC fresh, new country insights into regional developments (whether social, economic, or political). It also serves as an example as to what may be achieved through careful planning and sound management of petroleum resources.

In fact, the history of Gabon’s oil and gas industry is a venerable one, dating back to early prospecting efforts of 1931. With investments, technical know-how and ingenuity and determination, the country was able to tap into and benefit from the massive petroleum deposits along the coast, as well as offshore. In time, these activities helped the country develop a healthy treasury, and the country found formidable new opportunities as a major oil producer and trading partner.

It is important to note that the country — which gained independence from France in 1960 — has long been known for its stability. This is noteworthy in a region too often marked by unrest. That stability is, of course, a necessary requirement for development of any economic venture, particularly in the oil industry. Stability determines the extent — and the degree — of the investments being channelled into the oil and gas sectors. Stability provides the incentive for investors to channel resources into energy projects. And stability is precisely what OPEC strives to ensure across the oil markets.

Over the years, Gabon has welcomed business interest from countries around the world, including Asia, Europe, and the Americas. Its stability, in combination with other incentives like special economic zones and a comparatively high purchasing power, has convinced many corporations to consider expanding their portfolios to include Gabonese assets. The likelihood of future crude oil discoveries has certainly offered foreign investors the promise of tremendous opportunities in the country. But more importantly, investors know that they have also been contributing to the development of the Gabonese economy — and to an expansion of opportunities for the country’s people. Whatever the case may be, the benefits to both international oil companies and to the country and its people, have been significant.

Gabon, which rejoins the Organization after over two decades away (it joined in 1975 and left in 1995), has many things to contribute to the Organization. It brings additional and important perspectives, based on decades of experience working with the industry worldwide, which it can bring to bear, as it joins other colleagues in the Organization in doing the important work of research and analysis. In truth, it is only through additional perspectives from different vantage points that we can better understand the complexity of today’s oil markets, particularly amid the constantly changing and consistently unpredictable nature of the global economic and financial context.

As a Member of OPEC, Gabon and its delegation will now have a home away from home in Vienna at the Secretariat — a place where experts and analysts from the industry in other Member Countries may exchange views, serve as a sounding board and perhaps find support for their work through the in-house research facilities. This is, after all, the mission of the Organization — so it is only natural that a country as richly endowed with hydrocarbon resources and as experienced as Gabon will join many of the world’s other major oil producers at the Secretariat.

And through the Ministerial Conference, the Gabonese delegation — Gabon’s Minister, Governor, and National Representative — will join a group of colleagues with whom they can learn from each other and seek a better understanding of their shared work as oil producers. As other Member Countries inevitably have found, there is a strength that comes through unity — and OPEC offers precisely the means with which to leverage this unity for the betterment of the industry and for the defense of the interests of its Members.

This is what it means to join the family known as OPEC — and we warmly welcome our Gabonese colleagues back to the fold.
Organization reaffirms commitment to stability, balanced market

OPEC “very much alive and important to world economy”

Stable, balanced oil market beneficial to all stakeholders — Al-Sada

El-Badri gives farewell thanks

Barkindo appointed new OPEC Secretary General

Ali Ibrahim Naimi: Legacy of an international oilman

Gabon’s return to the Organization: First time family of fourteen for OPEC

Gabon will work to strengthen OPEC unity, boost oil standing

Mohammed Sanusi Barkindo new OPEC Secretary General

Leading innovation experts address OPEC R&D Forum

Participants discuss ongoing process of improving data

Meeting increase in demand still world’s greatest energy challenge

The positive effects of market volatility

Vienna hosts world’s largest multidisciplinary geoscience event
Contributions

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

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New Heads of Delegation

Fayadh Hassan Nima, Acting Minister of Oil, Iraq.
OPEC Member Countries have reiterated their commitment to securing a stable and balanced oil market, with prices at levels that are suitable for both producers and consumers.

In a communiqué issued at the end of the 169th Meeting of the OPEC Conference, held in Vienna, Austria on June 2, Heads of Delegation from OPEC’s 13 Member Countries emphasized the Organization’s commitment to ensuring a long-term stable and balanced oil market for both producers and consumers.

And, importantly, they further stressed that, given the current market conditions, the OPEC Secretariat in Vienna should continue to closely monitor developments in the coming months and, if necessary, recommend to Member Countries to meet again and suggest further measures according to prevailing market conditions.

The Conference also called upon non-OPEC countries to join its endeavours, given the importance of cooperation among all major exporting countries to collectively balance the international oil markets.

Held under the Chairmanship of Conference President, Dr Mohammed Bin Saleh Al-Sada, Minister of Energy and Industry of the State of Qatar, the Meeting also agreed to the appointment of a new Secretary...
General — Mohammed Sanusi Barkindo of Nigeria — and the return of Gabon to the Organization.

It observed that since OPEC’s last meeting in December 2015, crude oil prices had risen by more than 80 per cent, supply and demand was converging and oil and product stock levels in the OECD region had recently shown relative moderation.

“This is testament to the fact that the market is moving through the balancing process,” noted the communiqué.

It said the latest numbers, however, still showed OECD and non-OECD inventories standing well above the five-year average and “these need to be drawn down to normal levels.”

Upstream investment

The Conference also noted the very low investment level currently prevailing in the oil industry and emphasized the need to increase upstream investment, in order to achieve long-term balance in the oil markets.

“The Ministers were very happy to have had such an excellent meeting,” Al-Sada told the customary press conference after the Meeting.

“We had an excellent understanding, not only on the issues we were tackling, but also in further convincing the international community that OPEC as an organization is a very valuable group with all its Members behind it,” he said. “Our meeting looked at the details of the oil market situation and we looked at it in a very responsible manner.”

His view of the Meeting was supported by Iran’s Minister of Petroleum, Eng Bijan Namdar Zangeneh, who told the OPEC Webcast team: “We had a very good Meeting. We had a serious discussion and a good conclusion. We have chosen a new Secretary General — this is good since it shows our unity.”

Meanwhile, Fayadh Hassan Nima, Senior Deputy of Iraq’s Minister of Oil and Head of his country’s Delegation, was quoted as saying that Iraq was concerned that the current low crude oil price would not encourage investors to increase their production in Iraq.

“So we are working with our other OPEC Members to get prices back to a reasonable level in order to bridge
the expected gap in the future between demand and supply,” he affirmed.

Having reviewed the oil market outlook for 2016, the Conference observed that non-OPEC supply, in response to market dynamics, had peaked during 2015 and started declining, with supply expected to further fall by 740,000 barrels/day in 2016.

“Today, crude oil alone is lower by more than one million b/d from its peak at the beginning of 2015. Global demand is anticipated to expand by 1.2m b/d after growing at 1.5m b/d during 2015,” revealed the communiqué.

“This demand growth remains relatively healthy considering recent economic challenges and developments,” it added.

The Conference re-emphasized the coordination between Member Countries and with non-OPEC producers to ensure stability in the global oil market; to obtain reasonable and sustainable revenue for oil-producing nations; and to provide a stable, reliable, efficient and economic supply to consuming countries and a fair return to investors in the oil industry.

The appointment of Mohammed Sanusi Barkindo as Secretary General of the Organization takes effect from August 1, 2016, for a period of three years.

“In doing so, the Conference expressed its appreciation to Abdalla Salem El-Badri for his leadership of the Secretariat and the Organization during his tenure as Secretary General,” said the communiqué.

Gabon returns

Gabon’s return to the Organization takes effect from July 1, 2016. The West African nation first joined OPEC in 1975, but left in 1995.

During their deliberations, the OPEC Heads of Delegation studied the Secretary General’s report, as well as the report of the OPEC Economic Commission Board (ECB) and various administrative matters.

The Conference welcomed the Paris Agreement taken at the COP21 meeting in December last year. It stressed that the challenges related to the environment and climate change “are a concern for us all.”

Said the communiqué: “Member Countries are committed to supporting sustainable development
and recognize the importance of continually looking to advance the environmental credentials of oil, both in production and use.”

**Tribute to Naimi**

The Conference congratulated Khalid A Al-Falih on his appointment as Minister of Energy, Industry and Mineral Resources of the Kingdom of Saudi Arabia.

The Heads of Delegation paid a special tribute to Ali I Naimi, of the Kingdom of Saudi Arabia, for his outstanding contribution to OPEC.

“HE Naimi’s dedication and commitment to the work of the Organization over the past two decades have left a lasting impression on OPEC’s history,” said the communiqué.

Furthermore, the Conference expressed its appreciation to Wilson Pástor-Morris, Ecuador’s OPEC Governor and the country’s Ambassador to Austria, who was representing his country as its Head of Delegation.

The Conference also extended its deepest condolences to the Government and people of the Republic of Ecuador for the tragic losses they suffered following the devastating earthquake that struck the country on April 16.

It also welcomed Fayadh Hassan Nima, Senior Deputy of Iraq’s Minister of Oil, who was representing his country as its Head of Delegation, and Mossa Elkony, Vice President of The Presidency Council of The Government of National Accord of Libya, who was present as his country’s Head of Delegation.

The Conference decided that its next Ordinary Meeting will convene on Wednesday, November 30, 2016, in Vienna, Austria.
Impressions of the 169th Conference ...
OPEC’s Conference President and the Organization’s outgoing Secretary General have both refuted suggestions that OPEC is no longer an effective force on world oil markets.

Dr Mohammed Bin Saleh Al-Sada, OPEC Conference President, and Abdalla Salem El-Badri, OPEC Secretary General, were fielding questions at a press briefing following the 169th Meeting of the OPEC Conference, held in Vienna on June 2.

Posed with the question as to whether recent events in the oil market had “spelled the beginning of the end for the Organization,” Al-Sada, Qatar’s Minister of Energy and Industry, stated that the world had changed, the market had changed — and so had OPEC. He pointed out that from 1960, when the Organization was first established, to now OPEC had gone through different phases.

“Throughout its existence OPEC has been a dynamic, living organ that has responded to change. The world has changed and the market has changed. So many things have changed, are changing today and will continue to change in the future.

“OPEC has been responsive to these changes, interacting with the facts on the ground and responding accordingly. It has never been the idea of OPEC to stand still without an appropriate, rational and pragmatic position,” he told assembled media.

El-Badri, attending his last OPEC press conference before handing over the Secretary General position to Mohammed Sanusi Barkindo of Nigeria, stated that people should not take the notion that OPEC was dead.

“I have heard the comment about OPEC being dead
maybe five or six times in my career and every time it rises to become even more powerful," he asserted.

“So don’t take that notion that OPEC is dead. It is very much alive and will continue to be a very important part of the world economy,” he added.

Asked further about the possibility of OPEC’s influence on the market being eroded, Al-Sada said there was a consensus that the market fundamentals were working and that there was no pressure on OPEC to think about influencing supply and demand.

“As we have seen, the worst is over after we all tolerated the drop in oil prices. Over the previous meetings the trend was downward, but between our last meeting and now we have seen that we have reached the bottom and that we also see vividly that the new trend has started with oil prices reaching $50/barrel. And it is likely that this trend will continue.”

On a higher platform

Al-Sada stressed that the Conference had found itself on a higher platform as far as prices were concerned.

“It is unlikely we will go back to that low platform. It is still just a trend, but we do hope that it will continue to the extent that investment will return to the industry,” he said.

Earlier in the briefing the OPEC Conference President alluded to the situation in investments, saying that they had fallen by an unprecedented level — initially by more than 20 per cent followed by another 14 per cent.

“If the oil price remains at where it is today, it is likely that next year it will show another drop and that will have a further impact on supply and demand. The oil-producing countries in OPEC are looking at this issue very responsibly. The Organization is doing its best,” he affirmed.

Asked if OPEC was concerned about oil demand growth in China slowing down, Al Sada said OPEC was always looking at the supply and demand picture on a large scale and while demand in China was slowing down, it was increasing in other emerging economies, such as India.

“Looking at the general incremental demand situation for 2016, it is still 1.2 million b/d higher than in 2015, so an increase in demand is happening and is likely to continue,” he maintained.

Speaking on the outcome of the Conference, which decided to maintain the status quo, Al-Sada stressed that the Ministers were very happy to have had such an excellent meeting.

“We had an excellent understanding, not only on the issues we were tackling, but also in further convincing the international community that OPEC as an organization is a very valuable group with all its Members behind it,” he said.

“Our meeting looked at the details of the oil market situation and we looked at it in a very responsible manner.”

Al-Sada said that with the price of crude oil dropping so significantly over the past two years, leading to a huge shrinkage in investment, OPEC and many non-OPEC producers, as well as the consumers, were now convinced that a fairer oil price was required for everybody associated with the oil sector to have a reasonable return and in a manner that the producers could continue investing in the future.

Asked about OPEC’s relationship with non-OPEC countries, the Conference President replied that the Organization had established a platform for coordination with the producers.

“We have a good understanding and good communication with them. We meet on an individual basis as well as between OPEC and non-OPEC. We talk to each other and listen to advice given by each other.”

As for production, Al-Sada pointed out that it was evident that the general market share of OPEC and non-OPEC over a number of decades had been to the interest of non-OPEC countries.

“It seems that over the past few weeks, things changed and we can see a drop in the market share of non-OPEC producers, while OPEC production has increased,” he said.

“The market has been very dynamic and the sentiment now is pretty positive. So the production of oil in OPEC has increased but it would appear that the market has needed this oil which is helping with the rebalancing of supply and demand worldwide,” he added.

In also highlighting a successful meeting El-Badri said OPEC’s oil production level right now was reasonable for the market and the price was improving.

“So as we see it the market is positive right now. I think in the future we might be in a position to have production allocations, but right now it is not possible. Today the atmosphere is positive and the market is comfortable for us,” said El-Badri in reply to a question about whether OPEC might consider reintroducing production quotas for its Members.
A more stable and balanced international oil market will be beneficial to all associated with the sector, according to Dr Mohammed Bin Saleh Al-Sada, OPEC Conference President.

In his opening address to the 169th Meeting of the OPEC Conference, held in Vienna, Austria, on June 2, 2016, Al-Sada, who is Qatar’s Minister of Energy and Industry, stated that the OPEC Secretariat in Vienna was, of course, engaged in furthering dialogue and cooperation to address market instability and other issues.

He told assembled delegates that OPEC hoped that the talks that had evolved over the past year or so with non-OPEC producers would continue.

“It is important that we maintain all possible avenues for cooperation and understanding for the benefit of OPEC Countries in particular and the world at large,” he maintained.

**Bilaterial dialogues**

Al-Sada said that since OPEC’s last meeting, the Secretariat had also held bilateral dialogues with India and the European Union.

“Later in September this year, the 15th International Energy Forum (IEF) Ministerial Meeting will take place in OPEC Member Country, Algeria,” he informed.

The OPEC Conference President noted that since OPEC last met in Vienna on December 4, 2015, the Organization had seen further volatility in the global oil market.

The price of the OPEC Reference Basket had fallen from around $38/barrel in December 2015 to a low of just over $22/b in mid-January, before a steady climb saw the price rise above $40/b by the end of April and then climb further in May.

“These recent price developments are welcome; particularly, with one eye on the industry’s future investment requirements,” he affirmed.

Al-Sada said global exploration and production spending had declined by around 20 per cent last year and a further 15 per cent drop was anticipated in 2016.

“This is a major concern for an industry that generally sees investments increasing year-on-year to sustain production,” he asserted.

“It is important to keep in mind the link between the marginal cost of production, the oil price and investments.”

Al-Sada said the Conference would review the developments of the past six months, and analyze the outlook for the remainder of 2016.

With regard to global economic growth, he said the story remained somewhat patchy. While the estimated 2016 growth of 3.1 per cent was higher than that of 2015, it had been revised down slightly since the December meeting.

“World oil demand this year remains healthy, with growth of over 1.2 million b/d. The majority of this will come from non-OECD countries, but OECD countries are also expected to see some growth in every quarter this year,” he observed.

Al-Sada said that, from the supply perspective, in the first half of 2016, they had seen a further downward revision to the 2016 outlook for non-OPEC supply.

“We now anticipate a contraction of 740,000 b/d this year. This is more than 2m b/d lower than the growth of 2015,” he revealed.

Al-Sada said this trend stemmed mainly from reduced cash flows, investment cutbacks and the deferral or cancellation of projects.

“It is evident that these developments point to a
more balanced market in the second half of this year, with demand for OPEC crude averaging around 32.5m b/d during this period,” he stated.

“The overall demand increase year-on-year for OPEC crude is around 1.8m b/d,” he added.

“However, we do need to appreciate that stock levels remain high. The five-year average for OECD commercial stocks is currently at a surplus of around 360m b. It is important that we take note of this figure on a downward trend,” he said.

**Paris Agreement welcomed**

Al-Sada said that, during their meeting, OPEC Ministers would study the OPEC Secretariat’s report, as well as review a number of broader developments. This included December’s COP21 agreement in Paris to counter the threat posed by climate change, which all OPEC Member Countries were part of.

“OPEC welcomes this agreement. We are committed to playing a part in protecting the environment, supporting sustainable development, and developing a realistic energy path in the decades ahead,” he professed.

The OPEC Conference President also offered a warm welcome to a number of new faces at the OPEC talks. These comprised Khalid Al-Falih, the new Minister of Energy, Industry and Mineral Resources of the Kingdom of Saudi Arabia, who also assumed the role of Alternate Conference President until the end of the year.

A warm welcome was also extended to Wilson Pástor-Morris, Ecuador’s OPEC Governor and its Ambassador to Austria, who headed his country’s Delegation to the meeting on behalf of José Icaza Romero, the new Minister of Hydrocarbons of Ecuador.

“To Ecuador we also express our sorrow for those affected by the devastating earthquake that hit the country on April 16,” commented Al-Sada. “Our thoughts are with the people of Ecuador in their recovery efforts.”

Continued Al-Sada: “I would also like to take this opportunity to extend our sincere appreciation to their predecessors in office. For Ecuador, Carlos Pareja Yannuzzelli, who attended our last meeting in Vienna, and of course, Ali I Naimi, who began attending meetings of the OPEC Conference as his country’s Head of Delegation way back in 1995.

“Given this longevity and the role he has played at OPEC over the past two decades, we would like to offer a special thanks to Naimi for his dedication, commitment and contribution to the Organization over the years.”

A warm welcome was also extended to Fayadh Hassan Nima, Senior Deputy of Iraq’s Minister of Oil, who headed his country’s Delegation.

“In addition, the same welcome is extended to Mossa Elkony, Vice President of The Presidency Council of The Government of National Accord, who is here as Libya’s Head of Delegation.”

Al-Sada disclosed in his address that OPEC had also received a request from Gabon for it to rejoin the Organization. “This will be discussed in our closed session later today.”
El-Badri gives farewell thanks

OPEC Secretary General, Abdalla Salem El-Badri, is to leave the Organization at the end of July after an impressive tenure that lasted over nine years.

The 169th Meeting of the OPEC Conference, meeting in Vienna on June 2, agreed to the appointment of his successor, Mohammed Sanusi Barkindo, who will start his three-year term at the head of the OPEC Secretariat in the Austrian capital from August 1.

In a communiqué praising El-Badri's long service, which effectively amounted to over three terms, the Conference said: “… the Conference expressed its appreciation to Abdalla Salem El-Badri for his leadership of the Secretariat and the Organization during his tenure as Secretary General.”

Speaking to the media at the customary press briefing held after the one-day Conference, El-Badri, from Libya, said that after nine-and-a-half years at the helm of OPEC he wanted to say a big thank you to the media.

“I have really appreciated my meetings with you all and your questions. As OPEC Secretary General, I tried to be very helpful to you. I tried to accommodate you. I tried to cooperate with you, and I tried to answer all your questions.

“I want to thank you very, very much. And even though I won’t see you in OPEC since this is my last meeting, I hope to see you somewhere else,” he added.

El-Badri has been involved with OPEC for many years and has gained wide experience in the international petroleum industry. Before his time as Secretary General, which began in 2007, he was Libya’s Oil Secretary.

In 2013, after completing two terms as Secretary General, El-Badri was due to leave the Organization. But in December of that year, the 164th Meeting of the OPEC Conference, in failing to find a successor, agreed to extend his tenure by a further 12 months. These extensions continued up until July this year.

Born in Ghamminis, Libya, in 1940, during his higher education he obtained a Bachelor’s degree in Accounting and Business Administration. He also studied advanced courses in Finance and Management, both in Libya and the United States.

El-Badri began his career at Esso Standard (now ExxonMobil) in 1965 as an Assistant Accountant. He later became a Management Information Systems Coordinator and an Assistant Controller.

In 1977, El-Badri was appointed a Member of the Board of Directors of the Umm Al-Jawabi Oil Company.

Three years later he was appointed Chairman of the Waha Oil Company, a joint venture between the Libyan National Oil Corporation (NOC), Conoco, Amerada Hess and Marathon Oil.

Ministerial career

In 1983, El-Badri became Chairman of Libya’s NOC, before being made Secretary of the People’s Committee for Petroleum (Minister of Petroleum) in 1990.

His ministerial career continued with his appointment as Secretary of the General People’s Committee for Energy (Minister of Oil and Electricity) from 1993 for seven years.

In 2000, El-Badri was appointed Deputy Secretary of the General People’s Committee (Deputy Prime Minister), a position he held for two years before returning to the Chairmanship of the NOC from 2004 to 2006.

During his career, he has headed various committees related to the reorganization of the Libyan oil industry and the activities of the Libyan state; he has undertaken several studies concerning oil, gas and electricity in Libya and has been a frequent speaker at international industry events.

His successor, Mohammed Sanusi Barkindo, will actually be making a return to the OPEC Secretariat.

The former Group Managing Director of the Nigerian National Petroleum Corporation (NNPC) is a past long-serving member of OPEC’s Economic Commission Board (ECB), a position he held as his country’s National Representative for 15 years. Barkindo also acted for the OPEC Secretary General in 2006 when his countryman, Dr Edmund Maduabebe Daukoru, then Nigeria’s Petroleum Resources Minister, was Secretary General and OPEC Conference President.
Mohammed Sanusi Barkindo (pictured) will make a return to the OPEC Secretariat in Vienna, Austria, this summer after being elected the Organization’s new Secretary General for an initial three-year term.

The former Group Managing Director of the Nigerian National Petroleum Corporation (NNPC) will succeed Abdalla Salem El-Badri, who held the Secretary General position for over nine years.

Barkindo was unanimously elected to the position at the 169th Meeting of the OPEC Conference, which convened in Vienna on June 2.

“The OPEC Conference decided to appoint Mohammed Sanusi Barkindo, from Nigeria, as Secretary General of the Organization, with effect from August 1, 2016 for a period of three years,” said a communiqué issued at the end of the one-day meeting in the Austrian capital.

“In doing so, the Conference expressed its appreciation to Abdalla Salem El-Badri for his leadership of the Secretariat and the Organization during his tenure as Secretary General,” it added.

A past long-serving member of OPEC’s Economic Commission Board (ECB), as well as an OPEC Governor, Barkindo also acted for the OPEC Secretary General in 2006 when his countryman, Dr Edmund Maduabebe Daukoru, then Nigeria’s Petroleum Resources Minister, was Secretary General and also OPEC Conference President.

See p28 for feature on Barkindo’s return.
Profile

Ali Ibrahim Naimi:

Legacy of an
For over two decades, Ali Ibrahim Naimi gained tremendous popularity as a leading oilman, both on a national and global scale. The charismatic 81-year-old former Minister of Petroleum and Mineral Resources of the Kingdom of Saudi Arabia is renowned as one of the modern-day oil industry’s most influential voices.

In this article of appreciation, OPEC intern and Saudi national, Ayman Almusallam, delves into the life of one of Saudi Arabia’s most respected dignitaries and a true legend in the international oil sector.

For 21 years, Ali Ibrahim Naimi used his renowned expertise and extensive experience to help guide OPEC and shape the Organization’s policies on production and pricing.

His reputation in oil industry circles speaks for itself.

In 2008, *Time Magazine* featured him in its list of most influential people, while, three years later, *Bloomberg Markets Magazine* had Naimi among its top 50 most influential people worldwide. And last year he was ranked 53 on the list of the world’s most powerful individuals, indicating the significant active role he took following the sharp downturn suffered by oil prices from the summer of 2014.

Of special significance, through his tenure as Petroleum Minister for Saudi Arabia, one of OPEC’s Founding Members, Naimi contributed massively to the unity and heritage of the Organization. Up until May this year, when he stepped down from his Ministerial office to become an Advisor to the Royal Court, he had attended 42 Ordinary Meetings of the OPEC Conference and some 27 Extraordinary Meetings as Head of the Kingdom’s Delegation. His attendance at future meetings will be sorely missed.

However, despite his meteoric rise to prominence, Naimi came from humble beginnings. He joined the national oil company, Saudi Aramco, as an apprentice in 1947 — at the age of 12! But as a result of a remarkable effort, hard work and determination, he moved up quickly through the ranks to become an industry leader, realizing his boyhood dreams in the process.

**Naimi, youth ambition and persistence**

Ali Ibrahim Naimi was born in August 1935 in the Arrakah district of Al-Khober, a city located in the Kingdom’s Eastern Province. At the young age of 12, he was employed at Saudi Arabia’s national oil company, Aramco. According to a report carried by the *Wall Street Journal*, Naimi was rather a coy youngster with no political background at the time.

Nine years later, in 1956, the company selected him to further his education. Naimi was nominated to attend various courses and educational establishments abroad. He first enrolled in the International College in Beirut, Lebanon, which he later left to attend the country’s American University.

Naimi then moved to the United States and obtained a Bachelor’s Degree in Geology in 1962 from the University of Lehigh in Bethlehem, Pennsylvania. The following year, he completed his Master’s Degree in Geology at the University of Stanford, California.

At Aramco, extensive appreciation of his hard work, notable progress and achievements were frequently expressed which resulted in him being awarded an honorary doctorate from Heriot-Watt University in Edinburgh, Scotland.

During his early years in the company, Naimi undertook various operational tasks and filled several regular jobs. However, his
Apart from petroleum, Naimi also perceived energy efficiency and solar energy as important investments that must be pursued, while deeming global warming as a serious challenge. Speaking at the Middle East and North Africa (MENA) Conference in London, he said:

“Greenhouse gas emissions and global warming are among humanity’s most pressing concerns. Societal expectations on climate change are real, and our industry is expected to take a leadership role.”

In Paris, during the Business and Climate Conference, he expounded on the strategy embraced by the Kingdom concerning the potential declining need for oil worldwide. He stated:

“In Saudi Arabia, we recognize that eventually, one of these days, we are not going to need fossil fuels, I don’t know when, in 2040, 2050 ... so we have embarked on a programme to develop solar energy. Hopefully, one of these days, instead of exporting fossil fuels, we will be exporting gigawatts, electric ones. Does that sound good?”
**Naimi, a shining legacy**

On Saturday, May 7, 2015, Ali Ibrahim Naimi left his position as Minister of Petroleum and Mineral Resources through a royal order.

His tenure as the Kingdom’s most senior oilman lasted for over two decades. His successor is Khalid A Al-Falih, another prominent personality in Saudi Arabia’s petroleum and energy industry.

But the move in no way indicated a life of retirement for Naimi. In view of his broad expertise and extensive experience, he was on the same day appointed as a Consultant to the Kingdom’s Royal Court, while retaining his rank as a Minister.

Naimi, a father of four, has over the years become a role model for youth, especially Saudis, showing just how commitment, devotion and hard work can lead to success and the attainment of one’s dreams.

In his 69-year career as an oilman, Ali Ibrahim Naimi had to overcome numerous storms and challenges and handled several periods of turmoil and instability in the international oil market. In so doing, he created a unique legacy that has undoubtedly crossed boarders and reached every corner of the globe.

**Tributes to Naimi**

In the opening speech of OPEC’s 169th Meeting of Conference, the President of the Conference and Qatar’s Minister of Energy and Industry, Dr Mohammed Bin Saleh Al-Sada, expressed his sincere gratitude for the long service of Naimi, stating:

“Given this longevity, and the role he has played at OPEC over the past two decades, we would like to offer a special thanks to His Excellency Naimi for his dedication, commitment and contribution to the Organization over the years.”

The former Minister of Industry and Energy of Qatar, Abdullah bin Hamad Al-Attiyah — another respected and well-celebrated figure of OPEC and the oil industry — also complemented Naimi’s efforts, determination and remarkable career during a gala dinner hosted by the Abdullah bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development, where Naimi was awarded the 2016 honorary lifetime achievement award for the advancement of international energy policy and diplomacy.

Al-Attiyah commented: “I am sure history will recognize Ali Ibrahim Naimi as one of the greatest energy leaders of the last 100 years. His long career saw him literally rise from the shop floor to become the world’s most powerful oil executive for 30 years.”

**Naimi ... the humourous side**

An extended recognition of Ali Ibrahim Naimi’s commitment and successful career in the international oil sector was expressed when he was asked to deliver the opening remarks for the University of Lehigh’s graduation ceremony in 2012 — the university he graduated from.

He gave a memorable speech that revealed his humorous side as well.

As he was illustrating his first days in the United States, after he arrived to pursue his postgraduate studies. Naimi commented: “Soon after I arrived at Lehigh, I was invited to a women’s group meeting. A lady asked me how I got to America. Did I come on a camel? Well, the plane on which I flew from Saudi Arabia was known as the flying camel. So I said to her: Yes, I came on a flying camel. She was amazed.”

He further told the audience: “On another occasion, I remember meeting an Amish man in Lancaster. He looked me up and down and said: ‘Son, where are you from?’ I told him: ‘I am from Saudi Arabia.’ He wondered for a minute and then asked me: ‘Whereabouts in Pennsylvania is that?’ So I told him it was near Bethlehem.”
Gabon’s return to the Organization ...

First time family of fourteen for OPEC

The Republic of Gabon, or as it is locally known, Republique Gabonaise, is a sovereign state situated on the western shore of Africa. Known for its extreme wealth of natural resources, the country is a longstanding crude oil producer and net exporter, a notable source of its continuing prosperity. It is also officially the 14th Member of OPEC. The country initially joined the Organization in 1975 and spent two decades as a valued Member, before deciding to leave in 1995. However, on June 2, 2016, the 167th Meeting of the OPEC Conference, meeting in Vienna, Austria, unanimously agreed to accept Gabon’s application to rejoin the group, effective July 1. It is a welcome return to a country that, despite its relative small size, enjoyed significant prominence in OPEC’s affairs and contributed significantly to the Organization’s rich diversity and success. OPEC intern, Ayman Almusallam, offers this exclusive profile of the country and its economic standing.
The Republic of Gabon is bordered by Cameroon to the north, Equatorial Guinea to the north-west, Congo to the east and south-east, and the Gulf of Guinea to the west. Of its four fellow OPEC Members on the African continent, Angola is found to the south-west and Nigeria to the north-west. And on the extreme northern coast lie Algeria and Libya.

According to the CIA World Fact Book, Gabon’s name originates from the word ‘gabao’, Portuguese for ‘cloak’. This name was initially used by early explorers to describe the shape of the estuary of the Komo River situated near the nation’s capital city, Libreville.

Data published by the United Nations shows that Gabon covers a land area of 267,668 square metres. Of note, its coastline stretches 885 kilometres and the highest point in the country is 1,575 metres. The country has a population of 1.7 million. Libreville, the nation’s largest city, has around 695,000 inhabitants.

The nation is one of six African countries using the Central Africa franc (CFA) as a currency. The climate in
Gabon is tropical; constantly hot and humid throughout the year. The country’s national symbol is a black panther, emblazoned by the national colours of green, yellow and blue.

Over the years, notable attention has been given to its political system, which has resulted in the introduction of a multi-party system and a new democratic body through a reform scheme to enhance transparency. Since independence was declared on August 17, 1960, Gabon has been led by three different presidents.

The Gabonese people speak French, the state’s official language. However, according to the British Broadcasting Corporation (BBC), another 40 local languages and regional dialects are practised. It is estimated that 80 per cent of the population speak French fluently, while one-third of the residents of Libreville considers it as their mother tongue.

Gabon is predominantly a Christian nation, although a few other major religions, numerous native dogmas and indigenous creeds exist.

The CIA Fact Book states that the people of Gabon originated from the Bantu tribes. Today, four main tribal groupings exist: Fang, Bapounou, Nzebi and Obamba.

The country’s population growth rate was estimated at 1.93 per cent in 2015, with the birth rate put at 34.49 births per 1,000 residents. Figures show that the male/female mix of the population is relatively equal. Life expectancy stands at 62 years for men and 64 years for women.

With regard to literacy, 83.2 per cent of Gabon’s total population is literate. People are able to write and read properly as of the age of 15.

According to the Human Development Index (HDI), the people of Gabon enjoy 12.5 years of schooling.

Looking at the economy, the adjusted gross national income per capita amounted to $16,367 in 2011. Gabon’s overall score in the index is 0.684.

The Republic’s current President is Ali Bongo Ondimba, who was elected to the post through Presidential elections in 2009. He was born in 1959 in Congo’s Brazzaville and started his political career at the young age of 22. Formerly, he held the foreign affairs and defence portfolios in the Gabonese cabinet, according to a report carried by the BBC. New Presidential elections are set for August this year.

Gabon relishes a low-density population coupled
Gabon has a thriving agricultural industry.

with an abundance of petroleum resources, including natural gas. But it also has diamonds, niobium, hydro-power and other remarkable resources.

Through successive foreign investments and delineated spending, the sovereign state was grown to become a very prosperous nation.

Again according to the *CIA Fact Book*, the Republic uses 19 per cent of its land for agricultural activities, while 81 per cent is covered by forests.

Several agricultural goods are produced on a regular basis, such as, palm oil, rubber, cocoa, sugar and coffee. Of note, the country has established a stable fishing sector, as it overlooks the Atlantic Ocean.

The national economy was to a large extent initially dependent on exporting timber and manganese; however, the discovery of oil signalled a considerable economic transformation in the Republic. Gabon’s first oil discovery occurred in the 1970s.

Today, petroleum accounts for some 50 per cent of Gabon’s gross domestic product (GDP), generates 70 per cent of the national revenue and contributes 90 per cent of the country’s total nationwide commodity exports, according to the *CIA’s Fact Book*.

Gabon’s economic success has been

Port of Libreville is a trade centre for the country’s timber region.
Over the years, Gabon has developed several leading industries, including gold, ship revamp, petroleum, refining, textiles, cement, and food and beverages.

In an interview carried by Reuters, the Gabonese President has affirmed that the expected economic growth rate for the country in 2016 was three per cent, a level that was expected to increase rapidly thereafter.

Ondimba pointed out that until the fall in oil prices the Gabonese economy had been steadily growing at a sound rate of six per cent on average.

The International Monetary Fund (IMF) has confirmed the President’s estimated growth rates, stating that it recommended furthering the country’s agricultural development.

As part of his election promises — he is seeking a second term — Ondimba aims to take serious measures to pursue an economic transformation plan concentrating on minimising dependence on oil and speeding up economic diversification.

This is an outlook that is also supported by the African Development Bank, according to Reuters.

Additionally, Ondimba perceives a reduction in food imports as a necessity, as well as the production of petrochemicals.

**Energy in Gabon**

In addition to enjoying a distinctive abundance of primary materials, which has increased the diversity of the nation’s productive sectors, Gabon’s notable output and export of crude oil is of primary importance to the economy.

The Annual Statistical Bulletin, OPEC’s flagship publication, indicates that Gabon’s daily crude oil production reached 228,000 barrels in 2015, of which 210,000 b/d was exported.

The country’s domestic oil needs in 2015 were estimated at 18,000 b/d. Moreover, Gabon has confirmed that it possesses proven reserves of over two billion barrels. Of note, Gabon imports no crude oil, according to the CIA Fact Book. Furthermore, the output of refined products at Gabon’s refineries has reached 18,750 b/d with some 30 per cent of this figure exported.

The CIA figures show that, globally, the African nation is 36th in regards to crude oil production, 30th in terms of petroleum exports, and 36th in respect to its proven reserves.
Gabon’s Petroleum Minister visits OPEC Secretariat

Being OPEC’s 14th and newest Member, a cordial welcome has been extended to Gabon and its affiliates. The Secretary General of OPEC, Abdalla Salem El-Badri, received Gabonese Petroleum and Hydrocarbons Minister, Etienne Dieudonné Ngoubou, at the OPEC Secretariat in Vienna on June 30, 2016.

It was a visit that saw extensive discussions on petroleum, the current conditions in the oil market and the role Gabon promises to play in developing its ties with the Organization and helping OPEC move forward.

On the occasion, El-Badri emphasised the importance of Gabon’s return to OPEC, saying: “We are very happy to welcome back Gabon into the OPEC group of countries. We look forward to working with the Minister and his colleagues in the coming years.

“I am also pleased to see that all the countries that had previously left the Organization have now returned.”

El-Badri was referring also to Ecuador (joined in 1973) and Indonesia (joined in 1962), who suspended their Memberships in 1992 and 2008, respectively, but rejoined in 2007 and 2016. Gabon, which joined in 1975, left OPEC 20 years later. Its new Membership is effective July 1, 2016.

In his discussions with El-Badri, Gabonese Minister Ngoubou confirmed the positivity and excitement surrounding his country’s decision and commitment to return to OPEC.

He commented: “Gabon is delighted that it will once again be a Member of OPEC after more than 20 years away. We believe we can be an active and engaged partner in OPEC’s activities, as the Organization looks to meet both challenges and opportunities in the years ahead.”

Also see interview on p26.
Gabon’s return to OPEC, effective July 1, has effectively made it the Organization’s 14th Member, even though it spent 20 years in the group from 1975–95. In this brief interview, the country’s Minister of Petroleum and Hydrocarbons, Etienne Dieudonné Ngoubou, who recently visited the OPEC Secretariat in Vienna, Austria, spoke to the OPEC Bulletin about Gabon’s reasons for returning to the Organization and what it hoped to gain from such a move.
Gabon joined OPEC in 1975 and spent 20 years in the Organization. And even though it is quite a small country, it had a very big presence in the Organization. What informed your decisions to return to OPEC now?

OPEC is an organization of exporting countries and I would first like to say thanks to the OPEC Secretary General for receiving us here and for OPEC for having us back in the Organization. Gabon is a small country and Gabon is a small producer. We are producing now around 200,000 b/d of crude oil and we export 80 per cent of that production. We are looking to improve our income from the oil industry and we are looking to develop new activities regarding natural gas. In this regard, we expect to get some assistance and experience from other countries, especially those in OPEC.

During the first 20-year period with OPEC Gabon occupied a prominent position in the Organization — it had a Secretary General — and the country was always greatly involved in the affairs of the group. Can you reflect back on that?

The reason we suspended our ties with OPEC back then was because we were forecasting a decrease in production. But today we have stabilized our output and we are very pleased to be back here to again take up our position and to contribute alongside their excellencies the other Members. We hope to again be a strong Member of the Organization and to participate fully in all its activities.

With your renewed membership, Gabon has actually become OPEC’s 14th Member. How do you see your contribution to the Organization following your return?

Concerning our contribution to the Organization, we have to bring our experience in the oil industry to the table. We also need to try and help the Organization to better manage the oil environment and try to stabilize the price of oil.

Following the latest OPEC Conference, the Organization appears to be getting stronger. First Indonesia came back and now you have come back. What are your views on this?

You know that in the world now there is a new vision concerning energy and the position of oil-producing countries is not so good. People think that oil is a main environmental destroyer and we have to demonstrate just how important a contribution oil makes to world energy markets. And to be able to develop and defend our position we need to be together, stronger and we need to follow global policy regarding the oil industry. I think OPEC will become stronger and stronger in the future with the countries coming back which will enable the Organization to develop new policies on a world scale in order to defend the position of the oil industry in the world.

So you feel that this unity among Members is very important to OPEC going forward, bearing in mind the challenges it is facing.

Definitely, yes. This opportunity will be the best point for OPEC.

And are you looking forward to your return to OPEC?

I am very pleased to be here. I am interested in seeing what will be the contribution of my country. And I know that OPEC will help us to develop our petroleum industry.

The economy in Gabon has been doing really well over the past few years, even during the time of the oil price crash. What is your prognosis for the future domestically?

We are in a very good position to develop our country because we are starting from a very low position. We have just started to develop some new industry in the country and we are trying to improve the situation for such new industry. I do not foresee any difficulties for my country in the coming years and we are visiting some new opportunities for development which will give us the opportunity to remain in a profitable position as an emerging country.

Is gas equally as important as oil to Gabon as the country moves forward? What is your current production?

I think if we are doing well, we will have the same production for gas as we have for oil. We are currently producing the oil equivalent of 200,000 b/d and some 50,000 b/d of gas.
Mohammed Sanusi Barkindo new OPEC Secretary General

Oil veteran and industry technocrat relishes return to the Organization

On June 2, 2016, the 169th Meeting of the OPEC Conference voted unanimously to appoint Mohammed Sanusi Barkindo of Nigeria as the next Secretary General of the 14-Member Organization, effective August 1. He succeeds Abdalla Salem El-Badri of Libya who held the position since 2007. In this article, Angela U Agoawike, former Head of the OPEC Public Relations and Information Department (PRID), who knows Barkindo both professionally and personally, writes exclusively for the OPEC Bulletin on a charismatic and dedicated oil technocrat that invests his time equally in helping to ensure secure and stable petroleum resources for an ever-demanding world with the pressing need for concerted, yet fair, action over the future welfare of the environment.

Mohammed Sanusi Barkindo has made OPEC history! In achieving his new position he has become the only Secretary General in OPEC’s almost 56 years of existence to have been associated with all organs of the Organization.

He served his country, Nigeria, for 15 years (1993–2008) as OPEC National Representative on the Organization’s Economic Commission Board (ECB) and then for one year (2009–10) on the Board of Governors as his country’s Governor for OPEC. In 2006, he served as Acting for the Secretary General when Dr Edmund Maduabebe Daukoru, Nigeria’s Minister of State for Petroleum Resources, became Conference President and Secretary General.

Ironically, as Acting for the Secretary General, it was Barkindo who handed over the administration of the OPEC Secretariat to Abdalla Salem El-Badri in January 2007, who he is now succeeding after an accomplished, very successful and unprecedented nine-and-a-half years at the helm of the Organization.

With an OPEC career full of firsts and six years and three months after his last official assignment at the Organization, Barkindo is back at the OPEC Secretariat in Vienna as the substantive Secretary General, effective August 1.

His return to OPEC came as a result of a united and vigorous campaign by Nigeria, led by the country’s Minister of State for Petroleum Resources and Head of the Country’s Delegation to the OPEC Conference, Dr Emmanuel Ibe Kachikwu.

A lot has changed at the Secretariat in the last ten years since Barkindo was Acting for the OPEC Secretary General. For a start, the Secretariat has moved from its Obere Donaustrasse location in the Austrian capital along the banks of the Danube River in Vienna’s Second District, to its present location on Helferstorferstrasse in the city’s historic First District.

It has also undergone a restructuring programme that has seen some significant changes in its configuration, as well as a staff turn-over that has seen many old hands go into retirement.

But do not expect these changes to pose any challenge for the new Secretary General of an organization that possesses one of the most efficient bureaucracies among international entities.

“No doubt, some of those one worked with over the years have moved on, but the Secretariat remains,” Barkindo comments. “One strength of OPEC is its human resource. OPEC, since its inception, has been

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Mohammed Sanusi Barkindo arriving at the 169th Meeting of the OPEC Conference in Vienna, Austria.
able to assemble the best from its Member Countries and elsewhere to run the Organization. And that is why it has remained not only relevant but exceptional,” he says.

As Acting for the Secretary General, Barkindo commanded the respect of staff. They saw him as a progressive-minded leader who accorded them his professional respect. He was humble, well-liked and appreciated for his humane approach to leadership. He would, ask for one’s opinion on issues related to one’s area of expertise. “What do you think?” was always his way of bringing one into such conversations.

That attitude could reflect his recognition that “the staff of the OPEC Secretariat are some of the best public servants that one can find anywhere. So, it is quite an honour to have been associated with them all these years and I look forward to continuing that relationship with them.”

One other aspect of the Organization that has changed in the last ten years since Barkindo was at the helm of affairs at the Secretariat is the size of OPEC, which has grown from 12 to 14 Member Countries. For some people, the smaller an organization, the easier it is to handle. So, how does the new Secretary General feel about the increased membership of OPEC?

**Members’ return positive**

“I think the return of our two erstwhile Members — Indonesia and Gabon — is very positive for the Organization. That is because they were already Members of this Organization, but circumstances at the time...
necessitated their exit, although on a temporary basis. I was at the Conference and everybody welcomed them back. So, I think it is the bigger the stronger and, hopefully, more united.”

Unity and a shared objective have always been the strength of OPEC. These attributes have helped to make it the longest-surviving international organization made up exclusively of developing countries. And that is no mean feat, what with all the challenges it has faced.

However, in recent times, the Organization seems to have been challenged in these two important areas as the price of oil went on its downward spiral. In this regard, Barkindo is expected to have his hands full, keeping Member Countries united in their common objective of stabilizing the oil market, while protecting their individual sovereignties.

Asked whether OPEC will continue to play this role, Barkindo says: “It is part of our statute — the stability of the oil market — and this has been accepted not only by OPEC but by other producers outside the Organization.

“Consumers generally are averse to volatility of prices and the global economy is also sensitive to price fluctuations. OPEC has made the central point in its statute the stability of the oil market and all decisions of OPEC are geared towards that.”

OPEC Member Countries are very optimistic of the continued relevance of the Organization even as a global intensification of the search for alternatives to fossil fuels continues.

The world, as usual, will look to OPEC for some kind of leadership. With Barkindo, an internationally acclaimed climate change negotiator leading the Secretariat in the next three years, the Organization will no doubt offer not only leadership, but will continue to support diversification as that poses no threat to oil.

This is what he had to say on this subject: “There has been a huge effort in diversifying the sources of energy due largely to environmental concerns; from the inception of the United Nations Framework Convention on Climate Change (UNFCCC) to Kyoto and more recently, Copenhagen and then Paris, there is no doubt that the international community is now united in the quest to diversify sources of energy due to climate change.

“OPEC Member Countries are also part of these efforts. We had, and will continue to play, a very critical role in all these negotiations as oil-producing and exporting countries.”

But Barkindo quickly points out that doing this is in no way an acknowledgement of the ascendancy of renewables over fossil fuels. Despite all the commendable global efforts towards renewable energy, “a global economy driven largely by renewables sounds like music for the future,” he states. “The statistics are very clear — oil will continue to be the most dominant source of energy for a very long time to come.

Oil the fuel of choice

He continues: “The reserves are plentiful, the theory of peak oil is still fiction, and technology is advancing for the cleaning of oil to make it more environmentally friendly. Also, populations are growing and large populations are being pulled out of poverty. Therefore, the combination of all these factors makes oil the fuel of choice for the foreseeable future. By extension also, you would expect that OPEC will continue to play very key roles on the energy scene.”
As an oil technocrat and with his experience as a climate change negotiator, Barkindo now proudly lists "the environment" as his hobby. How possible is that? “A lot of people think there is a contradiction; how can an oil man be interested in the environment? I have answered this question for years at several fora and when we started negotiating for the UNFCCC in the early 1990’s in New York. “Each time, I introduced myself at those meetings and there was always laughter over who is this oil man in this meeting, because they did not expect an oil man negotiating climate change. But gradually they came to accept us — we that went from OPEC. “We had a very strong group, people like Professor Al-Saban, myself, Abbas Ali Al-Naqi from Kuwait, who is now Secretary General of OAPEC, and others. We formed a very formidable team. I think we played our role in ensuring that the convention that was eventually adopted was fair not only to fossil fuel producers but to the rest of humanity. “We are part of this world, so we are also being impacted by the effects of climate change, by the response measures of the rich industrialized countries that are mainly responsible for the emissions. So, I do not see any contradictions in OPEC, its Member Countries or its citizens like us, taking interest in the issue of the environment.”

Another issue facing Barkindo as he takes up his new position is the fall in international oil prices seen over the past couple of years. In August 2015, the price of oil had tumbled to $45.46 per barrel from a high of over $100 just a year earlier. This has obviously had a negative impact on the earnings of some OPEC Member Countries whose economies are heavily dependent on oil. The situation makes one wonder how these countries, and indeed, all OPEC Member Countries, would cope in funding their economies. To the new Secretary General, there is no cause for worry. “It is quite obvious; almost elementary to all commentators that what we saw prior to the correction in 2014 when oil sold for as high as over $100/b — and at a time $140/b — was something that was abnormal. There are certain structural changes that have gradually been taking place in the global economy and impacting the energy scene, particularly oil and gas,” contends Barkindo. “The combination of all those factors and a robust economic growth led to the skyrocketing of prices that we saw, which was unsustainable and, at the end of the day, could not have been positive to the global economy. “Now what we have been seeing since 2014 is a correction of that. The quest and efforts of OPEC in stabilizing the market at various times is something that is ongoing, it is a continuous business. “The concept of fair price, or the equilibrium price that will be fair to both the consumers and producers, is a task that has been carried on by OPEC throughout its existence. And from 1986, other producers and consumers saw it as the responsibility for all — not just OPEC. “Therefore, at the moment, we have seen a rebounding of prices from the lows that we saw in January and February. The issue is that it will continue to hover within that range for some time, although we have started seeing the hiring of new rigs in the United States, particularly in the shale-producing regions. But it is most unlikely that those additional rigs will translate into additional volumes. “That may not negatively impact on prices. So, we will continue to do whatever we can, together with non-OPEC producers in the producer/consumer dialogue. We will find this elusive fair price, the equilibrium price between supply and demand,” he stresses.

One intriguing fact about the professional life of Barkindo is that he did not attend university to become an oil man. His degree was in Political Science and, for

Mohammed Sanusi Barkindo.

Barkindo (c) with Dr Omar Farouk Ibrahim, Nigerian Governor for OPEC (r); and Angela Agoawike, former Head of OPEC’s PR & Information Department.
him, studying political science was something that prepared him for who he has become.

“Students of political science”, he notes, “are students of the whole. It is a subject that prepares you for life. It is when you leave college, most of the times, that you then decide which profession you will like to fit in to. Whereas other subjects are narrow, and leave you with little choices, subjects like political science are so wide that you can pursue any career in life.

“So, I felt really armed and prepared after I left college over 30 years ago.” And for that he adds: “I remain grateful for choosing that field in the university.”

Barkindo is a man who never stops learning. Citing the example of one of the great leaders of his country, Olusegun Obasanjo, a two-time President of Nigeria, who went back to school at the age of 71 years, Barkindo asserts that there is no limit to learning.

“If presidents could go back to school, lesser mortals like us should continue to learn and contribute to knowledge,” he professes.

Continuing to learn

This is what guided his acceptance of a three-year Fellowship at the George Mason University, Fairfax Virginia in the US where he is engaged in research on Energy, Climate Change and Sustainable Development.

His going back to school at 56 should also encourage young people who stop learning because they believe they have ‘made it’.

“We should encourage our people to continue to learn; you do not necessarily have to be a former student, because learning is a lifetime process.”

The new OPEC Secretary General’s professional life began at the Nigerian Mining Corporation where he rose to the position of Principal Administrative Officer and later served as Special Assistant to the Minister of Mines, Power and Steel. He spent a greater part of his career at the state oil company — the Nigerian National Petroleum Corporation (NNPC) where he held several positions, including Special Assistant to the Minister of Petroleum and Energy; Head, International Investments Division; General Manager, NNPC London Office; Managing Director/CEO, Hyson/Calson — an international trading arm of the NNPC; Deputy Managing Director/CEO, of Nigeria Liquefied Natural Gas (NLNG); Group General Manager, Investments, among others, before rising to head the NNPC as Group Managing Director from 2009–10.

He was also a member of the Oil & Gas Industry Reform Implementation Committee (OGIC) that drafted the Petroleum Industrial Bill (PIB) in 2008. In addition, he also worked as Special Assistant to the Minister of Foreign Affairs in 1990.

For Mohammed Sanusi Barkindo, even with the great managerial authority he commands, it is not all about work. He does create time to relax and involves himself in things ordinary folk love to do.

“I used to play soccer (that is of course football) when I was young. Now I am a keen observer and supporter of clubs,” he says. So, which clubs does he support?

While some people like OPEC Bulletin Editor, Jerry Haylins, will be happy to hear — for this writer, Mohammed Sanusi Barkindo broke my heart. I was hoping that being a lover of the English Premier League, he would pitch his support behind Arsenal.

But no, he is a supporter of Manchester United. And back home in Nigeria, he supports a wide range of football clubs of old — Enugu Rangers, Kano Pillars, Mighty Jets of Jos, Abiola Babes of Abeokuta, Sharks of Port Harcourt, Shooting Stars of Ibadan, and El Kanemi Warriors of Bornu. He loves them and supports them all because they are the reigning clubs and everyone loves them.

Apart from soccer, Barkindo, a widely travelled international public servant, loves to read. “I grew up reading,” he states. “It is a part of me from childhood through my adulthood and working life. In this profession of ours, reading is a must.” The last book he read (before this interview) was The Mckinsey Way, a book he recommended for people holding managerial positions or who have aspirations towards managerial positions.

For the record ...

Mohammed Sanusi Barkindo was born on April 20, 1959, in Yola, Adamawa State of Nigeria. He holds the traditional title of WALIN ADAMAWA, and is a 1981 BSc graduate of Political Science from the Ahmadu Bello University, Zaria, in Kaduna State of Nigeria. He also holds a Post Graduate Diploma in Petroleum Economics and Management from Oxford University (1988); an MBA in Finance and Banking from the Washington University (1991); and a Fellowship of the George Mason University.

Barkindo, married with children, also holds an Honorary Doctorate Degree in Science from the Modibo Adama Federal University of Technology, Yola, Adamawa State. He is a fellow of the Nigerian Institute of Management; Member, London Institute of Petroleum, and Member, London Institute of Directors.
The (then) Director of OPEC’s Research Division, Dr Omar S Abdul-Hamid, opened the Forum by welcoming Member Country delegates and international experts to Vienna.

In his remarks, he stated that the oil market had evolved drastically since the inaugural edition of the OPEC R&D Forum, which took place three years ago in the Austrian capital.

Since mid-2014, he added, the more than 50 per cent decline in oil prices had resulted in budget cutting in all areas of the industry, including research and development.

**Future R&D investment essential**

Abdul-Hamid stressed, however, that investment in research and development actually provides the efficiencies and cost reductions the industry would need at this pivotal moment.

“Today’s meeting comes at a crucial time, because investment in innovation is absolutely crucial to the industry’s future,” he said.

“Yes, R&D costs money, but it is exactly this investment that yields the much-needed efficiencies and cost-effectiveness the industry is so desperately searching for in this challenging market,” he maintained.

Future investment will be crucial to ensure that exploration, innovation and environmental protection continue to develop in order to meet the energy needs of future generations.

“In the years ahead, technology will be instrumental in stretching the limits of exploration and production, while addressing climate change and fostering environmental protection,” he asserted.

“These advancements are just a taste of what we can expect to see in the future as innovation continues to develop. However, this will depend on the industry regaining its footing and ensuring its commitment to the required levels of investment.”

**Impacts on future energy mix**

With the theme *Technology impacts on the future energy mix*, the Forum comprised three main technical sessions with presentations by invited experts, followed by an interactive panel discussion with participating Member Country delegates.

Topics covered during the Forum included the latest advances in oil and gas-related technologies, as well as innovations in alternative energy and environmentally friendly solutions.
Presentations on oil-related technologies covered the areas of transportation, power generation, mature assets, enhanced oil recovery and tight oil prospects.

In terms of gas-related innovations, experts presented advancements in the areas of road and marine transportation, petrochemicals, conventional and unconventional gas development and liquefied natural gas.

Technological solutions in alternative energy and the environment were also introduced covering the areas of renewable energy, digitization, gas-to-liquids conversion, carbon capture and storage/utilization and smart grids.

Networking and interaction

Sessions were scheduled with breaks to promote networking opportunities during which Member County delegates had the opportunity to meet and interact with each other and with the industry experts.

The programme ended with a panel discussion moderated by Dr. Abdul-Hamid, which provided a chance for participants to share experiences and consider future opportunities and challenges for the oil industry.

Some of the topics brought up for discussion included technology and advancements related to enhanced oil recovery, waste water treatment, digitalization, pipeline security, carbon capture and storage, renewables and smart grids.

Finally, the second part of the panel discussion was designed for Member Countries and invited experts to provide feedback on the way forward for future editions of the Forum.

Abdul-Hamid then provided closing remarks in which he stated that the Forum had once again provided an important platform for engaging and fruitful discussions on the ever-important topic of research and development and its future role in shaping the oil and gas industry.
OPEC Secretariat hosts annual statistical talks

Participants discuss ongoing process of improving data

The 32 attendees to OPEC’s 15th Annual Statistical Meeting (ASM) had the opportunity to meet with fellow statisticians from other Member Countries and the Secretariat’s specialists to examine the figures that underlie much of the work of the Secretariat and to continue the ongoing process of improving the flow of regular oil and energy statistics submitted directly by Member Countries to the OPEC Secretariat in Vienna.

Held on May 12–13, the meeting talked about the statistics which support the OPEC Ministerial Conference in making its decisions and which aids OPEC Members in deciding how much oil to produce, how much to invest and how the Organization can best fulfil its Mission, stated Omar S Abdul-Hamid, former Director of the OPEC Research Division.

“This meeting, now in its fifteenth year, is an essential forum for discussing issues related to data flow from our esteemed Member Countries,” he pointed out.

“Whether it is data for the annual publication of the World Oil Outlook (WOO) and the Annual Statistical Bulletin (ASB), or data for the many important reports that are provided to the OPEC Board of Governors, it is clear that accuracy, timeliness and consistency are crucial,” he maintained.

Abdul-Hamid added that close collaboration and open communication between OPEC Member Countries and the Secretariat are, and will continue to be, the main ingredients for success in the joint quest to improve not only the quality of data from the Members, but the efficiency of the data collection process as well.

The interactive discussion between participants and OPEC experts led to agreement on a number of recommended improvements for the upcoming Annual
Questionnaire (AQ), which the Secretariat will examine in the coming months.

“The one-on-one really works for us,” stated one attendee. “We contact people here regularly and really appreciate their efforts. Keeping the channels open on a personal level really helps,” he affirmed.

Adedapo Odulaja, Head of the OPEC Data Services Department, stated that some of the discussions over the two-day meeting were not definitively resolved and will be followed up with discussions together with experts in-house.

“This year we have greatly improved ... of 45 tables, performance improved on 25. We won’t rest. We have not reached the peak and will improve next year,” he insisted.

**Presentations**

Several presentations were made by various OPEC statisticians in the course of the meeting.

With regard to the Joint Organizations Data Initiative (JODI) questionnaires, one expert said oil and gas data from OPEC Member Countries are in general of good quality with some improvement potential in terms of timeliness and coverage.

The coverage of flows in the extended JODI oil questionnaire has slightly improved since the 2nd JODI Technical Meeting with OPEC Member Countries late in 2015, but requires further attention and monitoring, he observed.

JODI Gas data submission was also said to have been of good quality, but some improvement would be possible in terms of submission. Member Countries were encouraged to use the standard JODI Gas questionnaire and send any other relevant information to be added to the metadata.

The oil supply data submission, including the online Production Supply Statement (PSS), which was approved in 2015, was presented and discussed. It was remarked that only a few Member Countries are actively using the online PSS application.

Delegates were informed about the possibility of customizing the online PSS to meet their specific needs. Participants commented that some had very good success with the new online entry system, while others were still struggling in some ways, with the hope of using the system in the near future.

Another informative presentation highlighted the methodology and assessment practices used to calculate the OPEC Reference Basket (ORB), while the interactive version of the ASB was also shown to delegates.

Member Countries made useful suggestions, some of which have already been implemented by the Secretariat.
Meeting increase in demand still world’s greatest energy challenge

BP Group Chief Economist, Spencer Dale (pictured), spoke to OPEC employees in Vienna, Austria, on June 20, 2016, as part of the OPEC Secretariat’s Lecture Series. Delivering a presentation on ‘Energy trends and outlook with a focus on oil’, Dale later agreed to an exclusive interview with the OPEC Bulletin’s Maureen MacNeill.
Despite statements that OPEC seemed to be acting in an inconsistent way with its decision not to reduce oil production after the price fall of 2014–15, the Organization has actually held to past patterns.

This is the view of Spencer Dale, Group Chief Economist at oil major BP.

“Many people, when they saw oil prices fall, immediately thought back to what happened in 2008–09 and in 1998–99 when OPEC on both occasions reduced production to stabilize prices,” he says. “But a key point there was that the underlying driver of that weakness in prices was a contraction in demand associated with the great financial crisis of 2008–09 and the Asian financial crisis in 1998–99.

“This time,” says Dale, “it was different. This time oil prices fell not because demand was weak — demand growth in 2014 was pretty much in line with its long-run average. Prices fell in 2014 because supply was exceptionally strong. In that case, it was more akin, still different, but more akin to what we saw in the mid-1980s when we saw strong supply growth as North Sea and Alaskan oil came onstream.”

At that time, after initially trying to fight that price fall, OPEC realized the best thing it could do was maintain its market share and wait for the market to absorb that additional supply, states Dale, which is what they have done in the current downturn.

“To my mind OPEC has not changed its behaviour. What was different this time to the two previous price falls was the underlying cause of the price fall. It was caused by a persistent supply increase rather than a temporary demand contraction.”

BP is attempting to respond to the low-price environment by improving levels of efficiency, increasing capital discipline, while at the same time making sure it continues to invest in order to meet future energy needs.

“So as we come out of the period of weakness we are in a stronger position and well able to meet the needs of the future global energy system,” Dale states.

He says the main challenge facing the world currently in terms of energy is that demand is likely to continue to increase. There are fast-growing countries in the world, where many hundreds of millions of people will be lifted out of low-income and into middle-income status, he maintains.

“As they do, demand for energy will increase. Ample supplies of energy enable that growth and one of our main challenges at BP, along with all the other energy producers and providers in the world, is to make sure we provide the energy that allows some of the poorest nations of the world to grow and enjoy the benefits of middle-income status that many of us take for granted.”

Shale oil

Shale oil changes many things in the market, according to Dale. For example, three things are very different about United States tight oil, he observes.

“One is, it is far more responsive to price fluctuations. It can be turned on and off far more quickly. This greater price responsiveness should act to dampen price volatility. So if you like, US tight oil acts like a shock absorber for the oil sector: because supply can move up and down more, prices need to react less.

“Second, many producers for US tight oil tend to be far smaller and far more dependent on bank finance than the large, international companies or national companies which dominate conventional oil. As a result, they are far more exposed to any shocks within the banking system. These shocks, or anything to do with credit supplies, can feed into the oil market and lead to increased volatility in a way which would not take place if it was just dominated by large national or international oil companies,” he states.

“I think the third unique thing about US tight oil … US shale oil is more like manufacturing. It uses the same rigs in the same locations, repeating processes over and over again. As a result, you see quite phenomenal productivity gains within US tight oil which is quite common with repeated manufacturing processes. These types of productivity gains are not normal within conventional oil production.

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rather unpredictable over the past five years, when it went from essentially a standing start to around five million barrels/day. Over that period of time, BP and most others in the industry were surprised by the pace and strength of growth, the scale of the productivity gains and the scale of the cost reductions achieved by tight oil.

“And we continuously revised up our view of the potential for US tight oil growth over the future. Do I think I have got that right now? Well I hope we have and we keep on trying to learn from experience. But when I look at a forecast profile — and we have revised up our forecasts over the last three of four years — that always raises the question: have we really learned our lesson, or will we continue to be surprised by the sheer momentum of US tight oil.”

Tight oil to plateau

At some point, growth in tight oil will begin to plateau over the next 20 years, predicts Dale, as it is a limited resource base. BP’s energy outlook from February predicts that as the market starts to stabilize and prices rise again, the scope for US tight oil will grow from the current level of 4.5–5m b/d to around 8m b/d by 2035, he says, adding that growth is likely to be relatively front-end loaded and then plateau off towards the back end of that outlook due to resource constraint.

At its peak, in BP’s central case, tight oil production is expected to reach just a little bit less than ten per cent of the world’s oil supply, the majority of that from US and North American production, but increasingly some parts from other regions of the world, states Dale.

Meanwhile, renewable energy has been growing exceptionally strongly in recent years, including wind power, but particularly solar power, he says. “Over the last ten years, solar power has increased 60-fold — it has doubled its capacity on average every 20 months, so quite phenomenal growth.”

However, the history of energies across time shows it took oil about 45 years to increase its share from one per cent of the world energy mix to ten per cent, while even after its first 50 years natural gas had still failed to reach ten per cent of the world’s energy, says Dale.

“In our energy outlook, we think renewable energy will grow quicker than any fuel in history and will get close to ten per cent by 2035. But remember, even in a world where renewable energy grows more quickly over the next 20 years than any fuel ever seen in history it will still only provide about ten per cent of the world’s energy needs by 2035. The lesson from history is that it takes a long time for new energies to penetrate the energy system.”

BP is heavily involved in renewables research and has one of the largest renewable energy businesses across any of the international oil companies, confirms Dale. “It has a very large biofuels business in Brazil and a successful onshore wind business in the US.”

Meanwhile, Dale says he expects that electric vehicles over time will penetrate the market and act to dampen growth of oil demand.

“The question is, not whether electric cars will happen — but how quickly they will happen. Our best guess in BP’s Energy Outlook 2035 is that the competitive advantage of internal combustion engines today means that, even as battery costs fall very sharply, the pace of that penetration will be relatively limited over the next 20 years.

“But if we look ahead 30 years or 40 years, it is very likely that we will see the penetration of electric vehicles increasing. And as we see that increase, we are likely to see peak oil demand at some point in the future. I think that is likely to happen — the main issue is when. Our central view is that the penetration of electric vehicles
over the next 20 years will be relatively limited, but will increase beyond that.”

The reason for that delay, maintains Dale, is that it will take time for battery technology to compete with oil for transportation. “Oil has a massive advantage. It is a very compact fuel containing lots of energy ... at the moment internal combustion engines have a significant competitive advantage relative to batteries. But that is changing and over time we expect that competitive advantage and that cost advantage to slowly shrink.”

Climate change

Over time, and in light of the Paris Agreement last December, which is designed to address climate change issues, oil demand will see increasing regulation in terms of vehicle efficiency standards, which will temper growth in oil demand as cars become more and more efficient, contends Dale.

“I expect the pace of improvement of vehicle efficiency over the next 20 years to be significantly faster than what we have seen in the past. The average vehicle on the planet today does around 30 miles/gallon. In BP’s Energy Outlook, our central view is that by 2035, fuel efficiency will increase to about 50 m/gal. That pace of improvement in efficiency would be far faster than we have seen over the last 20 years.”

Dale says the effect of this will be to dampen demand growth relative to a world in which efficiency standards grow more slowly. But this effect will be offset by the fact that so many people in India and China will be lifted out of lower incomes into middle incomes and will start to own their own vehicles, he observes.

“We expect the number of vehicles in the non-OECD region to roughly triple — increasing from around half a billion vehicles today to 1.5bn by 2035. That increase in vehicle ownership will swamp the improvement in vehicle efficiency, leading to steady growth in demand.”

Dale notes that in Paris last year, governments committed to a range of policies called the Intended Nationally Determined Contributions (INDCs). However, when these are added up they still equate to carbon emissions rising over the next 20 years, he states. Thus, most people would view Paris as an important step in the right direction — but only a step in the right direction, he adds.

“We are going to need to go further if we are to achieve the goals set out in Paris.”

How to find the balance between bringing down carbon emissions and improving standards of living for those in poverty is the key challenge facing the energy industry, stresses Dale.

“I think it is very important that the energy industry realizes and frames its own objectives in terms of trying to solve these twin challenges. We need to use fuel in an efficient way and use the right mix of fuels to make sure we do it in a sustainable way and do not run into problems in terms of climate.

“But at the same time, we have some of the poorest nations in the world, particularly in Africa and emerging Asia, which are likely to grow very significantly over the next 20 years. As they grow they will need more energy to enable those high levels of activity.

“We cannot solve one challenge without the other ... whenever we are thinking about policies we need to have those twin objectives in mind. We cannot just focus on one or the other — we need to do both.”

Governments have to set strong policies and companies can then respond to the incentives given to them by regulators and by the government, says Dale.

Managing with less

BP has had its own strategy for dealing with the downturn in oil prices over the past few years.

“We have put health and safety first, that is always our top priority. Subject to that, we have focused on improving our levels of efficiency. We have also exerted far greater discipline over our capital spending. Those two things go hand-in-hand, both in order to strengthen the company during the downturn, but also as we come out of that downturn, to ensure the company is in a stronger position and able to continue to invest to meet the energy needs of the future, particularly the energy needs of the fast-growing economies.”

However, Dale maintains the market is gradually adjusting to low prices. By the second half of this year it is expected to move gradually into balance as demand catches up with supply.

“We expect the number of vehicles in the non-OECD region to roughly triple — increasing from around half a billion vehicles today to 1.5bn by 2035.”
“That is not the problem solved — there will still be a very significant stock overhang that needs to be worn off. We are turning a corner as the market balances and oil inventories stop rising and we will start to see light at the end of the tunnel. We will still have further to go to bring down stock levels from their record high levels, but at least we are moving in that direction.”

Dale recalls that the main factor driving prices in 2014 was the extraordinary growth in US tight oil which grew stronger than anything seen before, leading to the imbalance in the market. In 2014, supply grew by over 2m b/d and demand grew by only 1m b/d. “You do not need a PhD in economics to work out what will happen to prices — and sure enough prices fell very sharply.”

In 2015, says Dale, the market started to respond to those low prices, leading to strong demand growth, which expanded by 1.9m b/d, almost twice its long-run average. Meanwhile, non-OPEC supply, particularly US tight oil, grew less strongly, with US tight oil production falling from the spring of 2015 onwards.

“Some of the impact of that price adjustment was temporarily offset by increases in production of OPEC Members, which delayed the adjustment of the market. But the markets have continued to adjust this year. I think there are signs it is likely to move into balance in the second half of this year.”

Dale does not see financial speculation as such a strong factor, adding it is more likely to cause day-to-day, week-to-week or even month-to-month movements in prices, but is unlikely to cause prices to move from $110/b to $50/b. In terms of geopolitics, many people would observe that in some parts of the world tensions are abnormally high, which would tend to push prices up.

“It is hard to know how much geopolitical factors have been pushing up prices because we do not know what prices would have been if those tensions were not there. It is quite possible they may have been even lower if those tensions had not existed. I think also because stock and inventory levels are so high at the moment some of the pressure from geopolitical uncertainty may have been dampened.”
**India and China**

India and China are seen as the greatest drivers of demand going forward, but they are expected to develop differently, predicts Dale.

“What we are seeing is China and India in quite different stages of their development. China’s GDP growth is slowing. It is also shifting its composition of growth away from heavy industrial sector growth, which tends to be very energy-intensive, towards more consumer-service growth, which is far less energy intensive. These two things together mean its growth rate of energy consumption over the next 10–15 years is likely to be far slower than its growth rate in the past.

“India is in quite a different position. Its growth rate if anything is likely to pick up from its current level and perhaps over the next 20 years average similar to where it is today, at around 6.75 to seven per cent. It starts with an industrial structure which is already more heavily concentrated towards services and consumption growth, with a far smaller industrial sector compared to China.”

In terms of growth rates, India’s growth in energy demand is likely to be significantly stronger than that of China going forward. However, India is far smaller than China, observes Dale.

“So I think that for the foreseeable future, China will remain the world’s largest growth market for energy, even though its overall growth rate relative to the past is slowing.”

But virtually all of the growth in energy demand over the next 20 years is expected to come from developing countries, adds Dale, stating that BP expects global demand for energy to grow by about a third over the next 20 years.

“The energy demand of the OECD economies, the developed economies, is likely to be flat to falling over the next 20 years. So, the growth of energy demand is driven by those fast-growing Asian economies. As they become more prosperous, they need more energy to fuel higher levels of activity and they need more energy to allow people to enjoy higher standards of living.”

**BP and OPEC**

BP has had a very close relationship for many years with a number of OPEC Member Countries, points out Dale.

“The ones that spring immediately to mind ... we have a very large operation in southern Iraq; we have just signed an enhanced technical service agreement with Kuwait to help with its oil production; and we have a long history in both Abu Dhabi and Angola.

“We are an oil and gas company and so we have to have — and enjoy — very good relationships with many OPEC Members and we hope and expect them to increase and grow in the future.”

Meanwhile, the company’s focus may turn more to gas than oil in the future, he says.

“If you had looked at BP’s portfolio 5–10 years ago, it would have been 60 per cent oil, 40 per cent gas. Last year was the first year in which BP produced more gas than oil. And I think on current pipeline and current plans if you fast forward ten years, it will be closer to 40 per cent oil, 60 per cent gas. We are becoming increasingly gas-related over time.”

The company has a number of successful gas operations dotted all over the world, notes Dale, adding that a big project is due to come onstream shortly in Oman and an agreement has been signed to help develop some of the shale gas in China.
Vincent Kaminski (pictured left), Professor in the Practice of Energy Management, who teaches at the business school of Rice University in Houston, Texas, is the author of several books on risk management and energy trading. His latest offering, released in 2013, is called ‘Energy Markets’ and provides a comprehensive view of global energy markets, covering the fundamentals of production, transportation, storage and distribution, as well as market design and linkages between different markets. The OPEC Bulletin’s Maureen MacNeill recently had the opportunity to ask the industry leader a few pertinent questions about the energy sector, especially the effects of volatility and the need for regulation.

What is your view on market volatility? Do you feel there is anything wrong with it?

From my perspective, there is nothing wrong with volatility. I spent many years on the trading floors both in the financial markets and in the energy markets and volatility is a friend of the trader. Having said that, I have to say volatility means different things to different people. In the financial markets we define volatility as the dispersion of price returns and the price returns are typically defined as overnight price returns, close to close.

They are very important from the point of view of a highly leveraged hedge fund, and they are very important from the point of view of an energy trader, especially an option trader. But from the point of view of an asset-based, highly integrated oil company, overnight volatility, short-term price vibrations really do not matter that much.

I do not think the CEO of Mobil worries so much about the volatility of daily prices. What is important from the point of view of big integrated oil companies is the long-term trend. What really matters are the seismic shifts in the energy markets in the energy costs, in the cost of producing hydrocarbons. There is some impact of volatility on smaller- and medium-sized producers who have to rely on hedges to avoid financial disasters.

The higher volatility of realized prices will eventually translate into higher implied volatility. This is volatility reflected by option prices and this volatility affects the cost of hedging. It increases the cost of hedging with options, and it increases the cost of hedging with swaps. From this point of view, volatility is important to oil producers.

I guess it could affect investment as well?

It affects investment, though the jury is divided on this point. Why, this is controversial? If you read some
There is some talk about volatility rising when prices drop, but not rising when prices go up. Do you see that?

In the markets you can never step twice into the same river, it always changes. I remember the early days of the financial markets when options were traded on flat volatility. So this means that volatility as quoted in the market was relatively stable and also options with different strikes were traded at the same implied volatility. What happened?

The crash of 1987 — and suddenly traders discovered what is known as volatility skew. Volatility skew means that the options with different strikes, but for the same underlying, same expiration date, trade with different volatility levels. The traders then discovered the so-called volatility smile or volatility skew. And also there were perceptions that volatility increases in the time periods of falling stock prices.

But when stock prices go up, when the stock market goes up, volatility falls as the traders see reduced risk. Commodity markets were considered to represent a different type of volatility risk. The perception was that falling prices leads to lower volatility, while the exploding price of commodities results in higher volatility.

As end-users of energy and other commodities start hedging more it increases the volume of trading and leads to higher volatility. Now we have turned 180 degrees into another direction — we see lower prices leading to higher volatility because I think a different group of market participants has to worry about big price changes and worry more about hedging their exposures. We may have higher volatility when prices drop like a stone.

There are some other factors this time that did not exist in the past, like OPEC’s stand, shale oil and different issues.

That is right — there is the technological revolution in the production of hydrocarbons, the structure of the markets has changed, many new market participants entered the business, merchant energy traders, some financial institutions left the market except for some economic papers, written by eminent economists, there is a view that higher volatility suppresses investments, it creates uncertainty and uncertainty results in a delay of decisions, a reduction in the size of investments in physical assets ...

from this point of view, it may hurt the industry and the markets in the long run. But there are some economists — and I am on this side — who believe volatility may increase investments for the following reason.

Many operators of physical assets believe that investing in a plant, a storage facility, a pipeline, creates real options; the optionality embedded in physical assets. The value of those embedded or real options, as we call them in the industry, increases with higher volatility. From this point of view, volatility leads to higher levels of investments in physical assets.

What really matters are the seismic shifts in the energy markets in the energy costs, in the cost of producing hydrocarbons.
paper products. So, again, in trading in the markets you can never enter the same river twice and the markets will always change ... I do not take anything for granted.

That keeps it exciting! What is the connection between the US dollar and the oil price and what does that mean to emerging markets?

Connections between the level of the US dollar or changes in the US dollar exchange rates versus the basket of other major currencies and oil prices was always highly debated and the perception is that oil prices and dollar exchange rates move in the opposite direction.

There were time periods when this relationship was really pronounced very strongly, but there where periods where this relationship was relatively weak and there was no really stable relationship between the two markets. So I would say the following: one always has to look at market structure, market fundamentals and watch out for other intervening factors which may change the relationships that are often taken for granted.

In the markets, nothing is cast in stone. Nothing can be accepted as an immutable law of nature, markets change, economic structure changes and the relationship between different markets may change.

In the emerging markets interdependence is quite strong?

Right now, because we have many exporters of oil who are hurt by lower prices, and another problem which you are also referring to is that over the past few years, especially since 2009, many emerging economies and many companies in emerging economies have increased their levels of debt and loans, denominated in US dollars.

And now, with the US dollar becoming more expensive in terms of local currencies, those companies and economies may have problems servicing the debts which have been incurred over the last few years.

If you have a company located in Brazil of which the revenue is mostly in local Brazilian currency, that in dollars means a very serious headache — you have to generate much higher revenues in that local currency to support the burden.

It has been pointed out under debt in shale oil, but also debt in all oil companies seems to be much higher than it was in the past. What do you think?

Yes, this is correct. This is definitely true of US companies, which are very active in the shale business. The shale revolution in the US was brought about by small- and medium-sized companies which relied to a very large extent on external financing, on debt and equity injections from outside the industry.

Of course, now with much lower prices and falling revenues it translates into some serious problems. The same happened in the case of oil companies mainly in the case of other countries, which again incurred dollar denominated debts since 2009.

Why did it happen? While you know, probably low interest rates engineered by the Federal Reserve greatly contributed to higher debt levels. Low interest rates, low prices increase demand. This assumption was something to be expected.

Do you think it also has to do with the scale of mega-projects, which require so much financial backing?

This is definitely one of the contributing factors. You need much more capital to make things happen in the industry.

If you look at the scope of the projects in Brazilian offshore formations, if you look at the scale of developments taking place in many places, many locations outside the US, including Australia, West Africa, it all translates into much higher levels of capital required to make those projects materialize.

I wanted to get a bit into the regulation question. Why is the US further ahead in its regulatory arena than Europe and can Europe learn something?

In the US it was easier to bring about changes in the
regulatory framework of the financial industry sooner than in Europe because we have a different political system. In our political system, the party with a majority in the house and in the Senate has to agree on the desire/direction of regulatory changes.

In Europe, we deal with 28 countries which have to agree jointly on the required changes and also the nature of the processes is much different. In the US, all the documents are in one language, and here we are talking about translating every document into different languages.

It takes time to review all those documents given the number of different countries which are involved. Some of them do not have the machinery in place to process the information and provide feedback and some countries have different interests and some countries might be interested in accelerating regulatory changes, some countries may be more interested in slowing them down. It takes time to achieve consensus.

In the US, as difficult as the current political environment is, it is still much easier than it is in Europe.

The Dodd-Frank regulatory document is nearly 2,000 pages long, but in Europe there are so many more documents. Is it more complicated in Europe, the whole regulatory construction, or does it just appear that way?

It may appear that way, because Dodd-Frank is close to 2,000 pages long and this means that it is just too long.

The Glass–Steagall Act, the act which changed/reformed the financial system in the US, was probably 30–40 pages long. Dodd-Frank is probably 1,800 pages long but it is not the end of the process because there are many specific detailed regulations which are produced jointly by the SCC (State Corporate Commission) and the CFTC (Commodity Futures Trading Commission) and those documents probably go into thousands and thousands of pages and are very detailed, very technical and also in many cases are contested in courts.

This means the final system, which is defined by all those documents, all those acts of Congress and documents’ specific regulations produced by federal agencies, is also very complicated.

And in Europe they seem to have different documents for different, more specific areas. My question is also how can these two trading areas work together when they have different regulatory systems and how will that work with other parts of the world that maybe have none at all?

There will be sooner or later the synchronization of rules across the Atlantic Ocean. It is impossible to operate in global markets with fragmented and conflicting regulation.

So synchronization will happen, but again it will take time because in Europe promulgation of any acts and coordination of legislation in the member countries will take much longer. But it eventually will happen because the market will not function without synchronization.

So the process is still at the beginning, not even at the middle?

That is right. It is a great opportunity for those who can provide necessary expertise and can translate all those acts and regulations into plain English or many other languages spoken in the EU.

There is still a lot of concern about the development of the regulatory arena here in Europe and I have heard it said that speculation is the other side of the coin of liquidity. Do you think that these fears are founded?

There is discussion/controversy related to the distinction between speculation and liquidity. I think that in certain markets speculators are really necessary to provide the required liquidity.
Some markets are balanced in the sense that you have balanced forces on both sides of the market. You have balance between natural longs and natural shorts. In certain markets you have more natural shorts than natural longs. For example, in the oil market you have more pressure on the short side. You have more potential sellers than you have potential buyers.

So for the market to balance, the speculators have to step in and provide the necessary liquidity and facilitate hedging for the producers.

Do you see anything in particular in what is happening in the European arena right now that may have an effect on the oil markets specifically or have a specific effect on the oil market and trading?

The geopolitical situation in Europe is definitely one that can affect the markets. There are several issues in Europe right now unfortunately.

Has regulation changed the bilateral makeup of trade? Is there more bilateral trade going on than prior to the regulatory changes?

That is correct. One of the objectives of the regulatory changes both in Europe and the US was to move trading towards exchanges or special trading venues, which in the case of the US are called SEFS, or swap exchange facilities.

This was a solution which was adopted following the financial crisis of 2008–09 and this solution was to a large extent prompted by the developments in the credit default swap markets which were OTC (over-the-counter), which allowed certain companies to acquire certain positions not supported by their balance sheets and led to very serious problems for the financial markets.

Of course, in the case of the energy markets, which do not represent systemic risk, this was not really necessary. But the regulations are written in the same way and using the same language for every market participant, so many energy traders are complaining that they are paying for the sins of others, that they have to comply with regulatory changes which were prompted by developments outside their market.

The energy traders in Houston or in Calgary will say we didn't cause the financial crisis but now we are paying the price of it.
Vienna hosts world’s largest multi-disciplinary geoscience event

More than 5,500 geoscientists from around the globe attended the 78th Conference and Exhibition of the European Association of Geoscientists and Engineers (EAGE) in Vienna from May 30–June 2, 2016.

Held at the Reed Messe Centre in the Austrian capital, the event has grown to become the largest and most comprehensive multi-disciplinary geoscience gathering of its kind in the world.

Meeting challenges

The theme of this year’s event was ‘Efficient use of technology — unlocking potential’, which was deemed particularly relevant.

It invited participants to discuss ways to meet the challenges of the low oil price environment and its impact on the oil and gas upstream sector worldwide.

Topics addressed included how the oil and gas industry could make sure it attracted the right talent; how it could ensure technologies were applied consistently and to the needs of the oil and gas industry; and what role the service industry played when it came to hiring young people.

Delegates were asked such questions as whether the oil and gas industry should employ more experts from other industries and whether the industry offered youngsters enough challenging work and careers.

Guest speakers included Amal Alawami, Upstream Oil Industry Analyst in the Energy Studies Department at the OPEC Secretariat, taking part in the opening panel debate.

She was joined on an opening debate panel by Christopher Veit and Linda Lerchbaumer, both of OMV Upstream; Wilfried Eichlseder from Montanuniversität Leoben; Jon Erik Reinhardsen of Petroleum Geo-Services (PGS); and Tristan Aspray from ExxonMobil.

The topic of the panel was ‘Technology quo vadis — the young generation in the oil and gas business’. It was moderated by Johannes Benigni of JBC Energy.
In her comments, Mrs Alawami said the subject of the debate was a topic of vital importance “to all of us in the industry.”

She stated: “It goes without saying that this is even more so for OPEC Member Countries, whose continued success as exporters is highly contingent upon how well they tackle the human resource side of the equation.

“There is no doubt that we still have a long way to go yet but I would like to take this opportunity to highlight some of the unique and common characteristics which differentiate these young, developing countries from the rest of the major players in the oil industry.”

**Aspiring young**

Mrs Alawami said that, generally speaking, the young people in these countries looked up to the oil industry and aspired to be part of it. They were also the majority of the population.

“The oil and gas sector is the backbone of the country’s economy and supporting it feels almost like a national duty to most of the citizens of these countries,” she maintained.

Mrs Alawami stipulated that tailored government scholarship programmes were one of the development pillars in many of these countries and the oil sector usually was number one choice for the top high school students.

“In other words, for OPEC Member Countries, the issue is not in attracting, retaining and challenging their local young talent, but rather to be ready to channel and accommodate their ever-increasing numbers,” she asserted.

“Having said that,” continued Mrs Alawami, “let me also emphasize the fact that OPEC Member Countries are not completely isolated from the human resource issues facing the global energy market.

“In addition to the local workforce, OPEC Member Countries are to a large degree still dependent on expatriates and international oil companies for some of the basic functions in their everyday operations — meaning that this debate is equally relevant to them,” she observed.

The Vienna EAGE event also included a large conference — in total over 1,000 technical oral and poster presentations — and workshops, short courses, field trips and a technical exhibition presenting the latest developments in geophysics, geology and reservoir/petroleum engineering.

Some 300 exhibitors showcased their products and services over a 17,000 square metre display area.

EAGE, founded in 1951, provides a global network of commercial and academic professionals. It has a worldwide membership of around 19,000 and is truly multi-disciplinary and international in form and pursuits.

**Two divisions**

All members of EAGE are professionally involved in (or studying) geophysics, petroleum exploration, geology, reservoir engineering, mining and civil engineering.

The Association operates two divisions — the Oil and Gas Geoscience Division and the Near Surface Geoscience Division.

EAGE’s head office is located in the Netherlands with regional offices in Houten (Europe), Moscow (Russia and the CIS), Dubai (Middle East), Kuala Lumpur (Asia Pacific) and Bogota (Latin America).
Reports highlight challenges facing oil industry

Capex cuts lead to lowest oil discoveries in over 60 years

Two separate yet connected reports have shown some of the major challenges facing the modern-day international oil industry since the price of crude fell sharply some two years ago.

A study by advisory firm Deloitte has shown that capital spending in the global oil and gas sector has fallen so sharply during the price downturn that the future reserve base for petroleum has been put at risk.

Quoted by Energy Intelligence, the report disclosed that producers outside the Middle East and North Africa (MENA) region cut capital expenditure (capex) by 25 per cent in 2015 and were expected to see a further 27 per cent decline this year. In 2017, Deloitte forecast capex to remain flat.

“These cuts have reduced spending to below the minimum required levels to offset resource depletion, let alone meet any expected growth,” the report warned.

Deloitte maintained that the upstream oil sector needed to spend around $500 billion annually just to keep production flat. That level of investment was hit in 2015, but capex this year was trending closer to $375bn.

Spending levels

The study noted that even with cost deflation and other savings allowing producers to do more with less money, Deloitte analysts found the current spending levels to be grossly insufficient.

But it added that raising investment would be no easy task, even if crude oil prices avoided falling below their current levels near $50/barrel.

Deloitte said one obstacle was debt. It claimed that publicly listed independent producers, majors and national oil companies held a combined $590bn of debt that would mature by 2020 — and this sum accounted for just half of their overall borrowings.

Another problem, it said, was payouts to shareholders, be they dividends or profit-sharing duties paid to governments. Both resource-rich national oil companies and international oil firms had shareholders that had grown accustomed to receiving these stable sources of income, making such payouts a priority over capex and debt repayment.

A third consideration, observed Deloitte, was the nature of the industry’s reserves base itself.

The recent flurry of liquefied natural gas (LNG) development start-ups, as well as a shift in investment toward more lucrative oil, had pushed the global natural gas reserves life to 54 years — a 25-year low.

Deloitte argued that maintaining this reserves life was a “minimum requirement” for the industry.

On the oil side, it said, the lifespan of global reserves was near three-decade highs — at 52.5 years. To meet Deloitte’s oil and gas reserves replacement benchmarks, the upstream sector would have to invest roughly $3 trillion over the next five years, or $600bn annually.

The report said that if companies invested too little and began to run down their lowest-cost reserves, the industry would start the next decade with a higher-risk, lower-quality reserves base.

If the industry generally prioritized development
spending over exploration spending — as it had done in the past two years — near-term cash flows would increase. But again, the future resource base would be skewed toward higher-cost, higher-risk reserves, Deloitte argued.

At the same time, it continued, if the pendulum swung too far from development to exploration spending, the amount of spare production capacity in the system could leave the industry “highly vulnerable to ‘black swan’ events.”

Meanwhile, analysts Morgan Stanley have announced that oil discoveries in 2015 fell to their lowest level since 1952 as energy companies drastically cut exploration budgets following the oil price fall, creating a gap for meeting future demand.

**Lower discoveries**

Quoting figures from consultancy Rystad Energy, Morgan Stanley said the oil and gas industry discovered 2.8bn barrels of oil outside the United States last year, the equivalent of one month of global consumption.

The report, quoted by the Reuters news service, said that including the US, where the rapid expansion of the onshore shale industry had unlocked major resources over the past decade, global discoveries rose to the 12.1bn figure — but still the lowest since 1952, when the oil industry was one-seventh of its current size.

According to Morgan Stanley, the sharp drop in oil prices over the past two years had led companies, including ExxonMobil and Royal Dutch Shell, to sharply reduce budgets, particularly for exploration, where spending fell in 2015 to around $95bn from $168bn two years earlier.

However, it said that a big increase in new oil fields in recent years and the ramp up of Iran’s crude production following the lifting of international sanctions on the OPEC Member Country, meant that, in the short term, the impact of the low exploration record would be limited.

But Morgan Stanley added that even under the most modest demand forecasts, spurred by a drive to limit global warming to 2°C Celsius, where consumption was forecast to decline to around 86 million barrels/day in 2030, only around two-thirds of the demand could be met by currently producing fields or resources under development.

“The return on exploration dollars spent has clearly deteriorated in recent years.”
Era of Algerian petroleum output stagnation over — Sonatrach CEO

After years of stagnation, Algeria’s petroleum production is heading towards new growth, according to the country’s national energy company, Sonatrach.

“The era of stagnation is behind us and we are now in a phase of growth,” Sonatrach Chief Executive Officer, Amine Mazouzi, told newsmen, in presenting the company’s annual report.

The OPEC Member Country’s production expansion is being helped by increased output at existing fields.

A Sonatrach report quoted by the Reuters news agency revealed that Algeria’s oil output was forecast to reach 69 million tonnes of oil equivalent in 2016, as against 67m toe last year.

Gas output rise

At the same time, domestic gas production was slated to rise to 132.2 billion cubic meters (bcm) in 2016 from 128.3 bcm in 2015 and 130.9 bcm in 2014.

The report said Sonatrach had invested to stabilize and increase production at its large, mature fields and expected to bring five new gas fields online in the south of the country over the next few years.

It forecast that gas output would reach 141.3 bcm in 2017, 143.9 bcm in 2018, 150 bcm in 2019 and 165 bcm in 2020.

Similarly, oil production would reach 75m toe in 2017 and 2018, 77m toe in 2019 and 82m toe in 2020.

Reuters quoted Sonatrach as saying that Italy’s Eni had almost doubled its imports of gas from Algeria to 11.5 bcm in 2015, compared with only 6.0 bcm in 2014.

Around 30 international companies are present in Algeria’s oil and gas market, including Eni, Anadarko, BP, Cepsa, Shell, Statoil and Sinopec.

Concerning unconventional sources of oil, such as shale gas, Mazouzi told reporters that exploration would remain at a research and development stage, saying its development was “not on the agenda at the moment.”

Sonatrach’s Vice President, Akli Remini, also told the press conference the construction of three new domestic refineries at Tiaret, Biskra and Hassi Messaoud would allow Algeria to become a net exporter of petroleum products.

In this regard, earlier this year Sonatrach awarded a front-end engineering and design contract to Amec Foster Wheeler.

Aiming for self-sufficiency

Remini pointed out that product imports cost Algeria $3.5 billion in 2014 and $2bn in 2015. The aim was for Algeria to become self-sufficient in petroleum product output by 2019.

Meanwhile, energy companies and Algerian and European Union officials held their first energy summit in Algiers towards the end of May to explore ways Algeria can adapt to more competitive markets and attract the investment needed to pump more gas.

Algeria is the EU’s third-largest gas supplier behind Russia and Norway, yet its export capacity through three pipelines, as well as liquefied natural gas (LNG) shipments across the Mediterranean Sea, is currently underused. The North African country is considered a natural partner for the EU as it looks to diversify its energy supplies.

“Algeria needs to bring in more investment if it is to maintain its exports to the EU in the long term,” EU Climate and Energy Commissioner, Miguel Arias Canete, was quoted by Reuters as telling a business forum in the Algerian capital. “If this continues in the long term, then Algeria’s position as a key supplier may be compromised,” he stressed.

Algeria’s long-term gas contracts to Europe are due to expire through 2021 and European companies are looking for more flexible contracts given the more competitive gas market.

Executives from major European firms at the forum, including Spain’s Repsol, Eni, and Norway’s Statoil, acknowledged that Algeria was a key supplier.

“We are listening to investors to remove any constraints they face and, if necessary, to make improvements in this,” then Algerian Energy Minister, Dr Salah Khebri, said.
Indonesia looking to LNG future with Tangguh expansion, new infrastructure

The Indonesian government, with its gas future firmly in focus, has set itself the target of building five more floating storage and regasification units (FSRU) for liquefied natural gas (LNG) in 2017. Data from the Energy and Mineral Resources Ministry showed that two FSRUs have been built in West Java and Lampung provinces. The number of FSRUs is expected to increase to eight by 2018 and to nine by 2020.

The government also intends to build 24 land-based regasification units in 2017. The number is expected to increase to 46 in 2018, 62 in 2019 and to 64 in 2020.

Sujatmiko, Head of the Public Communication Centre at the Energy and Mineral Resources Ministry, said the government was planning to build as much gas infrastructure as possible in anticipation of an increase in the use of clean energy. “Looking ahead, Indonesia will consume much larger quantities of natural gas due to its declining oil output,” he was quoted by the Antara news agency as saying.

Global LNG demand

Data from the Upstream Oil and Gas Regulatory Special Task Force (SKK Migas) has pointed to the fact that the OPEC Member Country’s crude oil output was expected to fall over the next four years, while gas production was expected to remain stable.

The move comes at a time that growing global demand for LNG is prompting companies involved in Indonesia’s Tangguh LNG project to increase production by up to 50 per cent to 11 million tons a year by 2020. Key concession holders in the scheme include Mitsubishi and other Japanese companies, including Inpex, JX Nippon Oil & Gas Exploration, Sojitz, as well as the United Kingdom’s BP.

BP has just submitted its final investment development decision to expand the Tangguh facility to a third production train. The project, located in West Papua, which started production in 2009, currently has two liquefaction trains.

According to a statement from BP, released by the Indonesia Investments Service, the decision will create 10,000 new jobs, boost the local economy in West Papua and contribute to meeting Indonesia’s energy needs. Construction is scheduled to start in the fourth quarter of 2016 and is targeted to be completed by 2020.

Train three is designed to add 3.8 million tons per annum (tpa) of production capacity to the existing facility. After completion, the plant’s total capacity will reach 11.4m tpa.

BP disclosed that the expansion project will include two offshore platforms, 13 new production wells, an expanded LNG loading facility, as well as additional supporting infrastructure.

Construction of the third train is now estimated to require investment of around $8 billion. This has been brought down from the initial figure of $12bn following the implementation of cost-cutting measures, due to the oil price decline.

Indonesia’s state-owned electricity company, Perusahaan Listrik Negara (PLN), is the largest buyer of the Tangguh expansion project’s output. It will take 75 per cent of LNG produced by the new train.

The remaining output of the additional facility will be sold to the Japan-based Kansai Electric Power Company.

PLN foresees over 100 new power plants being built in Indonesia and will itself invest in 35 plants with total capacity of 10.6 gigawatts. The rest are to be provided by independent power producers.

PLN is projecting its gas demand will more than double from an estimated 1.5 billion cubic feet per day in 2016 to about 3.6bn cu ft/d in 2025.

In April this year, PLN and BP signed a long-term contract under which the UK firm will supply the utility with LNG until 2033.

Indonesian authorities have warmly welcomed the news that BP has submitted its final investment development decision for Tangguh train three.

Sudirman Said, Minister of Energy and Mineral Resources, said the expansion project is a key scheme for Indonesia as the nation is in need of energy.

Recently, the government announced its ambitious 35,000 megawatt programme (aiming to add 35,000 MW to the nation’s power capacity by 2020).

The Tangguh LNG facility is located in Teluk Bintuni Regency. It currently still consists of offshore gas production facilities that supply two 3.8m tpa liquefaction trains.

The project is operated by BP Berau Ltd on behalf of the other production-sharing contract partners. BP Berau and its affiliates in Indonesia hold a 37.16 per cent stake in the project, followed by MI Berau BV (16.30 per cent), CNOOC Muturi Ltd (13.90 per cent), Nippon Oil Exploration (Beru) Ltd (12.23 per cent), KG Berau Petroleum Ltd and KG Wiriagar Petroleum Ltd (10 per cent), Indonesia Natural Gas Resources Muturi Incorporated (7.35 per cent), and Talisman Wiriagar Overseas Ltd (3.06 per cent).
Nigeria signs oil, gas agreements with China worth $80 billion

Nigeria has reached agreement with companies in China for infrastructure spending in the OPEC Member Country’s domestic petroleum sector to the total tune of $80 billion.

According to the Nigerian National Petroleum Corporation (NNPC), the China road show was “the first of many investor road shows intended for the raising of funds” to support the country’s oil and gas infrastructure development plans.”

The China investment promise follows a visit to the country towards the end of June by a delegation headed by Dr Emmanuel Ibe Kachikwu, Minister of State for Petroleum Resources, who is also Chairman of the NNPC Board of Directors.

“Memorandum of understandings (MoUs) worth over $80bn to be spent on investments in oil and gas infrastructure, pipelines, refineries, power, facility refurbishments and upstream have been signed with Chinese companies,” the NNPC statement disclosed.

The Corporation revealed that some 38 Chinese companies were involved in the agreements, including Sinopec.

**Overseas investment**

Under a new thrust instigated by Nigerian President, Muhammadu Buhari, the country is looking to secure overseas investment to revamp its petroleum operations and boost production.

It is also looking to improve output and efficiency from its four domestic refineries, which have run well below capacity for years, prompting the need for a growing amount of supplies of oil products to be imported.

The Nigerian President first turned to China for support during a visit to the country in April this year, during which time he secured $6bn in loan commitments for infrastructure requirements and agreed a currency-swap deal.

Buhari, who took office last year, has pledged to overhaul the NNPC and reform Nigeria’s oil industry.

He recently appointed a new Board of Directors at the NNPC, installing Dr Maikanti Kacalla Baru as Group Managing Director. He takes over the position from Kachikwu, who remains Board Chairman.

Baru was previously NNPC Group Executive Director for Exploration and Production.

The President’s spokesman, Femi Adesina, was quoted as saying: “President Buhari urges the new Board to ensure the successful delivery of the mandate of the NNPC and serve the nation by upholding the public trust placed on them in managing this critical national asset.”
Total takes 30 per cent stake in Qatar’s largest oil field

French oil major, Total, has beaten several other international oil firms to acquire a 30 per cent interest in a new 25-year contract to operate Qatar’s Al-Shaheen oil field, the country’s largest field.

Qatar Petroleum (QP), the country’s national oil concern, will hold the remaining 70 per cent share in the new joint venture.

The Al-Shaheen field, located 80 kilometres off Qatar’s coast, currently has production of around 300,000 barrels/day.

Six international oil companies, including BP and Royal Dutch Shell, expressed an interest in acquiring the operatorship of the new concession. Denmark’s A P Moller-Maersk has been operating the oil field since 1992.

According to a report carried by the Reuters news service, it was expected that Maersk would see its licence for the production agreement renewed when the term expired in 2017. But Qatar decided on putting the contract out to tender. Maersk submitted a new bid for the field but Total subsequently made the best offer.

Total spending

“Total was the best bidder. We are happy to see Total win that process,” Saad Al-Kaabi, QP Chief Executive Officer, said at a news conference in the capital.

His counterpart at the French firm, Patrick Pouyanne, told newsmen that Total planned to invest more than $2 billion in developing the Al-Shaheen oil field over a five-year period.

“We have a plan to invest for five years — 2017–22 — more than $2bn in that field in order to integrate technology,” he informed.

“Our first objective is to maintain (the current output of) 300,000 b/d. Currently that is not a given as there is a natural decline (in production) as it is a complex field,” he affirmed.

“If we have opportunities to increase production we will, there are parts of the field which have not been developed,” he was quoted as saying by Reuters.

Total will take over the operation of the field on July 14, 2017. Al-Kaabi disclosed that a new company — the North Oil Company — would be established to manage the joint venture.

The agreement for Total comes at an opportune time when all oil majors have been struggling with investment opportunities due to the fall in international crude oil prices.

Al-Kaabi issued an assurance that said all of Maersk Oil’s employees in Qatar would be guaranteed a job in the new company created for the joint venture.
Saudi Arabia’s Minister of Energy, Industry and Mineral Resources has called upon the international community to work together to maintain a sufficient and reliable supply of energy while reducing emissions causing greenhouse gases to “the lowest possible level.”

Khalid A Al-Falih said the relevant parties should also address together the challenges faced by the international community in order to balance the goals of economy, energy and environment.

Al-Falih, who was in Beijing, China, to attend the ministerial meeting of the energy ministers of the Group of 20 (G20) developing countries, highlighted Saudi Arabia’s efforts to promote preservation of the environment.

“The international community must work towards ensuring that all the world’s population, which is growing, obtain clean energy. Therefore, the world will still need to use all forms of energy to meet this growing demand,” he was quoted as saying by the Saudi Gazette.

“In the light of various technical and economic challenges faced by the energy alternatives, we have to realize that fossil fuels will remain the main core to meet the global demand for energy for the coming decades,” he maintained.

The Minister provided a plan based on five areas to meet global goals in the fields of economy, energy and environment, combining investment, technology, energy efficiency, clean natural gas and renewable energy.

“This plan aims to obtain an adequate supply of energy. We have to facilitate investments in all energy sources, without discrimination, including investments in technology to make all energy sources environmentally friendly,” he professes.

“Innovation and technology must be strategic pillars to reduce the environmental impacts of the energy usage, as well as focusing on energy efficiency. We have to take advantage of cleaner natural gas in order to achieve a significant reduction in carbon emissions,” affirmed Al-Falih.

The Minister stressed that the international community should develop a policy based on voluntary participation and contributions of all states within a framework of achieving the fundamental goals of economic growth and environmental sustainability.

Khalid A Al-Falih.

He also highlighted the Kingdom’s energy policy ensuring its continuation in supplying the global markets with energy.

The Kingdom, said Al-Falih, was also concentrating its efforts in the field of developing energy to obtain cleaner gas. It applied an ambitious programme regarding efficiency of energy consumption in the Kingdom in the fields of transportation, housing and commercial buildings and industrial areas in order to reduce the intensity of energy consumption.

He pointed out that the Kingdom also planned to pump more investments into renewable energy, particularly in the field of solar power.

Al-Falih also held a number of bilateral meetings with heads of delegations participating in the G20 meeting, including China, the United States, Italy, Japan, the United Kingdom and Germany.

Following his talks with Chinese officials, his Ministry issued a press release stating that Al-Falih had found mutual interests in the areas of crude oil storage, logistics, infrastructure, industrial development, mining, technology, energy, renewables and sovereign wealth funds.

Al-Falih said he had told Chinese Vice Premier, Zhang Gaoli, that the Kingdom was “very keen to elevate their partnership in the energy sector to the highest level.”

He added that he hoped agreements could be signed during Deputy Crown Prince Mohammed bin Salman’s visit to China later this year.

Al-Falih was quoted as saying that he hoped Saudi Arabia would eventually invest in all of China’s provinces and become an integral part of the Chinese community.

Said the press release: “I truly think that our two nations have the potential to substantially grow in the energy trade and other key business sectors, including petrochemicals.”

While in China, Al-Falih also met with Nur Bekri, China’s Minister of the National Energy Administration (NEA).

The two discussed broad energy-related topics, including collaboration in the areas of oil storage, downstream sector, power generation, solar manufacturing, joint research and development, petrochemicals and renewables, according to the statement.
Algeria appoints new Energy Minister

*Noureddine Boutarfa* has been appointed new Algerian Minister of Energy, succeeding Dr Salah Khebri.

Boutarfa attained an Engineering Degree at the Algerian Petroleum Institute and a BSc in Physics from the University of Algiers, Algeria.

He also has a Diploma in Gas Turbines, from Essen, Germany; a Diploma in Strategic Planning, from CFC, Montreal, Canada; and a Diploma in Energy Economics and Policy, from the Institut d’Économie et de Politique de l’Énergie, Grenoble, France.

In addition, Boutarfa holds a Doctor Honoris Causa from the École Nationale Polytechnique.

In his working career, he joined Algeria’s Sonelgaz in 1974, where he spent the greater part of his career, rising to the positions of Director of Economic Studies and Director of Engineering.

In 2001, he was named Chairman and Chief Executive Officer of the Algerian Energy Company (AEC), which specializes in development projects, in particular, electricity generation and sea-water desalination.

Since 2004 he has been serving as Chairman and CEO of the Sonelgaz Group.

Boutarfa is a former Member of the Board of the national energy company, Sonatrach, the Algerian Insurance Company, the Algerian Credit Bank, Algeria Telecom, and the Industrial Group Elec.

He was appointed Minister of Energy in June.
Angola, Iran, Nigeria appoint new national oil company heads

Three OPEC Member Countries — Angola, Iran and Nigeria — have recently seen new heads appointed at their respective national oil companies.

Angola

In Angola, businesswoman and investor, Isabel Dos Santos, has been appointed Chief Executive Officer of Sonangol.

The eldest daughter of Angola’s longstanding President, Dr Jose Eduardo Dos Santos, who has ruled the country since 1979, Mrs Dos Santos told reporters after being sworn in that she was looking to divide the national oil company into three units — for operations, logistics and concessions to international oil companies.

In pledging to improve transparency at the company, she said: “Our objective is to increase the revenue, efficiency and transparency of the company.”

Mrs Dos Santos was quoted by the Reuters news service as saying: “We want to implement governance rules similar to the international standards.”

She revealed that she was also looking into the possibility of developing a domestic oil refinery to reduce Angola’s need to import nearly all its diesel and gasoline.

The 43-year-old businesswoman, who holds a Bachelor of Arts Degree in Electrical Engineering from King’s College, London, is a renowned investor in various Angolan and Portuguese telecoms, banking, media and energy companies.

In 1997, at the age of 24, she started her first business by opening the Miami Beach Club, one of the first night clubs and beach restaurants on Luanda Island.

Over a two-decade period, she expanded her business interests and this led her to creating several holdings, in Angola and mostly abroad. Since 2008, she has had relevant interests in telecommunications, media, retail, finance and the energy industry, both in Angola and in Portugal.

In December 2014, the Togolese magazine Africa Top Success named Mrs Dos Santos as ‘African of the Year’, while in November last year the BBC listed her as one of the 100 most influential women in the world. She was chosen for her leading role in the economy and development of the African continent.
**IR Iran**

In Iran, the country’s Minister of Petroleum, Eng Bijan Namdar Zangeneh, has appointed Ali Kardor as Managing Director of the National Iranian Oil Company (NIOC) for a two-year term.

He replaces Rokneddin Javadi, who had held the post since 2013 and has been made Deputy Petroleum Minister for Supervising Hydrocarbon Resources.

Following his appointment, Kardor, who was the NIOC’s Deputy Managing Director for Investment and Finance Affairs, was quoted by the Islamic Republic News Agency (IRNA) as saying that development of the country’s joint oil and gas fields was top on the company’s agenda.

“We intend to go on with our development projects in the post-JCPOA era,” he said, referring to the nuclear deal reached between Iran and world powers, also known as the Joint Comprehensive Plan of Action.

The completion of the giant South Pars gas projects, as well as schemes in the West Karoun oil fields, were among the special priorities of the new management, he outlined.

Kardor called for the use of all the nation’s capacities for increasing domestic oil and gas production.

He was subsequently quoted by the SHANA news service as saying that Iran was planning to bring its crude oil output up to four million barrels/day in the first half of the current Iranian calendar year, which began on March 20.

Kardor hailed the achievements made in increasing the domestic production and export of oil and its products after the nuclear deal was reached between Iran and the G5+1 countries.

He urged all staff and officials in the NIOC to do their best to help the company achieve the position it deserved in the world.

Speaking to the Iran Daily, he elaborated on the NIOC’s opportunities and challenges in the post-sanctions period, pointing out that removal of the international economic and trade sanctions on the country had opened up pathways to Iran’s access to international financial systems and institutions.

Kardor stressed that the transfer of technology was now “the main principle” of the Iranian oil industry, in keeping with the upcoming introduction of the industry’s new oil contract model.

Iran’s new oil and gas contracts are seen as the cornerstone of the country’s plans to boost its crude production capacity to the pre-sanctions level of 4m b/d. Sources estimate that the country will need $200 billion in investment to attain that goal.

Kardor explained that the principle emphasized in the contract model concerned the need for the transfer of technology. “The companies willing cooperation with the NIOC in the upstream sector are expected to take this important point into consideration,” he said.

He added that there were three layers for the transfer of technology: firstly, the exploration, production and storage tank engineering activities; secondly, transfer of technology to the Iranian oil service companies; and thirdly, transfer of technology for manufacturing equipment in partnership with Iranian manufacturers.

Kardor said the selection of Iranian partners by foreign companies would be in line with the goal to prepare the ground for the transfer of technology.

The NIOC, a government-owned corporation under the direction of Iran’s Petroleum Ministry, is an oil and natural gas producer and distributor headquartered in Tehran. It was established in 1948.

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**Nigeria**

In Nigeria, President Muhammadu Buhari has appointed Dr Maikanti Kacalla Baru as Group Managing Director of the Nigerian National Petroleum Corporation (NNPC).

He takes over the reins from Minister of State for Petroleum Resources, Dr Emmanuel Ibe Kachikwu, who will remain on the Corporation’s Board as Chairman.

Baru was previously NNPC Group Executive Director for Exploration and Production.

The move forms part of President Buhari’s appointment of a new Board of Directors at the NNPC.

The President’s spokesman, Femi Adesina, said: “President Buhari urges the new Board to ensure the successful delivery of the mandate of the NNPC and serve the nation by upholding the public trust placed on them in managing this critical national asset.”

Baru’s previous roles at the state oil company include a six-year stint, from 1993 to 1999, as an executive at the National Petroleum Investment Management Services (NAPIMS), an NNPC subsidiary, where he worked on gas-related projects. He was also Head of the Nigerian Gas Company.

Other new appointments to the NNPC Board include Abba Kyari, President Buhari’s Chief of Staff; Mahmoud Itsa Dutse, Permanent Secretary at the Ministry of Finance; Thomas John, another former NNPC head; Pius Akinyelure, an industrialist, and Taju Umar, the former head of the Nigeria Sao Tome and Principe Joint Development Authority.
In the course of his official duties, OPEC Secretary General, Abdalla Salem El-Badri, visits, receives and holds talks with numerous dignitaries. 

This section is dedicated to capturing those visits in pictures.

**May 10**

University Professor Dipl Ing Herbert Hofstätter from the Montan University Leoben, visited Abdalla Salem El-Badri, OPEC Secretary General.

**May 20**

Zhongjun Shi, the newly appointed Ambassador and Permanent Representative of the People’s Republic of China to the United Nations in Vienna, visited Abdalla Salem El-Badri, OPEC Secretary General.

**May 30**

Ambassador Friedrich Däuble, German Permanent Representative to the International Organizations in Vienna, visited Abdalla Salem El-Badri, OPEC Secretary General.

**May 31**

Khalid A Al-Falih, Minister of Energy, Industry & Mineral Resources of Saudi Arabia, visited Abdalla Salem El-Badri, OPEC Secretary General.
Univ Prof MMag Dr August Reinisch, from the University of Vienna, visited Abdalla Salem El-Badri, OPEC Secretary General.

Christine Lagarde, Managing Director of the International Monetary Fund (IMF), visited Abdalla Salem El-Badri, OPEC Secretary General.

Spencer Dale, Group Chief Economist, BP, visited Abdalla Salem El-Badri, OPEC Secretary General.
June 30

Etienne Dieudonné Ngoubou, Minister of Petroleum and Hydrocarbons of Gabon, visited Abdalla Salem El-Badri, OPEC Secretary General.

July 11

Dr Robert Kobau, Managing Director at the World Energy Council Austria, visited Abdalla Salem El-Badri, OPEC Secretary General.

July 20

Dr Barbara Kappel, Member of the Europe of Nations and Freedom Group at the European Parliament, visited Abdalla Salem El-Badri, OPEC Secretary General.
OPEC Research Division Director leaves Organization

The Director of OPEC’s Research Division, Dr Omar S Abdul-Hamid, has left the Organization to return to his native country, Saudi Arabia.

As Research Division Director, Abdul-Hamid was responsible for leading the formulation and overseeing the execution of OPEC’s strategic and annual research programmes, aimed at addressing the changing global environment and emerging challenges in the world oil and energy markets, especially those likely to impact OPEC and the interests of its Member Countries.

The Research Division, based at the OPEC Secretariat in Vienna, Austria, is responsible for a continuous programme of research, designed to meet the requirements of the Organization and its 14 Member Countries, with particular emphasis on energy and related matters.

The Division encompasses three Departments — Data Services, Energy Studies, and Petroleum Studies.

The Director has the responsibility to provide guidance for the Division in the overall framework of the Secretariat’s strategy and policy, planning, directing and coordinating the research activities of the three Departments.

Of particular importance to the Organization’s research undertaking, the Director is responsible for overseeing the preparation of short-, medium- and long-term oil and energy outlooks, on which the OPEC Conference and its Oil and Energy Ministers base their policy decisions.

Before taking up his appointment in Vienna on May 29, 2013, Abdul-Hamid was Manager of the Consulting Services Department at Saudi Aramco, the national oil company of Saudi Arabia.

Earlier in his career, he held various managerial and technical positions with the Saudi Aramco Research and Development Centre, the King Abdullah University of Science and Technology (KAUST) and in various operating facilities.

Abdul-Hamid holds a PhD in Materials Science and Engineering from the Massachusetts Institute of Technology (MIT), United States, which he attained in 1993, with a minor in Organization Studies from the Sloan School of Management.

In 2003, he successfully completed the Programme in Management Development at Harvard Business School.

Abdul-Hamid also holds a Bachelor’s degree in Chemical Engineering, which he attained in 1985 at the King Fahd University of Petroleum and Minerals, Saudi Arabia.

He graduated from Saudi Aramco’s Specialist Development Programme (SDP) as a Downstream Corrosion Control Specialist.

Abdul-Hamid, who was born in March 1963, is married with three children. He left the Organization on July 10, 2016.

*He is pictured below left at his leaving presentation with Abdalla Salem El-Badri, OPEC Secretary General.*
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

April 13
Students from the Lycée Jacques Amyot, Melun, France.

April 25
Participants of the Austrian Leadership Programme, Federal Ministry for Europe, Integration and Foreign Affairs, Vienna.

April 26
Students from the IES Abroad programme, Vienna Centre, Austria.
April 27  Another group of students from the IES Abroad programme, Vienna Centre, Austria.

April 28  Visitors from the Law Students Association ELSA-Heidelberg eV, Germany.

April 28  Students from the Faculty of Law MU, Brno, Czech Republic.

April 28  Students from the Vienna University, Vienna, Austria.
April 28  Students from the University of Applied Sciences, Stralsund, Germany.

May 6  Students from the IFP School, Rueil-Malmaison Cedex, France.

May 9  Teachers of the Political Academy of the Austrian People’s Party (ÖVP), Vienna, Austria.

May 12 Students from the University of Mainz, Germany.
May 19  Students from GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), Bonn; and ELSA Frankfurt (Main) e.V, Germany.

May 19  Students from the MBA Programme at the Michigan State University, the EU graduate school of management, USA.

May 23  Students from the University of South Carolina, Columbia, South Carolina, USA.

May 23  Students from the International Week Vienna, Austria.
Saadalla Al-Fathi seen outside the King Hussein Mosque in Jordan’s capital, Amman.
Jordan’s energy future: Aims and aspirations

The Hashemite Kingdom of Jordan, which has a strategic location at the crossroads of Asia, Africa and Europe, like other regional nations is having to satisfy a rapid rise in domestic energy consumption to help drive its economy, which is enjoying modest, yet steady growth. On a recent visit to the country, Saadallah Al Fathi, former Head of Energy Studies at the OPEC Secretariat in Vienna, and now living in the United Arab Emirates (UAE), examined the nation’s energy-producing potential. After entering into discussions with various friends living there and digesting many reports and articles, he filed this exclusive report for the OPEC Bulletin regarding aspects of life in a country that is considered among the poorest of its Arab brothers.

According to the World Bank, the population of Jordan in 2015 stood at 6.738 million, not counting more than a million refugees — especially from Syria — and emigrants from other Arab countries living there for business or to escape the violence engulfing their home countries.

Jordan’s gross domestic product (GDP) in the previous year was estimated at $35.83 billion, growing at 3.1 per cent that year. The expected growth in 2016 varies between various forecasts of 3.1 per cent to 3.7 per cent.

In the bustling capital city of Amman, one wonders how Jordan is providing all the energy to drive its economy and development when it is often described as one of the energy “have-nots” of the region and perhaps of the world.

Primary energy requirements

Energy consumption in Jordan is growing rapidly. According to International Energy Agency (IEA) statistics, total primary energy supply increased from about 2.7 million tons of oil equivalent (toe) in 1985 to 7.73m toe in 2013, whilst domestic energy supply was zero in 1985 and only grew to 0.28m toe in 2013 essentially from renewable energy and some natural gas.

Oil is the country’s main energy source and in 2013 its share was 83.3 per cent of total domestic energy needs, gas at 11.8 per cent, coal at 2.8 per cent and renewables at 2.0 per cent, including hydro.

Therefore, almost 96 per cent of energy supplies are imported and this adds a strain on the economic and financial resources of the country, which to a large extent depends on grants from Arab and other countries to support its growing needs.

In that same year, imports comprised about 6.6m toe of crude oil and oil products, 0.213m toe of coal, and 0.795m toe of gas. Gas production was only 0.111m toe, while renewables stood at just 0.145m toe.

For many years, oil and fuel oil imports came essentially from Iraq by truck from Haditha pumping station in the west of the OPEC Member Country. But lately this route became unavailable and Jordan is importing via the
Oil shale

With increasing oil consumption, coupled with the lower crude prices on world markets, Jordan began to seriously consider ways and means of reducing its dependence on oil and gas by seeking to develop its vast oil shale resources where deposits underlie more than 60 per cent of the country with an estimated resource base of 70bn tons, the fourth-largest in the world.

According to the National Energy Research Centre in Jordan, “near-surface, exploitable reserves are estimated at more than 50bn tons, with extractable crude oil equivalent of about 50bn barrels of oil.”

Not bad at face value, but a situation that requires high investment for serious development which, unfortunately, only becomes viable when oil prices are higher.

Although exploration and tests have been carried out since the 1980s, there was no oil shale industry in Jordan until 2011 when several companies considered both shale oil extraction and oil shale direct combustion for thermal power generation.

In 2017, shale oil production may reach a level of 52,000 tons annually from the country’s Attarat and Karak deposits. Development of potential shale reserves along the Jordanian-Iraqi border may also start in earnest and significant quantities may be produced as early as 2020.

According to press reports, Jordan last year signed a “$2bn agreement with the Saudi Arabian Corporation for Oil Shale, for the right to extract and develop oil shale from a 4.2 square mile area of Jordan’s Attarat Umm al-Ghudran region. The plan is to produce, by 2019, 3,000 b/d of oil from oil shale, with production rising to 30,000 b/d in 2025.

The Jordan Oil Shale Company, owned by Shell, has been appraising an area since 2013 and is conducting testing to see if the deeper layers of oil shale are suitable for the application of Shell’s ‘in situ conversion process’. If all goes well it may start production in commercial quantities in the late 2020s.

The country’s oil shale is slated to be widely used for direct burning and power generation in a 460 megawatt plant owned by an Estonian, Malaysian and a Chinese consortium. The project, located 100km southwest of Amman, including its oil shale extraction, is expected to cost $2bn.

Estonia’s use of oil shale to fuel power generation facilities goes back to 1924 and current capacity in that country is 2000 MW.

A loan from China is expected to be finalized and construction should then start. The Attarat Power Company signed a 30-year power purchase agreement — extendable to 40 years — with the National Electric Power Company (NEPCO).

The Zarqa refinery

The refinery in Zarqa was built in 1961 and expanded as demand for oil products increased. The current capacity is 90-100,000 b/d, depending on crude, with an

Tourists walk next to the pillars of the Roman Temple of Hercules at the Amman Citadel, an ancient Roman landmark in Jordan.
expansion to 130,000 b/d underway. However, in 2014 Jordan imported products — especially diesel, fuel oil and gasoline — to the tune of 73,000 b/d, while refinery production stood at about 77,000 b/d, according to OAPEC statistics.

The refinery is perhaps operating at less than distillation capacity due to limitations of its downstream units. The new expansion project may take care of this deficiency and produce better products of unleaded gasoline and diesel with less than 50 parts per million of sulphur.

The Jordan Petroleum Refinery Company is trying to obtain funds of $1.6bn for this project according to its Chief Executive Officer, Abdul Karim Alaween.

**Natural gas**

Natural gas reserves in Jordan are modest at 6.0bn cubic meters, but promising to increase. The reserves are concentrated in the Risha gas field in the east of the country close to the border with Iraq. In 2003, it produced an estimated 390m cu m of natural gas, while its current output is around 313m cu m a year, which is used to fuel a nearby power plant to generate about ten per cent of Jordan’s electricity.

To supplement its production, Jordan imported natural gas through the Arab Gas Pipeline that stretches from Al Arish in Egypt to Aqaba and then to northern Jordan to three major power stations. This supplied Jordan with approximately 1.0bn cu m of natural gas per year under a 30-year agreement with Egypt which started deliveries in August 2003.

Unfortunately, repeated attacks on the Al Arish junction from 2011 to 2014, aimed at stopping exports to Israel, and the coincidence of a production decline in Egypt, prevented further deliveries to Jordan, which was forced to burn more diesel and fuel oil in its power plants at an enormous cost of $7m a day at some point in time.

In a bid to seek alternatives to improve energy security, Jordan is about to complete a $65m liquefied natural gas (LNG) import terminal in Aqaba which will allow it to import more than 0.6bn cu m a year of LNG to cover around a quarter of its power generation fuels.

During the May 2016 Jordan Energy Summit in Amman, memoranda of understanding with Algeria and Egypt were signed for the first to deliver LNG and liquefied petroleum gas (LPG) by September and for the second to deliver pipeline gas by 2021.

**Product price reforms**

In 2012, faced with high oil prices, the Jordanian government introduced energy reforms to reduce the fiscal burden on its budget. In that year, petroleum product subsidies were 2.8 per cent of gross domestic product (GDP) and 8.8 per cent of government expenditure, amounting to 626m Jordanian dinars, or close to $900m.

For a start, the government totally eliminated the subsidies on gasoline, diesel and kerosene and partially on LPG with a view to lifting it totally in the future. In addition, fuel oil prices were also raised for use in different applications of industry, bunker and electricity...
generation, largely removing subsidies. In June 2016, the price of high sulphur fuel oil for industry and bunkers was $340.86 a ton compared to $277.27/t for the electricity generation.

Petroleum product prices now are related to international prices, plus transportation and taxes. The prices are adjusted every month, accordingly. For instance, the price of 90 octane gasoline in the month of June 2016 is equivalent to $0.79 a litre and for 95 octane $1.03 a litre, which are higher than what they are in the United States, but lower than in Europe.

Electricity subsidies are much higher than those for petroleum products. As in 2011, they were 5.5 per cent of GDP and 17 per cent of government expenditure ie almost double those of petroleum products. The government plans to eliminate these subsidies in 2017.

To lessen the burden on consumers, the government opted for a cash transfer to families earning less than 10,000 Jordanian dinars a year.

The National Energy Strategy

The need to reduce dependence on expensive oil and gas imports drove the government to draft the 2007 National Energy Strategy (NES), which presented a roadmap for Jordan’s energy development through 2020 by boosting reliance on domestic sources from four per cent then to 40 per cent by 2020. In short, it recommended the development of domestic oil shale, renewable energy and nuclear power.

The targets are indeed ambitious and it remains to be seen how much progress Jordan can achieve to meet them. In electricity generation, the NES stipulated seven per cent for renewable energy by 2015, rising to ten per cent by 2020. In the longer run, the NES adopted plans to construct two 1,000 MW reactors by 2022 and 2025 and to achieve 60 per cent of its energy needs from nuclear energy by 2035.

Obviously, electricity generation and water desalination would go hand-in-hand with the use of nuclear power.

To support the NES, Jordan passed the Renewable Energy and Energy Efficiency Law, which “aims to streamline investment procedures and paves the way for citizens to sell electricity back to the national grid.” The introduction of the concept of feed-in-tariff would go a long way to encourage private investors to perform.

The investment required to achieve the aims of the NES is estimated at $14–18bn overall — in renewables $1.4-2.1bn, in oil $3.4bn, in gas $2.4bn and in electricity
$4.8–5.8bn, according to the Brussels Invest and Export report dated August 2015. This is a big hurdle for Jordan to pass and private investment and grants would certainly be needed.

In November 2014, Jordan had 10 MW of installed power capacity from renewable energy. But there were 15 renewable energy power projects in progress and these will be completed shortly to raise installed renewable capacity to 500 MW.

In 2011, the government asked investors and specialized companies to show “expression of interest” to build 1800 MW of wind-, 600 MW of solar- and 30–50 MW of waste and biomass-fueled power plants.

The conditions regarding technologies and plant sizes were set by the Ministry of Energy and Mineral Resources and asked investors to submit competitive feed-in-tariffs. At least 2,000 MW of wind and solar power capacity are therefore expected to be operational by 2020.

Small-scale installations of renewable energy systems for houses, mosques and hospitals are also on the rise and the total installed capacity of such projects stands at 30 MW and rising.

**Solar energy**

The intensity of solar radiation in Jordan ranges between five and seven kilowatt hours per square metre, which is excellent for capturing solar energy and one of the highest in the world.

Small photovoltaic (PV) systems in rural and remote villages are already used for lighting, water pumping and other services up to 1,000 kWh of peak capacity. Similarly, about 15 per cent of all households are equipped with solar water heating systems. The NES plans for 30 per cent of all households to be equipped with such systems by 2020, in addition to providing systems for 6,000 mosques across the country.

The NES planned to install 300-600 MW of concentrated solar power (CSP), PV and hybrid systems by 2020. The first CSP demonstration project is likely to be in Aqaba, where the highest solar intensity is, with the aim of using the power for water desalination.

Shams Ma’an is a 52.2 MW PV plant already signed with a build-operate-and-maintain company under a 20-year power purchase agreement at a feed-in rate of 14.8 cents per kWh. The $150 million plant is expected to be completed this year. Later tenders found much better feed-in tariffs of six to seven cents per kWh, which are close to the world’s lowest in 2015 at 5.89 cents per kWh at the Dubai solar park.

Jordan, being responsible for supplying electric power to the Palestine West Bank, is in cooperation with the Palestinian Authority encouraging the promotion of renewables of smaller 5 MW solar power plants and adopting a net metering system, which allows consumers to produce 100 per cent of their domestic power consumption and even sell the surplus production to government networks.

**Wind energy**

The wind survey indicates that wind speed in Jordan is about 7.5 metres per second and in some regions more than 11 metres per second. This is very encouraging for power generation from wind turbines.

Current projects are modest in capacity but encouraging. The Ibrahimyah plant, located some 80 km north of Amman, consists of four 0.08 MW turbines. The Hofa plant, located around 92 km north of Amman, consists of five 0.225 MW turbines.

The Taflia Wind Farm is a 117 MW facility located 180 km southwest of Amman. This is a joint venture between InfraMed (50 per cent), Masdar of Abu Dhabi (31 per cent) and the Government of Jordan (29 per cent).
and EP Global Energy (19 per cent). Expected to cost $285m, the project was granted around $221m worth of loans from the International Finance Corporation (IFC), the European Investment Bank (EIB), the Eksport Kredit Fonden, the OPEC Fund for International Development (OFID), the Europe Arab Bank, and the Capital Bank of Jordan.

All-in-all, the government wishes to see wind power moving fast to probably reach 1,200 MW capacity by 2020.

**Nuclear energy aspirations**

Jordan’s energy ambitions do not end here. Plans are in place to construct two 1,000 MW nuclear reactors by 2022 and 2025 to add substantially to domestic electricity supply. Further aims are to get 30 per cent of Jordan’s electricity needs from nuclear energy by 2030 including for water desalination.

At first sight, Aqaba would have been the obvious location to use sea water for cooling and desalination. But due to the seismic potential and the 15 per cent additional cost due to special foundations, Jordan is considering locations northeast and southeast of Amman in Mafraq and Azraq, respectively.

In Mafraq, the plant would be using waste water from an existing power plant for cooling and in Azraq by pipelineing water from sources 70 km away. Pending the final site selection, Russia approved a draft deal to build the two reactors at an estimated cost of $10bn.

To prepare the country for such a leap forward, the Koreans were contracted in 2009 to build a five MW research reactor at Jordan University of Science and Technology. The facility has been in operation to train scientists and engineers engaged in nuclear research.

While sceptics about Jordan’s nuclear ambitions are many, the country is encouraged by the availability of at least 35,000 tons of uranium ore deposits in its lands, in addition to the quantities that can be recovered from mining and processing phosphate rock. Studies for building facilities for uranium mining and recovery are underway and the country could soon be a uranium exporter.

Jordan is negotiating with many countries and companies to fund the nuclear projects and some Arab countries have shown interest in partnering with Jordan in the uranium mining project to satisfy their own needs for nuclear fuels.

**Red Sea Dead Sea Canal**

Another energy and water-related project is the controversial Red Sea Dead Sea Canal. The aim is to save the Dead Sea from extinction by 2050. The water level there has fallen from −398 metres below sea level in 1970 to about −427 metres now or a loss of 29 metres especially generated by the reduced flow in the Jordan River on the one hand and the process of extracting minerals from the Dead Sea by using evaporation pond techniques on the other. The area of the Dead Sea is consequently reduced from more than 1,000 sq km in 1960 to 635 sq km in 2006 with the appearance of dangerous sinkholes around the shores.

The idea is to bring water from the Gulf of Aqaba by two huge pipelines, to desalinate the water at some point on the way and send the effluent on its way to the Dead Sea and generate hydroelectricity by the potential flow and the difference in elevation. The desalinated water would be piped to different consumption centres.

But the project is still doubtful due to its high capital cost — estimated at $10bn — and the high operating cost of close to $400m a year in 2020, rising to $635m in 2060. The electricity generated is not sufficient by itself for the project and other sources have to be provided using costly fuel or renewable energy.

There are also many environmental objections regarding the chemical compatibility of Red Sea water with that of the Dead Sea environment. There is also concern that leaking sea water pipelines may affect underground water resources. Environmentalists have conducted many studies and proposed viable alternatives such as the wide scale trapping of rain water, the rejuvenation of the Jordan River, conservation of water in agriculture and industry, the use of treated sewer water to the maximum extent in different applications, and so on.

There are also suggestions to improve the efficiency of mineral recovery from the Dead Sea by using other methods, such as membrane technology and discard the use of evaporation ponds. These measures are said to provide just as much water for the Dead Sea as the proposed canal will provide. Therefore, there is a long way before the argument is settled one way or the other.

**Minerals extraction**

In Jordan, minerals’ extraction and associated industries are important energy consumers and economic providers for the economy and employment.
The Arab Potash Company (APC) is the eighth-largest potash producer worldwide and the only one in the Arab countries. The firm was established in 1956 as a pan-Arab venture operating under a concession from the Government of Jordan valid until 2058.

APC is also active in other complementary industries related to Dead Sea salts and minerals, including potassium nitrate, bromine and others. It employs more than 2,200 people.

Production of potassium chloride (potash) in 2015 was 2.4m tons, compared to world production of 59.8m tons, or a share of four per cent. Only ten per cent of the product is used in Jordan for fertilizers and the rest is exported to many countries especially China, India and Malaysia.

A subsidiary of APC is the Jordan Bromine Company (JBC) established in 1999 to produce bromine and its derivatives and potassium hydroxide. APC and Albemarle Corporation of the US are joint owners of the company at 50 per cent each. The company produced 80,000 tons of bromine in 2013.

In 2013, production was close to 5.4m tons. The rock is exported to world markets but the majority is processed to diammonium phosphate fertilizer and phosphoric acid for domestic use and export.

Epilogue

When in Jordan, not many people like me would try to understand the energy situation and its prospects. They would rather enjoy the richness of fine historical places spread across the country from south to north.

Perhaps the most famous come to mind and those include the cities of Petra and Jerash, the Dead Sea, the Jordan River valley, the castles at Karak and the Islamic castle at Qasr Amra and much more.

In Amman, the Roman theatre in the centre of the city is especially beautiful and by looking at its entirely new and different surrounding one is reminded by the passage of time.

A classic, but new, architectural monument is the 5,000 worshippers’ King Abdullah Mosque with its beautiful arches and towers. Built on a hill overlooking the famous Dabooq quarter, one cannot escape the beauty of its gardens and overall layout and scenery.

Good luck to Jordan and I hope they can achieve all their aspirations in energy and otherwise.
Ministerial Council marks OFID's 40th Anniversary

Presiding over the Ministerial Council are: Abderrahmane Benkhalfa (c), Ministerial Council Chairman; Abdul Wahab Al-Bader (l), OFID Governing Board Chairman; and Suleiman J Al-Herbish (r), OFID Director-General.
In addition to its usual order of business, the 37th annual session of the OPEC Fund for International Development (OFID) Ministerial Council, held in Vienna, Austria on June 2, 2016, brought together representatives from Member Countries to celebrate the institution’s 40 years of operations.

The Council, comprising finance ministers and other high-level representatives of OFID Member Countries, is the Austrian-based institution’s supreme governing authority. It meets once a year to review performance and set policy for the coming 12 months.

**Sculpture honour**

Before the official agenda got underway, the Council gathered early in the morning with officials from the City of Vienna and other dignitaries for the unveiling of a specially commissioned sculpture, gifted by the Fund to its host city as a gesture of gratitude for its four decades of hospitality and cooperation.

The monument was unveiled by OFID Director-General, Suleiman J Al-Herbish, and Dr Andreas Mailath-Pokorny, Municipal Councilor for Culture, Science and Sports of the City of Vienna.

Speaking at the inauguration, Al-Herbish stated: “Today is a special and glorious day; an opportunity to recognize the hospitality of the City of Vienna in providing a stable, welcoming environment for our institution to carry out its noble mission.”

He went on to explain the thinking behind the monument, a 5.2 metre high bronze sculpture on a granite base. “We tried to connect the monument with OFID’s vision and mission by representing the origins and evolution of development and our focus on the Sustainable Developmental Goals (SDGs),” he said.

In his comments, Mailath-Pokorny spoke about current global affairs and how the monument symbolized the need for continued unity and development efforts.

“Vienna thanks OFID for this generous gift; we are proud and happy that the City of Vienna can host both OFID and OPEC. During these times, one recognizes that OFID’s work is valuable for global development,” he stated.

The monument, located in a small public park in front of the Vienna International Centre on Wagramerstrasse, was designed by Iraqi artist Suhail Al-Hindawi, a graduate in Fine Arts, Sculpture from Baghdad University, and a lecturer at the Fine Arts Institute in Baghdad.
Development Award winner

Back at OFID Headquarters, the Council re-elected to the Chair the People’s Democratic Republic of Algeria, represented by Abderrahmane Benkhalfa, Minister of Finance. The Republic of Ecuador was elected as Vice-chair.

The highlight of the meeting’s public session was the presentation of the OFID Annual Award for Development to Syrian refugee and shipwreck survivor, Doaa Al Zamel. The September 2014 Mediterranean tragedy claimed 500 lives.

She won the $100,000 prize, which was presented jointly by Benkhalfa, Al-Herbish, and Governing Board Chairman, Abdul Wahab Al-Bader of Kuwait.

Her selection as winner of the 2016 Award forms part of OFID’s 40th Anniversary dedication to highlighting the plight of refugees.

Ecuador earthquake

Addressing the Council, Benkhalfa opened with a minute’s silence for the victims of the recent earthquake in Member Country Ecuador.

Reflecting on OFID’s four decades at the service of development, he noted the institution’s purposeful evolution and its adherence to the principles of its establishment, including that of South-South solidarity.

The Chairman went on to review the key global events...
of 2015, which will shape the future of international development. Placing OFID in this context, he highlighted the institution’s preparedness for what lies ahead.

OFID’s strategic plan, he stated, was “both flexible and comprehensive. It is aligned with the newly approved Sustainable Development Goals and at the same time takes into consideration the present economic realities.”

**Operational review**

In the Council’s working session, Governing Board Chairman, Al-Bader, reported on the work of the Board since the last meeting of the Council in July 2015.

He disclosed that over $887 million had been approved in fresh lending for 51 projects distributed across the full range of financing mechanisms.

In his own statement to the Ministers, OFID Director-General, Al-Herbish, described OFID’s “remarkable journey” since its founding in January 1976.

The institution, he said, could look back with pride on four decades of operational success and financial growth. OFID’s greatest achievement, however, had been its transformation from an institution that followed the lead of others to one that advocated an agenda for others to follow.

“Today, OFID is deeply involved in shaping the international development agenda and we are proud to be recognized as a leader by our peers,” stated Al-Herbish.

“Nowhere is our pioneering role more apparent than in the area of energy poverty eradication,” he added, referring to OFID’s instrumental role in positioning energy access in the 2030 Agenda for Sustainable Development.

**Platform for dialogue**

The Director-General told the Council that, through the prominence gained by its advocacy efforts, OFID had become a platform for dialogue among the different stakeholders engaged in the fight to eliminate energy poverty.

“Using our links to both the development business and the energy industry, we have worked to bring both sides together,” he said, citing the recently launched Oil and Gas Industry Energy Access Platform (EAP) as a concrete outcome of these efforts.

“With the launch of the EAP, we are proud to have implemented the call of our heads of state in its entirety,” Al-Herbish affirmed, referring to the mandate handed down to OFID at the Third Summit of OPEC Heads of State and Government in Riyadh, Saudi Arabia, in November 2007.

**Corporate plan**

The Director-General went on to report on the implementation of OFID’s Corporate Plan for the period 2016–25 which has adopted as its focus the energy-water-food nexus with transportation as a fourth, enabling sector.

He pointed out: “It is worth noting that OFID’s decision to base its Corporate Plan on an integrated, holistic approach to development was envisioned prior to the approval of the SDGs in September 2015 — a clear confirmation that we are operating ahead of the curve.”

Al-Herbish concluded his statement by thanking the Ministerial Council for its support of OFID’s communication strategy, which had seen the institution dramatically increase its visibility, most notably through its social media channels.

Other matters during the session included: consideration and approval of OFID’s financial statements and Annual Report for 2015; and reports on the 20th Lending Programme and grant operations.

The next session of the OFID Ministerial Council will be held in Vienna, Austria, on July 6, 2017.
Gearing up for a new development agenda

OFID’s cumulative contribution to global development topped the $19bn mark in 2015, a year that saw fresh approvals of $1,175m and disbursements of $1,057m.

These and other figures are contained in OFID’s 2015 Annual Report, which was released on June 2, following its adoption by the institution’s Ministerial Council.

The Report details OFID’s performance during 2015, highlighting its activities by sector, geographical region and financial mechanism.

In his Foreword to the Report, Director-General, Suleiman J Al-Herbish, cites the inclusion of energy access in the new Sustainable Development Goals (SDGs) as the high point of 2015 for OFID.

“Having lobbied vigorously for many years to draw global attention to the issue of energy poverty, OFID is pleased and proud that these efforts have finally borne fruit,” he states.

Referring to the challenges posed by the 2030 development agenda, Al-Herbish notes that OFID is well prepared thanks to its extensive programme of capacity-building and systems modernization.

He notes: “By the end of 2015, all of these enhancements were in place, putting us in a position of considerable strength for implementing both the SDGs and our own strategic plan.”

The $1,175m in new funding approved in 2015 was dominated by support to the strategic energy-water-food nexus, supported by the transportation sector. Together, these four areas attracted more than $726m, which is equal to more than 60 per cent of the year’s aggregate commitments across all financing mechanisms.

On its own, the transportation sector drew the bulk of approvals, securing a total $316m, an increase of 50 per cent over 2014. The majority of the loans, which were all delivered through the public sector window, went to the roads sub-sector. Africa and Latin America shared the bulk of the financing. On completion, the new infrastructure is expected to open up isolated areas and have a positive knock-on effect on the main nexus areas.

Behind transportation came the financial sector with a substantial $273m, divided between support to cross border trade and to the capital expenditure and working capital needs of micro, small and medium enterprises.

Energy projects accounted for $213m of 2015 commitments. Benefiting 22 countries, these resources will help finance a wide variety of solutions, from mini-grids to power plants and rural electrification to an oil pipeline.

With a maiden operation in Guinea-Bissau, OFID’s energy footprint now extends to a total of 86 partner countries.

With an allocation of $120m — mostly in the form of trade financing — the agriculture sector attracted a ten per cent share of total approvals for the year, all but a fraction going to Africa.

Water and sanitation initiatives secured some $73m in new financing, while other sectors to receive support were multi-sectoral ($70m), education ($69m), and health ($39m).

Regional operations

In keeping with its mandate to prioritize the low-income nations, 33 African countries benefited from OFID financing in 2015. Collectively, these nations received $575m,
of which around two-thirds ($387m) was delivered in concessional public sector lending. Of special note was the recommencement of cooperation with Liberia after a break of some 34 years.

The largest share of the total in Africa ($151m or 26 per cent) went to the energy sector for a wide range of initiatives, both large and small, and utilizing traditional as well as renewable technologies.

Transport was also high on the agenda, securing some $133m or 23 per cent of approvals to the continent. Around $100m was channelled to the agriculture sector to boost food and nutrition security.

In Asia, $347m was approved for operations in 22 countries, chiefly in support of the financial sector, which received $197m.

In terms of the financing mechanisms deployed, around one-half of the total ($177m) was provided in support of cross-border trade, while $92m and $70m were approved through the public and private sector windows, respectively.

Grant funding accounted for just over $7m, with Palestine the biggest beneficiary.

Some 19 per cent (or $229m) of total global commitments for the year was distributed to 14 countries in the Latin America and Caribbean region. By far the largest portion ($193m or 84 per cent) went to public sector operations, chiefly for the construction and upgrading of road infrastructure.

Financial mechanisms

The public sector maintained its position as the primary channel for OFID’s operations. Approvals of some $671m accounted for 57 per cent of total commitments for the year and supported 34 projects in 30 countries.

An aggregate $279m was committed through the Trade Finance Facility, the bulk of it ($158m) channelled via financial intermediaries to support the import and export funding needs of SMEs, including in Guatemala, a country new to the Trade Finance Facility (TFF).

The remaining $121m comprised five transactions drawn from an existing global trade participation scheme with the International Islamic Trade Finance Corporation, among them a first TFF operation in Cameroon.

Private sector approvals comprised 12 transactions with a combined value of $207m in support of operations primarily in the financial ($115m) and energy ($40m) sectors.

An important highlight of the year was the facility’s maiden equity participation in funds directly targeting the highly developmental health and education sectors.

Through OFID’s various grant programmes an aggregate $18m was approved in favour of 52 operations in some of the most disadvantaged countries of the world.

In keeping with the institution’s strategic focus, more than two-thirds (69 per cent) of these resources was concentrated on the energy, health and education sectors.

Also noteworthy in 2015 was the successful completion of 56 projects financed with $19m of previously approved grant funding and benefiting 46 countries.
OFID announces 2016 scholars

OFID has again selected worthy winners of its annual Scholarship Award, which is presented yearly to outstanding students from the developing world who are striving to become agents of change in their home countries.

This year, some 12,000 young people applied for the opportunity to pursue graduate studies at an overseas academic institution under the auspices of an OFID Scholarship.

Since the programme’s inception in 2007, 31 OFID scholars have successfully completed their Master’s degree in a development-related discipline at some of the leading higher education institutes in the world, including the universities of Harvard, Johns Hopkins, and Cambridge, as well as the London School of Oriental and African Studies, and the London School of Economics and Political Science, to name a few.

OFID said that, as in previous years, the applicant pool of 2015 was of an extraordinarily high quality, making the selection process extremely difficult.

From the rigorous selection process, five outstanding candidates were chosen, each one dedicated to making an impact on the development of their country upon finishing their studies.

And for the first time this year, and in line with OFID’s
40th anniversary dedication to highlighting the plight of refugees, five additional scholarships were awarded in collaboration with an external organization — Jusoor — which is dedicated to improving opportunities for Syrian youth.

The first five scholars selected comprised Noon Altijani Osman Abbakar, aged 23, from Sudan, who will pursue an MSc in Global Health Sciences at Oxford University in the United Kingdom; Collins Acheampong, 26, from Ghana, who will study for an MSc in Geoinformation Science and Earth Observation for Water Resources and Environmental Management at the University of Twente in the Netherlands; Beryl Ajwang, 27, who has been accepted at the Yale School of Environment and Forestry in the United States, to pursue an MSc in Environmental Management–Energy and Environment; Baker Kasawuli, 30, from Uganda, who will pursue a Master of Arts in Sustainable International Development at Brandeis University’s Heller School for Social Policy and Management in the US; and Rahbar Ansari, 30, from Nepal, who will pursue a Master’s in Public Policy at the Central European University in Budapest, Hungary.

The five extra scholars being sponsored through Jusoor’s ‘100 Syrian Woman, 10,000 Syrian Lives’ programme comprise Zelfa Hamadieh, who will pursue a Master’s in Environmental Engineering at New York University; Alaa Hamadieh, who is anticipating completing her Master’s in Urban Planning and has been accepted at the New York Institute of Technology; Marianna al Tabbaa, who is grateful to be able to begin her Master’s studies with the Politics Programme offered at New York University; Lama Ranjous, who has been accepted at the Middlebury Institute of International Studies and is excited to do her Master’s in Conflict Studies there; and Hannen Almohammad, who will pursue a Master’s in Architecture from Boston’s Northeastern University.
Vacancies

Director, Research Division

The Research Division’s objective is to conduct a continuous program of research, issuing reports, analyses and data in the field of energy and related matters. It monitors, forecasts and analyses development in energy in general and the oil industry in particular, as well as follows and analyses related economic and financial developments. It contributes to the coordination of OPEC Member Countries (MCs) in international negotiations and promotes cooperation between the various relevant global players to be able to be present and actively participate in the various international fora.

Objective of position:
The Director, Research Division, plans, organizes, coordinates, manages and evaluates the work of the Research Division in accordance with the work programme and budget of the Division. The work covers studies on medium and long-term energy developments, short-term perspective studies and analyses of the petroleum market as well as data, information and IT Development in these fields. He/she provides substantive reports and other documentation with particular focus on supervising, guiding and contributing to the Secretariat’s technical reports. As designated by the Secretary General, to represent OPEC in MCs and at relevant international fora and to prepare and deliver substantive reports and statements and to initiate research collaboration with relevant organizations and institutions. Furthermore, he/she contributes to further strengthening the cooperation between MCs in the fields of Research & Development (R&D) and technology. He/she pursues close monitoring and analysis of ongoing multilateral negotiations and dialogues with various governmental bodies and further enhances the producer-consumer and producer-producer dialogues. Finally he/she acts on behalf of the Secretary General (SG) during his absence as and when the SG delegates his authority.

Main responsibilities:
- Defines, in broad terms, a research programme on energy and related matters that is responsive to the needs of the Organization and MCs;
- Directs and coordinates the work of the Departments in the Research Division according to agreed priorities, and paying particular attention to ensuring that:
  - The activities of Petroleum Studies Department (PSD), Data Services Department (DSD), Energy Studies Department (ESD) and Environmental Matters Unit (EMU) are efficiently and appropriately coordinated, and the output is optimal and of high quality;
  - The information needs for PSD, ESD and EMU are clearly communicated to DSD and channelled through Public Relations & Information Department (PRID);
  - The plans and priorities of DSD are fully responsive to these needs;
- Plans the activities of PSD, ESD, DSD and EMU and sets priorities among these to ensure that:
  - All studies requested by the Economic Commission Board (ECB), other standing committees and working groups are completed to high quality standards and on time;
  - Other activities of the Division are appropriately focused on the areas of greatest interest to the MCs;
  - Likely future requests for research and analysis are anticipated and requisite preparatory work is initiated;
- Supervises the Department Heads and Environmental Coordinator reporting to him in assigning staff to studies and research projects, with particular attention to ensuring that:
  - Studies that require staff from more than one Department, or that cut across the specific
responsible for each Department and Unit, are efficiently carried out and appropriately coordinated and staffed;
- All staff are effectively utilized on work of an appropriate level for their skills and experience;
- Coordinates the work of the ECB and standing committees, assisting them in defining a coherent programme of research to support the policy making activities of the Conference, and supervising the execution of this research programme;
- Identifies issues of importance to and their implications for the Organization; brings these issues to the attention of the SG;
- Keeps the SG fully informed of the work of the Division, and draws his attention to specific issues and studies of major importance;
- Works with the SG and Head, PRIID to coordinate the participation of the Secretariat staff in outside meetings and seminars, and reviews proposed contributions by research staff to ensure high quality and in accordance with the interests of the MCs;
- Reviews the performance evaluation, staff development, salary, promotion and separation recommendations made by the Department Heads and Environmental Coordinator reporting to him and amends these as appropriate;
- Ensures that the staff in his division receive the supervision and guidance necessary to broaden and deepen their skills and constantly improve their performance;
- Defines the Division’s future staff needs and ensures that these are clearly communicated to, and discussed with Head, Finance & Human Resources Department (FHRD);
- Coordinates the preparation of the annual budget for the Research Division;
- Data compiled, research papers researched and written, and recommendations made; and
- Makes plans of missions and training for staff in the Research Division;
- Carries out any other tasks assigned to him/her by the SG.

Required competencies and qualifications:

Education: Advanced University degree preferably in Economics and/or Engineering. PhD preferred.

Work experience: Advanced university degree: Minimum 15 years whereof six years at international level in conducting and/or in planning/supervising research and development work relating to energy, in particular oil, and at least six years in high level managerial position. PhD: 12 years.

Training specializations: Conducting and leading research on economic and technological issues in the fields of oil and energy.

Competencies: Managerial & leadership skills; communication skills; decision making skills; strategic orientation; analytical skills; presentation skills; interpersonal skills; customer service orientation; negotiation skills; initiative; integrity.

Language: English.

Status and benefits:
Members of the Secretariat are international employees whose responsibilities are not national but exclusively international.

In carrying out their functions they have to demonstrate the personal qualities expected of international employees such as integrity, independence and impartiality.

The post is at grade A reporting to the Secretary General. The compensation package, including expatriate benefits, is commensurate with the level of the post.

Applications:
Applicants must be nationals of Member Countries of OPEC and should not be older than 58 years.

Applicants are requested to fill in a résumé and an application form which can be received from their Country’s Governor for OPEC.

In order for applications to be considered, they must reach the OPEC Secretariat through the relevant Governor not later than August 31, 2016, quoting the job code: 2.1.01 (see www.opec.org — Employment).
Energy Policy Analyst

Within the Research Division, the Energy Studies Department monitors, analyses and forecasts world energy developments in the medium and long term and reports thereon, in particular; provides in-depth studies and reports on medium to long term energy issues; monitors developments and undertakes specific studies on energy demand and production-related technology and assesses implications for OPEC; identifies and follows up key areas of energy-related emerging technologies and research and development (R&D) and facilitates and supports coordinated planning and implementation of collaborative energy related R&D programmes of OPEC Member Countries; identifies prospects for OPEC participation in major international R&D activities; carries out studies and reports on medium to long term developments in the petroleum industry; provides effective tools for and carries out model based studies for analyses and projections of medium and long term energy supply/demand and downstream simulation; elaborates OPEC Long Term Strategy and monitors, analyses and reports on relevant national or regional policies, such as fiscal, energy, trade and environmental, and assesses their impacts on energy markets.

Objective of position:
The Energy Policy Analyst studies, analyses and reports on pertinent energy policies, institutions and regulations in consuming and producing countries and regions, assessing the impact of energy policies on expected oil supply/demand levels for the medium to long term.

Main responsibilities:
- Studies, analyses and reports on major trends in energy policies of major oil consuming and producing countries and regions;
- Carries out studies on the impact of major energy policy developments;
- Analyses the evolution of institutions and regulatory regimes conducive to collective action in the field of energy industries;
- Examines the changing pattern of geopolitics of energy and security of energy supply and demand;
- Contributes to speeches, articles and presentations to internal meetings and various international forums.

Required competencies and qualifications:

**Education:**
University degree in Economics, International Relations or Engineering; advanced degree preferred.

**Work experience:**
University degree: eight years; advanced university degree: six years.

**Training specializations:**
Economic analysis; energy policy analysis; knowledge of oil market development.

**Competencies:**
Communication skills; analytical skills; presentation skills; interpersonal skills; customer service orientation; initiative; integrity.

**Language:**
English.

Status and benefits:
Members of the Secretariat are international employees whose responsibilities are not national but exclusively international. In carrying out their functions they have to demonstrate the personal qualities expected of international employees such as integrity, independence and impartiality.

The post is at grade E reporting to the Head of Energy Studies Department. The compensation package, including expatriate benefits, is commensurate with the level of the post.

Applications:
Applicants must be nationals of Member Countries of OPEC and should not be older than 58 years. Applicants are requested to fill in a résumé and an application form which can be received from their Country’s Governor for OPEC.

In order for applications to be considered, they must reach the OPEC Secretariat through the relevant Governor not later than August 12, 2016, quoting the job code: 5.5.01 (see www.opec.org — Employment).
Upstream Oil Industry Analyst

Within the Research Division, the Energy Studies Department monitors, analyses and forecasts world energy developments in the medium and long term and reports on them, in particular; provides in-depth studies and reports on medium to long term energy issues; monitors developments and undertakes specific studies on energy demand and production-related technology and assesses implications for OPEC; identifies and follows up key areas of energy-related emerging technologies and research and development (R&D) and facilitates and supports coordinated planning and implementation of collaborative energy related R&D programmes of OPEC Member Countries; identifies prospects for OPEC participation in major international R&D activities; carries out studies and reports on medium to long term developments in the petroleum industry; provides effective tools for and carries out model based studies for analyses and projections of medium and long term energy supply/demand and downstream simulation; elaborates OPEC Long Term Strategy and monitors, analyses and reports on relevant national or regional policies, such as fiscal, energy, trade and environmental, and assesses their impacts on energy markets.

Objective of position:
The Upstream Oil Industry Analyst carries out studies and analyses on medium- to long-term conventional oil supply as well as assesses potential medium- to long-term supply capacities of conventional oil in both OPEC and non-OPEC countries and analyses its main determinants (reserves, investment trends, technology advances, etc). He/she monitors and analyses the evolution of upstream related costs and investments to conventional oil supply and their impacts on exploration and production activities worldwide and contributes to the World Oil Outlook.

Main responsibilities:
- Carries out analyses and studies of medium- to long-term conventional oil supply prospects and contributes to the World Oil Outlook;
- Analyses upstream exploration and production costs for conventional oil;
- Studies capacity expansion and investment plans and requirements for conventional oil in OPEC and in non-OPEC regions;
- Studies, analyses and forecasts relevant technological changes and assesses their impact on the medium- to long-term oil recovery rate, production and costs;
- Collects and analyses data and information related to upstream conventional oil, including all activities and development processes in exploration and production;
- Contributes to speeches, articles and presentations to internal meetings and various international forums.

Required competencies and qualifications:
Education: University degree in petroleum engineering, petroleum geology or related sciences; advanced degree preferred.
Work experience: University degree: eight years in the field of oil exploration, production or reservoir engineering in an oil company or petroleum-related government agency; advanced university degree: six years.
Training specializations: Advanced upstream technology; good knowledge of planning and analysis of upstream activities, including modelling and/or project evaluation; basic knowledge of the environmental impact of upstream activities an asset.
Competencies: Communication skills; analytical skills; presentation skills; interpersonal skills; customer service orientation; initiative; integrity.
Language: English.

Status and benefits:
Members of the Secretariat are international employees whose responsibilities are not national but exclusively international. In carrying out their functions they have to demonstrate the personal qualities expected of international employees such as integrity, independence and impartiality.

The post is at grade E reporting to the Head of Energy Studies Department. The compensation package, including expatriate benefits, is commensurate with the level of the post.

Applications:
Applicants must be nationals of Member Countries of OPEC and should not be older than 58 years.
Applicants are requested to fill in a résumé and an application form which can be received from their Country’s Governor for OPEC.
In order for applications to be considered, they must reach the OPEC Secretariat through the relevant Governor not later than September 9, 2016, quoting the job code: 5.3.01 (see www.opec.org — Employment).
Within the Research Division, the Petroleum Studies Department provides pertinent and reliable information and analyses in support of decision-making and policy-making in Member Countries. It carries out, on a continuous basis, research programmes and studies on short-term petroleum market developments with the aim of issuing reports on a regular (ie daily, weekly, monthly and bi-monthly) as well as ad hoc basis highlighting important issues for their use and consideration. It also conducts regular forecasts, elaborates and analyses oil market scenarios and prepares and publishes reports on these findings. The Department promotes OPEC views and technical analysis on short-term oil market developments to the industry at large and general public via the OPEC Monthly Oil Market Report (especially the feature article) as well as other reports, presentations and related podcasts. It prepares and contributes to reports to be submitted to the Economic Commission Board, the Board of Governors and the Conference as well as papers for various OPEC publications.

Objective of position:
The Refinery and Products Analyst studies and analyses refining operations and the product market as well as short-term developments in the product market. He/she studies capacity expansion in the oil refining industry and other related industries for the supply of petroleum products and prepares periodic reports for meetings of OPEC organs.

Main responsibilities:
- Studies and analyses short-term developments in the supply, demand and stocks of petroleum products; examines and analyses refining margins on the basis of market fundamentals, refinery operation levels costs and the impact on the oil market;
- Analyses the refining industry worldwide and monitors and assesses its short-to-medium-term developments in terms of distillation and various conversion capacities, regional configuration schemes and favourable refinery operational modes according to seasonal demand patterns;
- Examines price links between products in the main markets, ie the level of arbitrage trading;
- Examines the effect of stricter product specifications in the medium term in major consuming countries on refined product supply and hence product price trends;
- Monitors and analyses short-term, worldwide developments in the petrochemical and utility sectors;
- Monitors and analyses substitution for petroleum products;
- Monitors and analyses supply of petroleum products from other sources than crude oil such as GTL, NGL and condensate and non-conventional crude;
- Consolidates findings of the above analyses and prepares and issues reports thereon.

Required competencies and qualifications:
**Education:** University degree in chemical engineering or related engineering with specialization in energy economy; advanced degree preferred.

**Work experience:** University degree: eight years; advanced university degree: six years.

**Training specializations:** Refining; analysis of international developments with emphasis on crude and product fundamentals; energy modelling; basic knowledge of product markets.

**Competencies:** Communication skills; analytical skills; presentation skills; interpersonal skills; customer service orientation; initiative; integrity.

**Language:** English

Status and benefits:
Members of the Secretariat are international employees whose responsibilities are not national but exclusively international. In carrying out their functions they have to demonstrate the personal qualities expected of international employees such as integrity, independence and impartiality.

The post is at grade E reporting to the Head of Petroleum Studies Department. The compensation package, including expatriate benefits, is commensurate with the level of the post.

**Applications:**
Applicants must be nationals of Member Countries of OPEC and should not be older than 58 years. Applicants are requested to fill in a résumé and an application form which can be received from their Country’s Governor for OPEC.

In order for applications to be considered, they must reach the OPEC Secretariat through the relevant Governor not later than September 9, 2016, quoting the job code: 4.4.02 (see www.opec.org — Employment).
The OPEC Energy Review is a quarterly energy research journal published by the OPEC Secretariat in Vienna. Each issue consists of a selection of original well-researched papers on the global energy industry and related topics, such as sustainable development and the environment. The principal aim of the OPEC Energy Review is to provide an important forum that will contribute to the broadening of awareness of these issues through an exchange of ideas. Its scope is international.

The three main objectives of the publication are to:
1. Offer a top-quality platform for publishing original research on energy issues in general and petroleum related matters in particular.
2. Contribute to the producer-consumer dialogue through informed robust analyses and objectively justified perspectives.
3. Promote the consideration of innovative or academic ideas that may enrich the methodologies and tools used by stakeholders.

Recognizing the diversity of topics related to energy in general and petroleum in particular which might be of interest to the journal’s readership, articles will be considered covering relevant economics, policies and laws, supply and demand, modelling, technology and environmental matters.

The OPEC Energy Review welcomes submissions from academics and other energy experts. Submissions should be made via Scholar One at: https://mc.manuscriptcentral.com/opec (registration required). A PDF of “Author Guidelines” may be downloaded at Wiley’s OPEC Energy Review page at: http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1753-0237/homepage/ForAuthors.html

All correspondence about subscriptions should be sent to John Wiley & Sons, which publishes and distributes the quarterly journal on behalf of OPEC (see inside back cover).
Forthcoming events

**2nd refining outlook Asia, August 23–24, 2016, Bangkok, Thailand.** Details: Centre for Management Technology, 80 Marine Parade Road #13-02, Parkway Parade, 449269, Singapore. Tel: +65 6345 7322/6346 9132; fax: +65 6345 5928; e-mail: cynthia@cmtevents.com.sg; website: www.cmtevents.com/aboutevent.aspx?ev=160826&name=2nd-Refining-Outlook-Asia.

**The plant shutdown and turnaround summit, August 25–26, 2016, Mexico City, Mexico.** Fleming, contact person Manohar Bharwani, Marketing Manager. Tel: +91 20 672 76 403; e-mail: manohar.bharwani@fleming.events; website: https://fleming.events/en/events/landing-page/oil-gas/ plant-shutdown-turnaround-summit-mx.

**FLNG 2016, September 6–8, 2016, London, UK.** Details: ICBI Conferences Ltd, 8th Floor, 29 Bressenden Place, London SW1E 5DR, UK. Tel: +44 207 915 5103; fax: +44 207 915 5101; e-mail: info@icbi.co.uk; website: https://finance.knect365.com/flng.

**Intelligent energy international conference and exhibition, September 6–8, 2016, Aberdeen, UK.** Details: Society of Petroleum Engineers, 10777 Westheimer, Suite #335, Houston, TX 77042, USA. Tel: +1 713 779 9595; fax: +1 713 779 4216; e-mail: spehou@spe.org; website: www.intelligent-energyevent.com.

**India oil and gas review summit 2016, September 9–10, 2016, Mumbai, India.** 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: www.oilgas-events.india-oil-gas.com.

**Alberta power symposium, September 14–15, 2016, Calgary, Canada.** Details: The Canadian Institute, 1329 Bay Street, Toronto, ON M5R 2C4, Canada. Tel: +1 877 927 9736; fax: +1 877 927 1563; e-mail: CustomerService@CanadianInstitute.com; website: www.canadianinstitute.com/2017/337/alberta-power-symposium.

**Deepwater drilling and completions conference, September 14–15, 2016, Galveston, TX, USA.** Details: Society of Petroleum Engineers, 10777 Westheimer, Suite #335, Houston, TX 77042, USA. Tel: +1 713 779 9595; fax: +1 713 779 4216; e-mail: spehou@spe.org; website: www.spe.org/events/en/2016/conference/16ddc/homepage.html.

**Commercial oil operations and logistics, September 19–21, 2016, Geneva, Switzerland.** Details: Invincible Energy Ltd, Office 1, 6 The Windmills, St Mary’s Close, Turk Street, Alton GU34 1EF, UK. Tel: +44 1420 54 34 27; fax: +44 1420 54 34 47; e-mail: invincible@ihrdc.com; website: www.invincible-energy.com/index.php/OOL.php.

**Alaska oil and gas congress, September 20–21, 2016, Anchorage, Canada.** Details: The Canadian Institute, 1329 Bay Street, Toronto, ON M5R 2C4, Canada. Tel: +1 877 927 7936; fax: +1 877 927 1563; e-mail: CustomerService@CanadianInstitute.com; website: http://alaskaoiland-gascongress.com.

**LNGcc London, September 20–22, 2016, London, UK.** Details: Informa Group plc, Head Office, 5 Howick Place, London SW1P 1WG, UK. Tel: +44 207 017 50 00; headoffice@informa.com; website: www.lngcc.com.

**Oil and gas industry fundamentals, September 20–22, 2016, London, UK.** Details: Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK. Tel: +44 207 467 7116; fax: +44 207 580 2230; e-mail: nwilkinson@energyinst.org; website: www.energyinst.org/events/view/326.

**Pipeline week, September 20–22, 2016, The Woodlands, TX, USA.** Details: PennWell, 1421 S Sheridan Road, Tulsa, OK 74112, USA. Tel: +1 918 835 3161; fax: +1 918 831 9497; e-mail: sneighbors@pennwell.com; website: www.pipelinenweek.com/index.html.

**CWC world LNG and gas series: 8th Asia Pacific summit, September 20–23, 2016, Singapore.** Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16–18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 0000; fax: +44 207 978 0099; e-mail: sshelton@thecwcgroup.com; website: http://asiapacific.cwclng.com.

**Liquids-rich basins conference — North America, September 21–22, 2016, Midland, TX, USA.** Details: Society of Petroleum Engineers, 10777 Westheimer, Suite #335, Houston, TX 77042, USA. Tel: +1 713 779 9595; fax: +1 713 779 4216; e-mail: spehou@spe.org; www.spe.org.

**Indonesia energy week 2016, September 21–23, 2016, Jakarta, Indonesia.** Details: IBC Global Conferences, The Bookings Department, Informa UK Ltd, PO Box 406, West Blythe KT14 6WL, UK. Tel: +44 207 017 55 18; fax: +44 207 017 47 15; e-mail: energycustserv@informa.com; website: www.indonesiaenergyweek.com.

**Global oil and gas South East Europe and Mediterranean, September 22–23, 2016, Athens, Greece.** 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: global-oilgas.com/BlackSeaMed.

**SPE annual technical conference and exhibition, September 26–28, 2016, Dubai, UAE.** Details: Society of Petroleum Engineers, 10777 Westheimer, Suite #335, Houston, TX 77042, USA. Tel: +1 713 779 9595; fax: +1 713 779 4216; e-mail: spehou@spe.org; website: www.spe.org/events/en/2016/conference/16atce/homepage.html.

**Security of supply debate — how do we attract new investment in gas? September 27, 2016, London, UK.** Details: Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK. Tel: +44 207 467 7192; fax: +44 207 580 2230; e-mail: ffrerrari@energyinst.org; website: www.energyinst.org/events/view/4724.

**5th international energy, gas, oil and power exhibition, September 27–29, 2016, Islamabad, Pakistan.** Details: Fakt Exhibitions Pvt Ltd, 304, 3rd Floor, Clifton Centre, Block-S, Clifton, Karachi 75600, Pakistan. Tel: +92 21 35 81 06 37 38 39; fax: +92 21 35 81 06 36; e-mail: ego@fakt.com.pk; info@fakt.com.pk; website: www.egovakistan.com.

**5th upstream and downstream oil and gas exhibition and conference 2016, September 27–29, 2016, Abuja, Nigeria.** Details: Expo West Africa Exhibitions & Conferences, 133 LNG Road, Trans Amadi Ind Layout, Port Harcourt, Nigeria. Tel: +234 80 53 10 00 96; fax: +234 84 36 13 81; website: http://oilandgasexpos.com.

**Oil and gas project and operations management, September 27–29, 2016, London, UK.** Details: Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK. Tel: +44 207 467 7116; fax: +44 207 580 2230; e-mail: nwilkinson@energyinst.org; website: www.energyinst.org/events/view/874.

**20th Sakhalin oil and gas, September 28–30, 2016, Yuzhno-Sakhalinsk, Russia.** Details: Adam Smith Conferences, 6th Floor, 29 Bressenden Place, London SW1E 5DR, UK. Tel: +44 207 017 7444; fax: +44 207 017 7447; e-mail: info@adamsmithconferences.com; website: www.sakhalin-oil-gas.com.
OPEC expecting more balanced oil market at end of 2016

OPEC Secretariat projections indicate that the excess crude oil supply seen in international markets is likely to ease over the coming quarters. “To some degree, this has started to be seen in the slowing pace of inventory builds in United States commercial crude stocks,” the Organization’s Monthly Oil Market Report (MOMR) for June pointed out. It stated that, in May, commercial crude stocks saw a draw of around 8.0 million barrels, compared to an average 12m b build over March and April and a 19m b increase over January and February.

“Provided there is a clearer picture regarding oil supply and demand, the expected improvement in global economic conditions should result in a more balanced oil market toward the end of the year,” a feature article in the publication stated. It disclosed that in the second half of 2016, demand for OPEC crude was expected to average 32.6m b/d.

In giving an assessment of prospects for the global oil market for the second half of the year, the MOMR said the OPEC Reference Basket of crudes had improved considerably from the low levels seen at the start of 2016 to average $43.21/b in May. For the same month, ICE Brent averaged $47.55/b and Nymex WTI averaged $46.68/b.

“Crude oil prices were supported by the weaker US dollar, strong gasoline consumption in the US, various supply disruptions, the accelerated decline in US crude oil output, and forecasts for a sharp fall in overall non-OPEC oil supply this year,” the report maintained. It added that record bullish bets by speculators for higher futures prices also helped support market sentiment.

The MOMR noted that despite a relatively weak start to the year, the global economy was forecast to rebound over the remainder of the year to reach growth of 3.1 per cent, after 2.9 per cent in the past year.

In the OECD, the US was expected to improve from the weak growth seen in the beginning of 2016.

Growth in the economy of the Euro-zone was projected to be slightly more muted after the healthy growth estimated for the first half of this year, with the vote on a Brexit being a key uncertainty. The MOMR said that after relatively robust growth estimated for the first six months of 2016, Japan’s growth trend was not seen improving further from the current level. Outside the OECD, further improvements in Russia’s economy were expected, supported by rising commodity prices, including for oil and gas.

Brazil, it said, remained “in a challenging situation,” although an improving domestic situation, together with higher commodity prices leading to a positive net balance of trade, could contribute to a better performance in the second half of the year.

Growth in China was expected to slow somewhat from the healthy pace seen in the first half of 2016, while India’s economy was forecast to continue to enjoy an elevated growth level for the remainder of the year.

Turning to the oil market, the MOMR said world oil demand growth in the second half of the year was projected to continue rising – by 1.2m b/d year-on-year.

The OECD was anticipated to add around 200,000 b/d, with OECD Americas leading growth at 300,000 b/d, while OECD Europe was seen flat and the OECD Pacific contracting by almost 100,000 b/d.

It professed that key factors impacting OECD oil demand growth would be retail price developments during the driving season and heating demand in the Northern Hemisphere by the end of the year.

In the non-OECD region, oil demand was anticipated to grow by 1.0m b/d y-o-y in the second half of the year. Demand was projected to be supported by Other Asia with growth of around 400,000 b/d y-o-y.

“Much of this growth is seen coming from India, where projections for macroeconomic indicators are currently solid,” the report affirmed.

“In China, support will come from the transportation and petrochemical sectors, while industrial fuel consumption is expected to contract.”

The MOMR said that, on the supply side, non-OPEC supply in the second half of the year was anticipated to be some 140,000 b/d weaker than in the first half and almost 1.0m b/d lower compared to the same period last year.

In the Developing Countries, supply was seen growing by around 270,000 b/d, compared to the estimate in the first half of 2016, which would broadly offset a 280,000 b/d decline expected in OECD supply over the same period.

Former Soviet Union (FSU) oil production in the second half of 2016 was projected to decline by 200,000 b/d, with Russian oil production contracting by around 120,000 b/d.

Over the same period, China’s output was expected to increase by around 60,000 b/d and production in Brazil was expected to increase by around 270,000 b/d, due to the start-up of two new projects.

In the US, despite higher growth in the Gulf of Mexico, total US output was projected to decline by around 150,000 b/d in the second half of the year compared to the first six months.

With the recovery of production disrupted by wildfire, supply in Canada was expected to grow by around 60,000 b/d compared to the first six months of 2016.
The **OPEC Reference Basket** averaged $43.21/b in May, representing a gain of $5.35 over the previous month. ICE Brent ended up $4.31 at $47.65/b, while Nymex WTI rose by $5.67 to $46.80/b. The ICE Brent-Nymex WTI spread narrowed significantly to 85¢/b in May from $2.21/b the month before.

**World economic growth** is forecast at 3.1 per cent for this year, after estimated growth of 2.9 per cent the year before, both unchanged from the previous month. OECD growth in 2016 remains at 1.9 per cent, slightly below the 2.0 per cent seen in 2015. The forecast for the major emerging economies remains unchanged. China and India continue to expand this year at a considerable level of 6.5 per cent and 7.5 per cent, respectively. Brazil and Russia, however, are forecast to remain in recession this year, contracting by 3.4 per cent and 1.1 per cent, respectively.

**World oil demand growth** for 2016 remains unchanged from the previous report at 1.20m b/d to average 94.18m b/d. Other Asia, led by India, is anticipated to be the main contributor to oil demand growth in 2016. Similar to 2015, transportation fuels, supported by healthy vehicle sales and the low oil price environment, are projected to provide the bulk of expected growth. The 2015 growth estimate was also left unchanged at 1.54m b/d to average 92.98m b/d.

The forecast for **non-OPEC oil supply** in 2016 remains unchanged, with a contraction of 740,000 b/d expected to average 56.40m b/d. The downward revisions in Canada, Brazil and Colombia broadly offset upward revisions in the US, the UK, Russia and Azerbaijan. Non-OPEC supply growth in 2015 was left unchanged at 1.47m b/d. Output of OPEC NGLs and non-conventionals is expected to increase by 160,000 b/d to average 32.36m b/d.

The high level of inventories in light and middle distillates, along with the approaching end of the spring maintenance season, offset the potential impact from events in Canada and France. This caused margins to edge lower in the Atlantic Basin, despite stronger gasoline demand in the region. Meanwhile, in Asia, **refinery margins** showed a slight recovery on the back of stronger regional gasoline and gasoil demand amid a peak in refinery maintenance.

Sentiment in the dirty **tanker market** was generally weak in May. VLCC and Suezmax spot freight rates declined on the back of light tonnage demand and increased tanker availability. However, Aframax spot freight rates improved. Clean tanker freight rates declined on average, as a result of low freight rates reported for West of Suez. In May, global chartering activities dropped and sailings from the Middle East, and OPEC more broadly, were lower month-on-month.

**OECD commercial oil stocks** rose slightly in April to stand at 3,046m b. At this level, OECD commercial oil stocks are around 338m b above the latest five-year average, with crude indicating a lower surplus of 194m b and products broadly flat at 144m b. In terms of days of forward cover, OECD commercial stocks stood at 66.4 days, some 7.1 days higher than the five-year average.

**Demand for OPEC crude** in 2016 is projected at 31.5m b/d, unchanged from the last report and 1.8m b/d higher than last year. For 2015, demand for OPEC crude is also unchanged, averaging 29.7m b/d, which represents a decline of 100,000 b/d from the previous year.

The feature article and oil market highlights are taken from OPEC’s Monthly Oil Market Report (MOMR) for June 2016. 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.
Better market conditions forecast to help reduce level of oil stocks

July 2016

International oil market conditions will help remove overall excess oil stocks in 2017, according to the OPEC Secretariat in Vienna.

It said that as a result of its initial forecasts, demand for crude from the 14 OPEC Member Countries (including new Member Gabon) was expected to average 33.0 million barrels/day in 2017.

This represented a gain of 1.1m b/d over the current year and compared to an expected increase of 1.9m b/d in 2016.

In its outlook for the oil market in 2017, the Secretariat’s Monthly Oil Market Report (MOMR) for July said oil demand growth for 2017 was expected at 1.2m b/d, around 300,000 b/d above the last ten years’ average.

“Various assumptions have been considered in the 2017 projection. The most notable are an improvement in global economic activities; higher road transportation fuel consumption, due to the strong rebound in vehicle sales in the US, China and India; and demand for petrochemical feedstocks from new projects in the US and China,” the publication’s feature article commented.

On the other hand, said the report, efficiency in fuel consumption was assumed to increase steadily in various regions and potential subsidy reductions would also have a greater impact on oil consumption.

The MOMR said that, as a result, OECD oil demand is anticipated to increase by a marginal 100,000 b/d, with the OECD Americas being firmly in the positive, while OECD Europe and the Asia Pacific are expected to decline.

At the same time, non-OECD growth was expected to be around 1.10m b/d with Other Asia being the major contributing region to overall growth.

Non-OPEC oil supply in 2017 was expected to contract by 110,000 b/d. The forecast assumed that the annual decline rate in non-OPEC countries will outpace new production growth.

“As a result, the contraction seen this year in non-OPEC supply is expected to continue in 2017, but at a slower pace,” the MOMR observed.

In regional terms, declines in OECD and FSU supply in 2017 were projected at 180,000 b/d and 130,000 b/d, respectively, while the group of Developing Countries was forecast to grow by 230,000 b/d.

On a country basis, the main contributors to growth were expected to be Brazil with 260,000 b/d and Canada with 150,000 b/d.

The main declines were seen coming from Mexico, the US,

Norway, Colombia, Russia, Azerbaijan, Kazakhstan and Vietnam.

The MOMR maintained that the forecast for non-OPEC supply and OPEC NGLs in 2017 was associated with a high level of risk, mainly due to price developments.

Output of OPEC NGLs and non-conventional liquids was expected to grow by 150,000 b/d in 2017.

Looking at global economic scenarios, the report said world economic growth in 2017 was forecast at 3.1 per cent, only slightly higher than this year’s growth level, which had been revised down to 3.0 per cent.

“Following preliminary consideration of the potential effects of the United Kingdom’s referendum vote on leaving the European Union, OECD growth is forecast to slow to 1.7 per cent in the coming year from a downwardly-revised 1.8 per cent in 2016.”

The MOMR said US growth was forecast to only slightly appreciate to 2.1 per cent from 2.0 per cent in 2016, while the Euro-zone was now forecast to slow to 1.2 per cent from downwardly-adjusted 1.5 per cent in the current year.

Japan would improve slightly to 0.8 per cent, after an upwardly-adjusted 0.7 per cent in 2016, following the decision to delay the sales tax increase until at least 2019.

India and China were forecast to grow by 7.2 per cent and 6.1 per cent, respectively, compared to growth of 7.5 per cent and 6.5 per cent this year.

Russia and Brazil were expected to bounce back after a two-year recession and grow by 0.7 per cent and 0.4 per cent, respectively.

The MOMR pointed out that monetary policies across the globe were expected to remain accommodative.

“Among the many uncertainties in the global economy, the near-term handling of the UK exit decision and the consequences this may have on both the UK and the EU, will be a key determinant for the short-term forecast,” it stated.
Market Review

The OPEC Reference Basket increased by $2.63 to average $45.84/b in June. ICE Brent ended up $2.28 at $49.93/b and NYMEX WTI gained $2.06 to stand at $48.85/b. Speculators cut net long positions further in the month in all markets. The ICE Brent-WTI spread widened to $1.07/b in June, up from 85¢/b in the previous month.

World economic growth for this year was revised down to 3.0 per cent from 3.1 per cent, considering potential economic impacts from the UK’s vote to leave the EU. Global growth for 2017 is forecast at 3.1 per cent. OECD growth has been reduced to 1.8 per cent from 1.9 per cent for 2016 and stands at 1.7 per cent in 2017. The 2016 forecasts for the major emerging economies remain broadly unchanged. China and India are seen expanding this year at 6.5 per cent and 7.5 per cent, respectively, and growth is forecast to slow slightly to 6.1 per cent and 7.2 per cent in 2017. Brazil and Russia are forecast to rebound from a two-year recession and grow by 0.4 per cent and 0.7 per cent in 2017.

World oil demand growth in 2016 is expected to be around 1.2m b/d, broadly unchanged from the previous report to average 94.2m b/d. The initial forecast for world oil demand growth in 2017 stands at 1.2m b/d to average 95.3m b/d. The bulk of growth is projected to originate in the non-OECD, which is expected to contribute 1.1m b/d, although OECD demand will remain in positive territory at 100,000 b/d.

Non-OPEC oil supply in 2016 is forecast to show a stronger contraction of 900,000 b/d, following a downward revision of 100,000 b/d since the last report, to average 56.0m b/d. This is mainly due to lower oil output from Canada in the second quarter of this year, due to wildfire, as well as from the US. Non-OPEC oil supply in 2017 is projected to decline by 100,000 b/d to average 55.9m b/d. Brazil and Canada are the main drivers of growth next year while Mexico, the US and Norway are expected to see declines. Output of OPEC NGLs is expected to grow by 150,000 b/d in 2017. In June, OPEC-14 crude production increased by around 264,000 b/d to average 32.86m b/d, according to secondary sources.

Higher export opportunities amid lower inflows of middle distillates and fuel oil have eased the oversupply environment in the Atlantic Basin. This has allowed refinery margins to strengthen slightly, despite gasoline being impacted by regional oversupply. Meanwhile, refinery margins in Asia fell as the weakness seen at the top of the barrel outweighed strong regional gasoil and fuel oil demand, which have been boosted by power generation requirements.

Dirty tanker spot freight rates declined on average in June. This was mainly on the back of the continued decline in VLCC rates on all reported routes. Suexmax spot freight rates were supported by a strengthening market in West Africa on occasional tightness in vessel availability. Aframax freight rates were flat from the month before, suffering from limited activity and maintenance work at some ports.

OECD commercial oil stocks fell in May to stand at 3,063m b. At this level, OECD commercial oil stocks are around 329m b above the five-year average, with crude and products indicating a surplus of 199m b and 130m b, respectively. In terms of days of forward cover, OECD commercial stocks stood at 65.9 days, some 6.7 days higher than the five-year average.

Demand for OPEC crude in 2016 is expected to average 31.9m b/d, an increase of 1.9m b/d over the previous year. In 2017, demand for OPEC crude is projected at 33.0m b/d, a gain of 1.1m b/d over the current year.
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

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

* Indonesia suspended its OPEC Membership on December 31, 2008, but this was reactivated from January 1, 2016.

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

Table 1: OPEC Reference Basket spot crude prices

<table>
<thead>
<tr>
<th>Crude/Member Country</th>
<th>2015</th>
<th>2016</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arab Light – Saudi Arabia</td>
<td>60.94</td>
<td>54.95</td>
<td>46.52</td>
<td>45.56</td>
</tr>
<tr>
<td>Basra Light – Iraq</td>
<td>58.63</td>
<td>53.10</td>
<td>44.32</td>
<td>43.41</td>
</tr>
<tr>
<td>Bonny Light – Nigeria</td>
<td>62.19</td>
<td>56.77</td>
<td>47.07</td>
<td>48.01</td>
</tr>
<tr>
<td>Es Sider – Libya</td>
<td>60.79</td>
<td>55.54</td>
<td>45.82</td>
<td>46.71</td>
</tr>
<tr>
<td>Girassol – Angola</td>
<td>63.28</td>
<td>56.66</td>
<td>47.42</td>
<td>48.01</td>
</tr>
<tr>
<td>Iran Heavy – IR Iran</td>
<td>59.86</td>
<td>54.86</td>
<td>46.25</td>
<td>46.62</td>
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<td>Kuwait Export – Kuwait</td>
<td>59.29</td>
<td>53.85</td>
<td>45.28</td>
<td>43.96</td>
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<tr>
<td>Marine – Qatar</td>
<td>61.79</td>
<td>55.36</td>
<td>46.98</td>
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<td>Meray – Venezuela</td>
<td>51.74</td>
<td>44.43</td>
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<td>Minas – Indonesia*</td>
<td>60.09</td>
<td>51.86</td>
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<td>Murban – UAE</td>
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<td>57.58</td>
<td>48.83</td>
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<td>Oriente – Ecuador</td>
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<td>Saharan Blend – Algeria</td>
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<td>56.34</td>
<td>47.17</td>
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<tr>
<td>OPEC Reference Basket</td>
<td>60.21</td>
<td>54.19</td>
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Table 2: Selected spot crude prices

<table>
<thead>
<tr>
<th>Crude/Member Country</th>
<th>2015</th>
<th>2016</th>
<th>2015</th>
<th>2016</th>
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</thead>
<tbody>
<tr>
<td>Arab Heavy – Saudi Arabia</td>
<td>58.01</td>
<td>53.55</td>
<td>44.82</td>
<td>43.37</td>
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<td>Brega – Libya</td>
<td>61.24</td>
<td>56.04</td>
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<td>Brent – North Sea</td>
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<td>46.72</td>
<td>47.61</td>
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<td>Dubai – UAE</td>
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<td>47.87</td>
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<td>Ekofisk – North Sea</td>
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<td>Isthmus – Mexico</td>
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<td>Oman – Oman</td>
<td>61.77</td>
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<td>Suez Mix – Egypt</td>
<td>59.36</td>
<td>53.00</td>
<td>43.30</td>
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<tr>
<td>Urals – Russia</td>
<td>62.52</td>
<td>55.84</td>
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<tr>
<td>WTI – North America</td>
<td>59.81</td>
<td>51.17</td>
<td>42.77</td>
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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. As of January 2009, the ORB excludes Minas (Indonesia).

* Indonesia suspended its OPEC Membership on December 31, 2008, but this was reactivated from January 1, 2016.

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

Sources: The netback values for TJL price calculations are taken from RVM; Platt’s, as of January 1, 2016; Argus; Secretariat’s assessments.
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, but this was reactivated from January 1, 2016.
### Table and Graph 3: North European market — spot barges, fob Rotterdam

<table>
<thead>
<tr>
<th></th>
<th>naptha</th>
<th>regular gasoline 50ppm</th>
<th>diesel ultra light</th>
<th>jet kero</th>
<th>fuel oil 1 per cent $</th>
<th>fuel oil 3.5 per cent $</th>
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<tbody>
<tr>
<td><strong>2015</strong></td>
<td></td>
<td></td>
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<tr>
<td>June</td>
<td>59.34</td>
<td>93.68</td>
<td>76.37</td>
<td>76.99</td>
<td>50.32</td>
<td>51.12</td>
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<tr>
<td>July</td>
<td>52.04</td>
<td>90.50</td>
<td>68.59</td>
<td>68.18</td>
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<td>August</td>
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<td>60.66</td>
<td>60.18</td>
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<td>September</td>
<td>45.30</td>
<td>70.72</td>
<td>61.41</td>
<td>61.35</td>
<td>33.88</td>
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<td>October</td>
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<td>59.23</td>
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<td>November</td>
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<td>57.06</td>
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<td>December</td>
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<td><strong>2016</strong></td>
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<tr>
<td>January</td>
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<td>40.41</td>
<td>41.48</td>
<td>21.45</td>
<td>17.91</td>
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<td>March</td>
<td>38.53</td>
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<td>47.43</td>
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<td>April</td>
<td>41.69</td>
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<td>49.57</td>
<td>50.30</td>
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<td>23.66</td>
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<td>69.51</td>
<td>56.67</td>
<td>56.15</td>
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<td>June</td>
<td>45.89</td>
<td>70.22</td>
<td>59.37</td>
<td>58.80</td>
<td>37.81</td>
<td>32.24</td>
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</table>

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

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<th>diesel ultra light</th>
<th>jet kero</th>
<th>fuel oil 1 per cent $</th>
<th>fuel oil 3.5 per cent $</th>
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### Table and Graph 5: US East Coast market — spot cargoes, New York

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<th></th>
<th>regular gasoline unleaded 87</th>
<th>gasoline*</th>
<th>jet kero*</th>
<th>fuel oil 0.3 per cent $</th>
<th>fuel oil 3.0 per cent $</th>
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* 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

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

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