OPEC bulletin

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2nd Joint Ministerial Monitoring Committee held in Kuwait

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Stability through cooperation — it works!

OPEC's 'Declaration of Cooperation' with a group of non-OPEC oil producers, set up in December last year to speed up the rebalancing of the international oil market, is already showing promise. In just the first two months of the initial six-month plan, which commits 24 leading oil producers to a production adjustment totaling around 1.8 million barrels/day of crude, the results have been above expectations.

In January, a conformity level to the adjustment of 86 per cent was achieved. That was already impressive bearing in mind the logistics involved in implementing changes to one's production, which is not as simple as just switching oil taps on and off. But if the January performance was pleasing, then February data proved to be emphatic!

The second meeting of the Joint Ministerial Monitoring Committee (JMMC), set up under the 'Declaration of Cooperation' to oversee the enactment and progress of the initiative, announced in Kuwait City in March that the January figure had been exceeded in February by eight percentage points — to 94 per cent! There were understandably a lot of smiling faces. But it got even better. In looking at the numbers more closely, it quickly became apparent that some of the participating countries had actually overconformed in February. By producing less than their individual targets, they had effectively made up the shortfall from some other countries that had not yet been able to reach their assigned levels, for one reason or another. That is cooperation on a grand scale and certainly never seen before in OPEC's history.

Actually, the conformity figure could be even better still. According to the *Reuters* news agency, which is also tracking events, its survey has the level at 95 per cent for February. Whatever number is correct, it just goes to prove to the international community what can be achieved when coordinated teamwork is applied by a group of concerned and responsible sovereign states that are firm in their beliefs, serious in their intentions, and methodical in their actions. It certainly augurs well for the future of this alliance which will very likely be called upon again and again to exercise similar unity of action to correct other market disturbances in the testing years ahead. But one really has to consider the true significance of this cooperation. The adjustments by the producers involved are purely voluntary and they are effectively putting the betterment of others and the welfare of the international petroleum market as a whole ahead of valuable revenue-earning potential. This selfless act is why this whole process is truly historic.

From its inception way back in 1960, OPEC has been committed to two watchwords — stability and cooperation. The Organization is convinced that achieving stability through cooperation works — and is the best way forward for an industry that will always need to answer various challenges. The 24 nations that are working closely under the 'Declaration of Cooperation' are proving that it brings positive results. Obviously, OPEC would now like to see the number of producers signed up to this worthy initiative expanding. The simple fact is that the more countries it can get on board, the more effective the cooperation will be for restoring lasting oil market stability — and in a sustainable manner. Surely, with all industry stakeholders standing to gain from the current landmark efforts, it is only right and fair that everyone plays their part in the implementation of the production adjustments — however big or small — to ensure the initiative's total success.

Of course, having been in the petroleum business for over half a century, OPEC is under no illusion as to the magnitude of the task in front of it. The international oil market is quite unique among all the commodity exchanges operating in the world today. It is extremely complex and sensitive to all manner of influence, both internal and external, and will clearly require continued vigilance and close monitoring on a daily basis.

As everyone in the industry agrees, fossil fuels will continue to play a leading role in global energy supply in the future. This fact makes what the OPEC and non-OPEC producers are attempting to do in the market right now even more imperative. Demand for oil and gas will grow considerably in the years ahead so it is vital to have the right conditions in place that support investment in new and existing capacity, which OPEC calculates will amount to some $10 trillion up to 2040 to satisfy burgeoning demand. That requires a market that is stable, predicable and sustainable. The cooperation the industry has been witnessing since the start of the year is the key to the oil market's future success. It just needs what is being done right now to be even bigger and bolder. With everyone pulling in the same direction and putting unity and cooperation before self-interest, the future will take care of itself. And with stability restored, everyone stands to benefit.

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Cover
This month's cover reflects the 2nd Meeting of the Joint OPEC/Non-OPEC Ministerial Monitoring Committee, held in Kuwait City, on March 26, 2017 (see feature starting on p4).
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Publishers
OPEC
Organization of the Petroleum Exporting Countries
Helferstorferstraße 17
1010 Vienna
Austria
Telephone: +43 1 211 12/0
Telefax: +43 1 216 4320
Contact: The Editor-in-Chief, OPEC Bulletin
Fax: +43 1 211 12/5081
E-mail: prid@opec.org
Website: www.opec.org

Website: www.opec.org
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OPEC is a permanent, intergovernmental Organization, established in Baghdad, on September 10–14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective — to coordinate and unify petroleum policies among its Member Countries, in order to secure a steady income to the producing countries; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the petroleum industry. Today, the Organization comprises 13 Members: Qatar joined in 1961; Libya (1962); United Arab Emirates (Abu Dhabi, 1967); Algeria (1969); Nigeria (1971); Angola (2007). Ecuador joined OPEC in 1973, suspended its Membership in 1992, and rejoined in 2007. Indonesia joined in 1962, suspended its Membership on December 31, 2008, reactivated it on January 1, 2016, but suspended its Membership again on December 31, 2016. Gabon joined in 1975 and left in 1995; it reactivated its Membership on July 1, 2016.


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Joint Ministerial Monitoring Committee holds second meeting in Kuwait

Members report high level of conformity to oil production adjustments in February

OPEC and non-OPEC oil-producing countries, who signed a 'Declaration of Cooperation' on production in December last year in support of securing stability in the international petroleum market, are happy with the extent of the output adjustments they have made so far in 2017.

The Joint OPEC/Non-OPEC Ministerial Monitoring Committee (JMMC) convened its second meeting in Kuwait City on March 26 and reported that the 24 countries (13 from OPEC, 11 non-OPEC) participating under the 'Declaration' have continued their progress towards full conformity with their voluntary adjustments in production.

A press release issued after the one-day meeting held at the Jumeirah Messilah Beach Hotel in the Kuwaiti capital said the Committee's findings were based on the report of the Joint OPEC/Non-OPEC Technical Committee (JTC) for the month of February 2017, which met in Vienna, Austria one week before the JMMC.

"The JMMC expressed its satisfaction with the progress made towards full conformity with the voluntary production adjustments and encouraged all participating countries to press on towards 100 per cent conformity," stated the press release.

It revealed that the February data showed that the OPEC and participating non-OPEC countries achieved

The JMMC comprises the Oil and Energy Ministers of OPEC Members Algeria (Noureddine Boutarfa, second l), Kuwait (Issam A Almarzooq, fourth l — Committee Chairman) and Venezuela (Dr Nelson Martinez, r), as well as non-OPEC Oman (Mohammed Hamad Al Rumhy, second r) and the Russian Federation (Alexander Novak, third l). Pictured with Mohammad Sanusi Barkindo (fourth r), OPEC Secretary General; Jabbar Ali Hussein Al-Luiebi (l), Iraq's Minister of Oil; and Suhail Mohamed Al Mazrouei (third r), Minister of Energy, United Arab Emirates.

a conformity level of 94 per cent, which represented an increase of eight percentage points over the January 2017 performance.

"This demonstrates the willingness of all participating countries to continue their cooperation," stressed the release.

Inventory drawdowns

The JMMC comprises the Oil and Energy Ministers of OPEC Members Algeria (Noureddine Boutarfa), Kuwait (Issam A Almarzooq — Committee Chairman) and Venezuela (Dr Nelson Martinez), as well as non-OPEC Oman (Mohammed Hamad Al Rumhy) and the Russian Federation (Alexander Novak). Also attending the latest meeting by special invitation was Jabbar Ali Hussein Al-Luiebi, Oil Minister of Iraq; Suhail Mohamed Al Mazrouei, Minister of Energy of the United Arab Emirates; and Adeeb Al-Aama, Saudi Arabia's OPEC Governor.

The press release pointed out that certain factors had slowed down the positive impact of the production adjustments on inventory drawdowns.

These factors included low seasonal demand, refinery maintenance and rising non-OPEC supply. At the same time, said the release, the liquidation of positions by financial players in the market had also been observed.

However, the Committee maintained that the end of the refinery maintenance season, coupled with a noticeable slowdown in the United States oil stock-build and the reduction in floating storage, "would support the positive efforts undertaken to achieve stability in the market."

The JMMC was established following the 171st Meeting of the OPEC Conference in Vienna on November 30, 2016, and the subsequent 'Declaration of Cooperation' reached at the Joint OPEC/non-OPEC Ministerial Meeting in the Austrian capital on December 10.

The press release noted that under the 'Declaration', OPEC and the 11 participating non-OPEC oil-producing countries were cooperating in a concerted effort to accelerate the stabilization of the global oil market through voluntary adjustments in combined production of around 1.8 million barrels/day.

It explained that the 'Declaration of Cooperation', which came into effect on January 1, 2017, was for the first six months of the year, but was extendable for an additional six months, depending on the status of supply and demand, including global inventories.

In view of the current situation, the JMMC requested that the JTC, along with the OPEC Secretariat in Vienna, review the oil market conditions "and revert to the JMMC in April 2017 regarding the extension of the voluntary production adjustments as stipulated in the 'Declaration of Cooperation', in order to ensure market stability."

The press release added: "The JMMC will deliberate

Issam A Almarzooq (c), Minister of Oil and Minister of Electricity and Water, Kuwait, and JMMC Chairman; with Alexander Novak (l), Minister of Energy, Russian Federation; and Mohammad Sanusi Barkindo (r), OPEC Secretary General.

before submitting its recommendation to the participating countries.

"This reaffirms the commitment of OPEC and participating non-OPEC countries to continue to cooperate for the benefit of producers and consumers alike, as has been consistently advocated."

JMMC Chairman

In his opening comments to the meeting, Committee Chairman, Issam A Almarzooq, Minister of Oil and Minister of Electricity and Water of the State of Kuwait, told delegates that it was a pleasure and honour for Kuwait to be both host and Chair of the event.

"It is part of our contribution to this historic process and I hope that during your stay in Kuwait you will have the chance to enjoy some of our hospitality," he affirmed.

He commended Alexander Novak, Russia's Minister of Energy, for serving as Alternate Chairman of the Committee and for his tireless work and support for the process. He also thanked the other OPEC Ministers for attending.

Referring to the OPEC decision in November last year to adjust the Organization's total crude oil production by 1.2m b/d, followed by the historic 'Declaration of Cooperation', he stressed that the landmark efforts were made because the oil industry could no longer continue along the same path it was on in 2015 and 2016.

"Something had to be done to address the major challenges that were suffocating the industry and impacting current and future oil supplies," he declared.

"Producers everywhere recognized the need to stimulate the acceleration of the drawdown of the stock overhang, in order to bring the necessary market rebalancing forward and ensure that much-needed investments returned to the industry."

Almarzooq explained that in support of the historic cooperation, the JMMC, which held its inaugural meeting on January 22 at the OPEC Secretariat in Vienna, put together a framework of monitoring mechanisms.

"We are so far pleased with the level of conformity to this framework," he said.

Part of that framework, he revealed, included the creation of the JTC whose mandate was to produce a monthly report for the JMMC.

"I would like to thank the JTC for its support so far and for the very useful report which has been provided to us. This will help move this process forward," maintained the Minister.

He stipulated that the JMMC was tasked with ensuring that the objectives of the Ministerial Conference decision and the 'Declaration of Cooperation' were achieved through the successful implementation of the voluntary adjustments in production.

"The last time we met, we reaffirmed our commitment to joint cooperation for the achievement of lasting

Issam A Almarzooq, Committee Chairman, Minister of Oil and Minister of Electricity and Water, Kuwait.

Mohammad Sanusi Barkindo, OPEC Secretary General.

stability in the oil market — in the interest of oil producers, consumers and the industry. The Committee thereafter reiterated its resolve to full and timely conformity to the decisions."

Almarzooq said the task of the JMMC was to discuss oversight and conformity issues and report its findings to the OPEC/non-OPEC Ministerial Meeting, due to be held on May 25. "So far, we have seen some progress with very positive signs that the conformity from both OPEC and non-OPEC countries has successfully been demonstrated to the outside world," he asserted.

"In addition, production numbers for January and February were well received and the market has responded affirmatively to the determined efforts of all participating countries."

The Minister said he wanted to emphasize that some producers had over-performed. "They certainly deserve recognition for their efforts. So I would like to expressly offer my appreciation to both Angola and Saudi Arabia for conforming beyond expectation. I hope their achievements will motivate other participants to reach their own goals and perhaps to even go further."

He noted that some other countries had not been able to meet their production adjustments due to temporary difficulties.

"I would like to candidly say that, in general, more has to be done. We need to see conformity across the board. We assured ourselves — and the world — that we would reach our adjustment to 100 per cent conformity.

"Our voluntary adjustment is and will remain 100 per cent and although this should be seen as a collective effort, individual countries also need to take their conformity very seriously.

"If we reach our common objective, we could see balance returning to the market by the third quarter of 2017. If not, this date may be pushed further out," warned Almarzooq.

The Minister stated that as the JMMC had observed, over the past couple of weeks stocks remained stubbornly high, particularly in the US, where a seasonally rising trend had hit new historically high levels.

"We have also seen some traders liquidate their long positions and Brent prices have dropped from the mid-50s to the low-50s. Volatility has also increased."

At the same time, said the Minister, while investments may be returning in some of the industry's short-cycle projects, there was little investment going into the long-cycle projects that were the baseload of the industry.

"All this should focus our minds. We need to further intensify our efforts. The uncertainty we have witnessed may continue until the trend of inventory drawdowns asserts itself and the market becomes more comfortable with its capacity to absorb additional marginal supplies."

The Minister reminded delegates that there would

The Jumeirah Messilah Beach Hotel in Kuwait, which hosted the meeting.

be one more meeting of the bimonthly JMMC before the Meeting of the OPEC Conference in May.

"Until then, the work undertaken by this Committee remains the main driver behind future actions of the Ministerial Meeting. We thus hope that your conformity will remain unwavering and that we can look forward to positive results between now and then.

"I would like to remind you all that we are under close scrutiny by the international community and the financial markets. The work of this Committee is thus essential to help rebuild confidence in the global oil markets and to achieve the sustainable stability we are striving for.

"I thus would like to encourage you to do your very best today and in the coming weeks and months in the lead-up to our next meeting. There is a lot at stake.

"Each of us is looking forward to the day when investments once again reach healthy levels and the world economy is strong and robust. This will be well-served if we do our work and the long-term deepening of ties and ongoing cooperation between OPEC and non-OPEC countries will go a long way to supporting such goals," he concluded.

OPEC Secretary General

The Minister's comments were echoed by OPEC Secretary General, Mohammad Sanusi Barkindo, who, in thanking the Kuwaiti Government and Minister Almarzooq for hosting the JMMC, praised the OPEC and non-OPEC delegations for their "continuous engagement towards fulfilling the objectives of this Committee, through the full and timely implementation of the decisions taken last year."

He also thanked Iraqi Minister Al-Luiebi for his "firm stand and valuable contributions throughout the consultation process, culminating in the landmark achievements and decisions of the Organization last year."

In also paying tribute to the hard work of the JTC, whose efforts "are greatly appreciated", Barkindo told delegates that given recent oil market developments, he felt it was important to take stock as to the current state of the market.

"We need to understand what has happened since the historic decisions taken by OPEC and non-OPEC last year, where we are today, and what is potentially ahead of us."

Barkindo maintained that market optimism had significantly improved of late. This was on the back of the decisions taken last year and the resultant cooperation with non-OPEC oil producers, in addition to the high level of conformity to the voluntary OPEC/non-OPEC production adjustments seen.

"This can be observed by the fact that WTI and Brent combined net-long positions increased from close to 500,000 contracts on November 29, 2016, to 763,000 on January 3, 2017. This is an increase of 34

The JMMC announced its findings at a press conference.

per cent. They then moved higher to reach 921,000 contracts on February 21, an additional rise of 21 per cent.

"I have to underline that fundamentals in the oil market today would have been much different without these decisions that have now effectively been put into action."

However, Barkindo noted that despite the expectation of improved levels of conformity in February, which had proven to be true, the market's sentiment had turned, with the combined number of WTI and Brent net-long positions falling to 695,000 by March 14. This was a drop of 25 per cent since February 21.

"It is important to note that this softening of the market is not totally unexpected," he explained. "Firstly, we are in a seasonally low-demand period. Secondly, another seasonal trend is the shut-in of refinery throughput in the US. In January and February, 1m b/d of throughput was shut down for maintenance. For these two months, this equates to approximately 60m b."

Rising non-OPEC production

Thirdly, said Barkindo, "in addition to these seasonal trends, in recent months we have also seen rising production from a number of non-OPEC nations, particularly in the US from tight oil.

"Moreover, we are seeing expectations for much greater quantities to come from non-OPEC in 2017, as reported by all major reporting agencies since the start of this year.

For example, he said, in the January 2017 OPEC *Monthly Oil Market Report,* non-OPEC supply was projected to grow by 120,000 b/d in 2017. In the March report, this number had risen to 400,000 b/d, driven mainly by estimations for rising growth in the US, as well as in Canada and Brazil.

"And fourthly, we also need to recognize that the fourth quarter of 2016 was a period of significantly rising supplies. Non-OPEC increased its production by around 1.8m b/d from September to November 2016 and, over the same period, OPEC increased its production by about 500,000 b/d. This combined 2.3m b/d expansion needs to be set against a global demand increase of just 200,000 b/d in the fourth quarter of 2016.

"This supply growth is now working its way through the system. It will take time for the market to fully absorb," he asserted.

The OPEC Secretary General pointed out that these developments had translated into stock levels remaining persistently high.

The OECD stock overhang was currently at 282m b above the five-year average and, in the US, crude stocks had reached a historical high of 533m b that was mainly attributed, as mentioned, to lower refinery throughput

OPEC officials and press attending the JMMC in Kuwait.

coupled with increasing US production in a seasonally low-demand period.

"However, outside the US, the global trend of destocking has been broadly on track."

Barkindo noted that, in recent months, he had spoken to many financial market players active in the oil market, at events in both London and Houston.

He said it was evident there was a significant level of bullishness in the first two months of this year, with a general recognition that the rebalancing was occurring. But this was tempered somewhat by questions about the months ahead.

"This included questions, such as: when can we expect to see a strong and declining trend in stock levels, particularly in the US? What can OPEC and non-OPEC nations participating in last year's decisions achieve in the first half of 2017? And what might happen in the second half of 2017?

"These are questions to focus the minds of this Committee. Moreover, we need to remember the role that these financial actors play in the oil market today. They play a major function, possibly a significant and determining factor, in the value of the oil sold daily."

Barkindo continued: "To highlight this, we need to compare the size of the physical and the financial markets for oil. The size of the physical market today is 95m b/d, whereas, if we take open interest, including all traders, the volume of the financial market for oil represents more than 60 times that of the actual physical market!"

Turning to the OPEC/non-OPEC production adjustments, he reported that conformity levels in January and February had been better than market expectations, but further advancements could, and needed to be made.

"It is vital that we see the full commitment of each and every participating country. We expect 100 per cent conformity," he stressed.

"This will be vital to help counter the market developments I have just highlighted and the increasing volatility we have witnessed over the past couple of weeks.

"We still believe that the full and timely implementation of the decisions taken last year will see destocking accelerate by the end of the first half of 2017 with positive upshots and an anticipated balanced market towards the end of the year.

"It is critical we keep our eyes on the goal. We need to ensure an acceleration of the drawdown of the stock overhang and bring the necessary market rebalancing forward.

"I cannot think anything to the contrary. We need to be patient and demonstrate our strong will to allow our decision to run its course.

"I join the chair and the co-chair in urging all participants to meet their obligations under the very guiding principles of fairness, equity, transparency, and timeliness," concluded the OPEC Secretary General.

Alexander Novak, Minister of Energy, Russian Federation, talking to the international media.

Russian Energy Minister

Also addressing the Committee, Alexander Novak, Minister of Energy of the Russian Federation, said through his interpreter that in less than a week, the third month of OPEC and non-OPEC countries' joint efforts to stabilize the situation on international oil markets would come to a close.

"Now we can speak about the interim results of the decisions reached in Vienna and their prospects for the future," he affirmed.

Novak pointed out that the active interaction between the countries participating in the arrangement and the partnership formed within the JTC, in addition to the continuous analysis of the unfolding situation, had allowed the Members to pinpoint a number of factors that were crucial to the success of the decisions taken and that must be discussed by the JMMC.

He maintained that the meetings of the JMMC served as a tool to provide participating countries of the Vienna decisions a means to promptly and completely fulfill their obligations.

"Our efforts are a crucial factor in restoring the healthy balance between supply and demand on oil markets, maintaining the sector's long-term investment attractiveness, restoring market stability and counteracting the work of speculators," he said.

"We have our minds set toward serious and efficient work within the JMMC, in order to achieve this important goal," he observed.

Also quoted by news services, the Russian Minister announced that his country was satisfied that OPEC and non-OPEC countries were committed to sticking to their global deal to adjust oil output.

He confirmed that compliance with the adjustment in output stood at 94 per cent in February, adding that Russia was committed to an adjustment of 300,000 b/d by the end of April.

Novak added that he expected global oil stockpiles to decrease in the second quarter of the year.

Courtesy call on Emir of Kuwait

Meanwhile, the JMMC, led by its Chairman, Issam A Almarzooq, paid a courtesy call on the Emir of Kuwait, HH Sheikh Sabah Al Ahmad Al Sabah to thank him and his government for the support and guidance given OPEC in the run up to the historic decisions made in November and December 2016. The members also pledged their commitment to the full and timely implementation of the decisions.

The Emir welcomed the delegation and thanked the members for honouring the State of Kuwait with the responsibility of the Chairmanship of the JMMC and for hosting its second meeting.

Pictured during the visit to the Emir of Kuwait, HH Sheikh Sabah Al Ahmad Al Sabah (c), are (l–r): Mohammed Hamad Al Rumhy, Minister of Oil and Gas, Oman; Noureddine Boutarfa, Minister of Energy, Algeria; Issam A Almarzooq, Minister of Oil and Minister of Electricity & Water, Kuwait; Mohammad Sanusi Barkindo, OPEC Secretary General; Alexander Novak, Minister of Energy, Russian Federation; Suhail Mohamed Al Mazrouei, Minister of Energy, United Arab Emirates; Dr Nelson Martinez, People's Minister of Petroleum, Venezuela; Jabbar Ali Hussein Al-Luiebi, Minister of Oil, Iraq.

Khalid A Al-Falih, Saudi Arabia's Minister of Energy, Industry and Mineral Resources, who spoke at CERAWeek.

CERAWeek 2017:

Encouragement & engagement

The 2017 edition of CERAWeek, organized by IHS Markit, once again assembled a veritable 'who's who' of the global energy industry. Now in its 36th year, the event is a highlight in the diary of every energy and oil industry leader. Prime ministers, ministers, top-level CEOs, heads of major international organizations — the list could go on. With OPEC Secretary General, **Mohammad Sanusi Barkindo**, in attendance, the *OPEC Bulletin's* **James Griffin** offers an overview of the general mood at the event and provides a specific focus on the Organization's goal of extending its stakeholder outreach.

Houston has long been called the epicentre of the global energy industry. The city was among the greatest beneficiaries of the 'Texas oil boom' that occurred during the early 20th century following the discovery of a large petroleum reserve near Beaumont. It led to the Houston area becoming home to the largest concentration of refineries and petrochemical plants in the world, and the city's fortunes have been entwined with the energy and oil industry ever since.

Today, it is home to more than 5,000 energy-related businesses, the headquarters of more than 500 exploration and production companies and 150 pipeline transportation operators, and a hub and incubator for a variety of innovative technological and engineering advancements.

On arriving in Houston it can appear that everyone has a view on the oil and energy business — from the taxi driver taking us to the Hilton Americas hotel in downtown Houston, to the concierge delivering our bags to our rooms, to the lady serving us coffee on our first morning. It is evident that energy and oil are omnipresent in the city's economic and social fabric. The industry's presence permeates the city.

In terms of the oil market, what quickly becomes apparent is the change in mood from the year previous. At CERAWeek 2016 in February last year there was a sense of foreboding, with what one commentator called "dark clouds hanging over the industry."

With WTI prices in February 2016 around $30/barrel, there was little talk of investment or growth with companies continuing to suffer from operational and financial stresses and job losses still being made. There was also little clear direction as to how the industry might overcome the downturn that had begun in mid-2014, and in turn, rebalance supply and demand.

In contrast, the sentiment at CERAWeek 2017 was positive, driven in part by the voluntary production adjustment decisions taken by OPEC and non-OPEC countries in Vienna on November 30 and December 10, 2017, respectively.

CEOs and investors spoke in terms of seeing a light at the end of a dark tunnel, with Khalid A Al-Falih, Saudi Arabia's Minister of Energy, Industry and Mineral

Mohammad Sanusi Barkino (l), OPEC Secretary General, with Daniel Yergin (r), Vice Chairman, IHS Markit, and Chairman of CERAWeek.

Resources and OPEC Conference President for 2017, highlighting "green shoots" in the recovery. Talk focused more on investment, growth and new jobs, rather than retrenchment, with WTI hovering around $53/b when the event began on March 6.

Moreover, the five-year average for the OECD stock overhang had fallen from 380 million barrels in February 2016 to below 300m b at the start of the conference, although US crude stocks remained persistently high, due mainly to lower refinery throughput, coupled with increasing US production in a seasonally low-demand period in the first quarter of the year. In addition, WTI net long positions had increased from just 110,000 contracts to around 380,000, a record high level, over the period between the 2016 and 2017 CERAWeek conferences.

OPEC Secretary General, Mohammad Sanusi Barkindo, stated that he was "optimistic, we want to believe the worst is over going forward … the atmosphere is changing to the positive as we look to restore stability and normalcy."

With Yergin and Birol

This sentiment was evident in a two-man plenary session at CERAWeek 2017 with the OPEC Secretary General and Dr Fatih Birol, Executive Director of the International Energy Agency (IEA), sharing the stage. The energy dialogue was moderated by Daniel Yergin, Vice Chairman, IHS Markit, and Chairman of CERAWeek, who introduced his guests as "two people who have great insight into present and future energy markets."

Barkindo and Birol both made reference to the more upbeat mood, compared to CERAWeek 2016, with talk of the market realigning and investments returning. Barkindo said "we [the industry] are on course" in terms of market rebalancing, which is essential if the industry is to sustain the returning industry confidence. For OPEC, he said, the focus is on the 2016 landmark decisions reached by the Organization and non-OPEC at the end of last year. He stressed that the main objective of these was to reduce stock levels and quicken the market rebalancing process. "Inventory levels had become unsustainable and out of balance for too long", he said, and it had become "vital to address this variable."

To date, Barkindo said "conformity with the voluntary production adjustments had been encouraging and commitment remains very high," but he stated that "all participating countries should aim for 100 per cent conformity." He added that on May 25, at the 172nd Meeting of the OPEC Conference, "we will look to see how far we have gone in accelerating that drawdown of stocks and bringing the level closer to the five-year average."

Birol underscored that the return of more certainty to the market had seen investments rebound in the United States tight oil sector. He saw the "new wave of shale growth" as a positive sign for the industry, but stressed that global investments needed to resume at a much higher level so as to ensure that supply growth does not stall by 2020. The Executive Director noted that the downturn in investments in 2015 and 2016 was unprecedented for the industry and underscored that he saw the return of sustainable global investments "without delay" as the main issue for the industry. His message to the oil industry, he said, is "invest, invest and invest."

The Secretary General concurred, acknowledging that it was essential that investors also looked to sustainable long-cycle project investments to complement those currently being made in short-cycle projects. "Our eyes need to be on long-term investment that is the baseload for the industry," he said.

The importance of this was emphasized in the fact that both heads of OPEC and the IEA agreed that they did not see an oil demand peak for the foreseeable future. Demand remained robust, said the Secretary General. He highlighted figures in OPEC's *World Oil Outlook 2016,* which sees world oil demand increasing by around 17 million barrels/day between 2015 and 2040, with oil-related investment requirements of $10 trillion over this period.

Both Barkindo and Birol accentuated the many positives of the ever-evolving dialogue between OPEC and the IEA that included talks and cooperation at the executive level and various workshops and meetings at the technical level. Moreover, Barkindo said the producer-consumer dialogue between the two organizations, as well as with the International Energy Forum (IEF), and its new Secretary General, Dr Sun Xiansheng, who was also present in Houston, was developing "not only in the interests of OPEC Members and IEA members, but in the best interests of the global community."

North American outreach

The OPEC Secretary General also saw CERAWeek 2017 as an ideal opportunity to further the Organization's North American outreach, particularly with the independent producers that had driven the US tight oil boon

Mohammad Sanusi Barkino (c), OPEC Secretary General; with Dr Fatih Birol (r), Executive Director of the International Energy Agency (IEA); and Daniel Yergin (l), Vice Chairman, IHS Markit, and Chairman of CERAWeek.

in the first part of this decade before suffering significant upheaval during the oil market downturn of the last couple of years.

Some commentators have until recently labelled the relationship between OPEC and the North American independent tight oil operators as a 'battle of wills', while others have gone as far as calling it a 'war'. These types of comments were certainly overblown, with OPEC over the years often emphasizing the importance of the efficient production of tight oil for the global marketplace. While in Houston, this was re-emphasized by Barkindo, who highlighted creativity, operational skills and the managerial ingenuity of these companies, as well as the value and importance of tight oil growth to the global economy in terms of helping meet oil demand growth during the early part of this decade.

What had been missing in the past, however, was a dialogue or communication channel so that OPEC could better understand the perspectives of North American independents and vice versa. At CERAWeek 2017 this was addressed, with a couple of significant high-level get-togethers between OPEC and US oil industry CEOs, leaders and innovators that allowed these key industry stakeholders to informally engage.

Barkindo called the meetings "historic", and stressed that "we all belong to the same industry, we have all felt the brunt of the volatility the market has experienced over the past two years or so and we all want to see the restoration of stability." He said that with confidence returning to the industry and given the fact that "oil will be a major source of energy for the foreseeable future," it is vital to better understand the viewpoints of all industry stakeholders.

He added that these producers did not need to be persuaded to discuss the challenges and opportunities facing the oil industry, particularly given that the US tight oil sector had lost around 1m b/d in production over the past year or so, with many job losses and many companies in distress. He said that "no-one wants to see a repeat of 2015 and 2016."

The constructive and encouraging nature of the talks was exemplified in some of the positive post-meeting comments regarding OPEC's outreach from those North American independents present. Speaking to Bloomberg, John Hess, CEO of Hess, said: "It was a very good exchange of information and views about oil … I really commend the OPEC Secretary General for the outreach. It was a good talk."

Scott Sheffield, Executive Chairman of the Board of Pioneer Natural Resources, also in comments to Bloomberg, said: "I am seeing a series of meetings where OPEC is reaching out and spending more time with US independents than I have seen over my entire career."

Mohammad Sanusi Barkino, OPEC Secretary General.

"They are asking questions, the same questions we are asking," Barkindo told a gathering of reporters in Houston. "We are all learning, because this is new in the world of oil." He added that he hoped that this was "just the beginning of the dialogue."

The financial and investment community

The OPEC Secretary General also participated in an IHS Markit-organized meeting with leading actors from the financial and investment community; an opportunity to exchange viewpoints and further explore the interactions between financial and physical markets.

Barkindo said: "Times have changed, we are more globalized … the impacts of the financial markets on oil continue to be magnified. They are key players in this industry. Their actions in the market, be they long or short, have an impact on our industry. We have to better our understanding of these stakeholders and adapt to any new changes."

The meeting at CERAWeek 2017 was followed soon after at the OPEC Secretariat in Vienna by the 2nd Joint IEA-IEF-OPEC Technical Meeting on the Interactions between Physical and Financial Energy Markets.

The gathering of experts on this subject has developed into a unique, high-level technical event and brings together a diverse range of market participants to discuss issues that are not addressed in other high-level fora. *(For more information on this meeting, see p19)*.

Other engagements

CERAWeek 2017 was also an occasion for the OPEC Secretary General to garner views and opinions from other senior oil industry executives with bilateral meetings held with Eldar Sætre, CEO of Statoil; John Hess, CEO of the Hess Corporation; Darren Woods, Chairman & CEO of ExxonMobil; José Antonio González Anaya, CEO of Pemex; Bob Dudley CEO of BP; and Ryan Lance, Chairman and CEO of ConocoPhillips. The meetings were an opportunity to discuss the major issues facing the global oil sector, in both the short- and long-term, as well as the energy sector more generally.

Barkindo also held a bilateral meeting with Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC). The two discussed the importance of enhancing collaboration between OPEC and the UNFCCC on such matters related to climate change, sustainable development and economic diversification. The meeting further builds on the ongoing involvement of OPEC in climate change negotiations and the active participation of its Member Countries.

The Secretary General in addition met with representatives from the Centre for Strategic and International

Mohammad Sanusi Barkino held a bilateral meeting with Patricia Espinosa (l), Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC) ...

... with Darren Woods, Chairman & CEO of ExxonMobil.

Studies — Sarah Ladislaw, Director and Senior Fellow, Energy and National Security Programme, Adam Sieminski, the James R Schlesinger Chair for Energy and Geopolitics, and Frank A Verrastro, Senior Vice President and Trustee Fellow, as well as Jason Bordoff, Founding Director, Centre on Global Energy Policy, Columbia University.

Building a new energy future

This year's CERAWeek theme was *'Pace of Change: Building a New Energy Future'*. In this regard, it was clear that the focus in the short-term was on providing a stable platform so as to ensure that in the long-term the industry is able to deliver the necessary investments in supply to meet future demand growth in an ever more cost-effective and sustainable manner. For oil, it was evident, as Saudi Arabia's Al-Falih said in a keynote address, that their remains an "insatiable thirst for oil ... demand for petroleum imports will continue to grow steadily in the developing world."

With a sense of optimism returning to the oil industry and with an anticipated healthy long-term future, a key outcome of CERAWeek 2017 was the need to continually work together as an industry to ensure development occurs in an orderly and stable manner. In this regard, the value of dialogue and cooperation to better understand all stakeholders was a key outcome of the event, with OPEC opening up new avenues for extending its multi-stakeholder outreach.

All images in this article, courtesy CERAWeek.

... and was interviewed by CNBC.

IEF

Officials in session at the Symposium.

The Symposium was held in Riyadh, Saudi Arabia.

Shutterstock

IEA-IEF-OPEC holds seventh symposium on energy outlooks

The seventh International Energy Agency (IEA), International Energy Forum (IEF), OPEC Symposium on Energy Outlooks was held at the IEF's Headquarters in Riyadh, Saudi Arabia on February 15, 2017.

According to a joint press release issued after the one-day meeting, the symposium successfully concluded its sessions, debating short-, medium- and long-term energy outlooks and transport sector dynamics.

It noted that both the IEA and OPEC publish energy market outlooks based on rigorous analysis of available statistical data, market fundamentals, macroeconomic developments, policy trends and assumptions.

In addition, on the occasion of the biennial IEF Ministerial meetings, both organizations present focused findings that they derive from their analysis and outlooks, it added.

IEF Secretary General, Dr Sun Xiansheng, his counterpart at OPEC, Mohammad Sanusi Barkindo, and Dr Kamel Ben Naceur, Director of Sustainability, Technology and Outlooks, representing the Executive Director of the IEA, welcomed more than 120 senior government and industry representatives from energy-producer and consumer countries to the symposium — described as "an inclusive and neutral platform" provided by the IEF.

OPEC Conference President, Khalid Al-Falih, Minister of Energy, Industry and Mineral Resources of Saudi Arabia, who also attended, welcomed participants by stating that as energy markets were governed by more complexity, "enhancing dialogue on probable energy pathways improves market transparency and brings us closer to achieving our goals together."

IEF head Sun pointed out that "global energy security depends more than ever on enhancing commitment, reliability and trust. This can only be achieved by a vibrant energy dialogue on a global level," he maintained.

Ben Naceur stated that "the IEA is committed to continued collaboration aimed at providing transparency on the model assumptions, underlying the energy outlooks and looks forward to continued discussions with the other partners and stakeholders on the implications of the different scenarios."

In his comments, OPEC's Barkindo spoke about the success of the Organization's recent decisions to adjust production, but stressed that there was a great deal of uncertainty in the world — not only in the petroleum industry, but also in the wider political context, that also potentially provided historic opportunities.

"... enhancing dialogue on probable energy pathways improves market transparency and brings us closer to achieving our goals together."

— Al-Falih

He pointed out that there was much speculation as to what the future might hold. "But, as you know, none of us has a crystal ball, and no one can predict the future. With this in mind, I cannot overemphasize the importance of ongoing dialogue and cooperation."

Barkindo noted that OPEC already had an extensive list of bilateral and multilateral energy dialogues that it held annually with international stakeholders, including the European Union, Russia, China, India, the

IEF

Mohammad Sanusi Barkindo (l), OPEC Secretary General (l), and Dr Sun Xiansheng (r), IEF Secretary General, present a certificate of appreciation to Khalid Al-Falih (c), Saudi Arabia's Minister of Energy, Industry & Mineral Resources, for participating in the Symposium.

"... global energy security depends more than ever on enhancing commitment, reliability and trust. This can only be achieved by a vibrant energy dialogue on a global level."

— Sun

World Bank, the International Monetary Fund, the G20 and, of course, with the IEF, the IEA and international oil companies.

He said that in a new era of collaboration and dialogue, it was essential for key stakeholders in the industry to work together towards the mutually beneficial goal of ensuring stability in the world energy markets, in the interest of producers, consumers and the global oil industry.

Enhance comparability of outlooks

In their Symposium, the IEA, IEF and OPEC agreed to maintain their efforts to enhance the comparability of energy outlooks in response to requests for more aligned baseline data on supply and demand where possible and to continue to facilitate wider understanding of the variations in outlook assessments.

Industry and government representatives welcomed the comparative analysis of the IEA and OPEC outlooks provided in the IEF-Resources for the Future (RFF) Introductory Paper to improve dialogue and engagement with all energy sector stakeholders.

Sun moderated discussions in the first session with a focus on the latest OPEC and IEA energy outlooks and a comparative analysis of short-, medium-, and long-term energy outlooks released by the two organizations

in 2016 provided by the IEF-RFF Introductory Background Paper.

Sheikh Mohammed bin Khalifa Al Khalifa, Bahrain's Minister of Oil, chaired Session II on industry views on short-, medium-, and long-term energy outlooks, while Mohamed Zayed Awad Mousa, Sudan's Minister of Petroleum, chaired the final session on transportation.

To help place discussions in the context of global sustainable development goals and Paris Agreement pledges to limit global warming within agreed thresholds, Shamshad Akhtar, Under Secretary General of the United Nations and Executive Secretary of the Economic and Social Commission for Asia and the Pacific (ESCAP), delivered a special address via her designated representative.

The Seventh Symposium on Energy Outlooks is part of a wider trilateral work programme undertaken by the IEA, IEF and OPEC in recognition of the mandates from the IEF Energy Ministers and G20 countries.

The underlying principle of the symposium is to improve transparency and facilitate comparability among the various outlook scenarios, as well as help advance a data-driven and well-informed producer-consumer dialogue.

In addition to the Joint Symposium on Energy Outlooks, the joint collaboration involves High-Level Workshops on Physical and Financial Energy Market Interactions and Gas and Coal Market Outlooks.

"... the IEA is committed to continued collaboration aimed at providing transparency on the model assumptions, underlying the energy outlooks and looks forward to continued discussions with the other partners and stakeholders on the implications of the different scenarios."

— Ben Naceur

"... none of us has a crystal ball, and no one can predict the future. With this in mind, I cannot overemphasize the importance of ongoing dialogue and cooperation."

— Barkindo

Delegates to the IEA-IEF-OPEC Symposium seen during a group photograph.

IEF

Barkindo meets Al-Falih and Aramco Head, visits research centre

Mohammad Sanusi Barkindo (l), OPEC Secretary General, meets with OPEC Conference President, Khalid Al-Falih, Minister of Energy, Industry and Mineral Resources of Saudi Arabia, in Riyadh, Saudi Arabia.

OPEC Secretary General, Mohammad Sanusi Barkindo, took the opportunity of his visit to Saudi Arabia to meet with both the Minister of Energy, Industry and Mineral Resources, Khalid Al-Falih, and the President and Chief Executive Officer of Saudi Aramco, Amin Nasser.

Al-Falih commended the OPEC Secretary General for his leadership role as chief executive of the Organization, particularly during the extensive consultations and negotiations leading to OPEC's recent landmark and historic decisions.

Barkindo spoke highly of the Minister's extensive industry experience, which had spanned decades, where he had served as both President and CEO with Saudi Aramco, the world's largest oil and gas company.

The Secretary General further recognized the Minister's many contributions to his country and in the fulfillment of his OPEC responsibilities, which he stressed had benefitted from his rich reservoir of knowledge and experience. Barkindo urged Al-Falih to continue assisting the OPEC Secretariat in opening energy dialogues with institutes across the industry.

The OPEC Secretary General also briefed Al-Falih on the OPEC delegation's visit earlier in the day to the King Abdullah Petroleum Studies and Research Centre (KAPSARC), informing him that the OPEC Secretariat and the Centre had agreed to build a technical working relationship through joint studies, projects and programmes.

KAPSARC, a global, non-profit institution that conducts independent research on energy economics, collaborates with other international research centres and public policy organizations around the world. Its staff, which is composed of experts and researchers from 15 different countries, works on numerous projects with the purpose of acting as a catalyst for enhanced energy dialogue.

Its strategic objectives include developing sustainable economic frameworks that may lead to lower energy supply costs, more effective alignment between energy policy objectives and outcomes, and higher value from energy consumption.

At KAPSARC, Barkindo and his accompanying team were welcomed by the Centre's President, Samer AlAshgar, and the Director of Research, David Hobbs. They were joined by other senior officials and researchers.

Mohammad Sanusi Barkindo (l), OPEC Secretary General, with Amin Nasser, President and CEO of Saudi Aramco.

Mohammad Sanusi Barkindo, OPEC Secretary General (l) receives a symbolic gift from Samer AlAshgar, President of KAPSARC.

AlAshgar gave a detailed overview of the Centre, while some of its researchers gave presentations on OPEC's spare capacity, energy demand in the transport sector and Saudi Arabia's Vision for 2030.

Members of the OPEC delegation also made presentations, focusing on key long-term conclusions drawn from OPEC's *World Oil Outlook (WOO) 2016* and also on short-term market prospects.

Commenting during the visit, the OPEC Secretary General emphasized that OPEC's goal was stability of the oil market, stating that "spare capacity is an insurance against shocks," and in the interests of the global economy and, in particular, consumers.

Both Barkindo and AlAshgar stressed the necessity of ongoing cooperation and dialogue and a regular exchange of information between OPEC and KAPSARC's researchers, stressing that they looked forward to future collaboration.

Meanwhile, during his visit earlier to Saudi Aramco, the OPEC Secretary General, was praised by Nasser and other senior company officials for the recent work done in support of oil market equilibrium.

Nasser acknowledged the positive role that OPEC has continued to play worldwide, particularly during recent negotiations with other energy stakeholders in efforts to restore stability to the oil market on a sustainable basis.

Barkindo lauded Saudi Aramco's many achievements, which, he said, were an important source of pride for both OPEC and Saudi Arabia. He also highlighted the high performance of the company's staff and their professionalism, as well as plans recently adopted by Aramco to develop its manpower.

"I am very impressed by the level of investment you have made in human capital," he affirmed.

The OPEC Secretary General briefed Nasser on the oil market condition, providing an overview of last year's landmark OPEC decisions and their role in helping to rebalance the market.

These included the Vienna decision, reached during the 171st Meeting of the OPEC Conference on November 30, and the subsequent 'Declaration of Cooperation' between OPEC and non-OPEC oil producers, agreed on December 10.

Barkindo's meeting with Nasser was also an opportunity for OPEC officials to exchange data and share their models and analysis with company officials, who gave a detailed presentation on *'Saudi Aramco and a Technology Overview',* focusing on some of Aramco's recent work.

The Secretary General and his team were also taken on a tour of various Aramco departments and research divisions, including Oil Supply Planning and Scheduling, the Exploration and Petroleum Engineering Centre and the Upstream Development Centre.

The OPEC delegation also attended technical presentations on 'Upstream Challenges and Solutions' and other research activities during each of the visits.

In the afternoon, the OPEC Secretary General met with Saudi Aramco's Corporate Planning Management Division for a broad, high-level exchange of outlooks.

The OPEC delegation again gave a presentation on the long-term outlook for the market, based on the recent findings of the WOO, while the Organization's researchers delivered a presentation on the short-term oil market prospects.

Aramco officials, in turn, gave a presentation on the challenges facing future energy markets and explained some of the forecasting methodologies the company used in its analysis.

Photos courtesy of the Ministry of Energy, Industry and Mineral Resources, Saudi Arabia.

Martin Gammon for Energy Institute

IP Week keynote address, client briefing seminar and visit to BP

OPEC Secretary General, Mohammad Sanusi Barkindo, attended the International Petroleum (IP) Week conference in London on February 21, at which he highlighted the Organization's recent landmark successes.

During the event, he delivered a keynote address on *'The future economy of oil from the Middle East and across OPEC'* at a session moderated by Manus Cranny, Markets Editor/Anchor, of Bloomberg TV, who followed the Secretary General's speech with a number of questions, including some from the audience.

In his comments, Barkindo highlighted how much had changed in the industry since the last time he spoke in London at the Oil & Money conference, in October 2016.

He especially pointed to the landmark and historic decisions reached by OPEC and non-OPEC countries at the end of last year, stressing that "collaborative and timely intervention was taken to address the prevailing market realities."

Barkindo also spoke about the gravity of the sharp contraction in oil industry investments in both 2015 and 2016 *(see speech on p26)*.

IP Week, hosted by the Energy Institute, is a highly respected global annual conference where leaders from the global oil and gas industry share their wealth of knowledge and experience with fellow experts over three days of conferences, seminars, roundtables and social events.

This year's event also saw the awarding of 'The International Oil Diplomacy Man of the Year Award' to Dr Mohammed Bin Saleh Al-Sada, Qatar's Minister of Energy and Industry, and OPEC Conference President in 2016.

The OPEC Secretary General said that "the judgement, patience, guidance, consistency and dedication" shown by Al-Sada in bringing together OPEC and non-OPEC in 2016 "were a cornerstone of the great efforts aimed at rebalancing the market, supporting sustainable stability and ensuring that the necessary industry investments return."

Whilst in London, Barkindo also participated in the 2017 Annual IP Week Client Briefing Seminar, organized by Citigroup. He was interviewed by Edward Morse, Global Head of Commodities Research at Citigroup, with more than 100 leading companies, including producers, consumers, traders and fund managers, in attendance.

The OPEC Secretary General spoke on a number of issues, including the recent OPEC and non-OPEC decisions, the current oil market environment, the transparency drive and the need to develop a better understanding of the relationship between physical and financial markets.

Barkindo and his accompanying OPEC team also paid a visit to the head office of oil major, BP, where they met with a number of the firm's executives, including Lamar McKay, the company's Deputy Chief Executive Officer, and Spencer Dale, Chief Economist.

Talks focused on the near- and long-term outlooks, including elements from BP's recently released '*Energy Outlook*' and OPEC's *World Oil Outlook*. Both sides agreed to enhance their cooperation through regular technical exchanges on oil market analysis and prospects.

The meeting with BP follows similar recent interactions between the OPEC Secretary General and the CEO of Eni, Claudio Descalzi, at the company's headquarters in Milan, and with Patrick Pouyanné, Chairman and CEO of Total SA, in Paris.

Mohammad Sanusi Barkindo, OPEC Secretary General (r), with Edward Morse, Global Head of Commodities Research at Citigroup.

Barkindo (l) with Lamar McKay, BP's Deputy Chief Executive Officer.

Oil sector cannot afford another year of lost investment — Barkindo

The international oil industry cannot afford to see investment levels fall for a third year in a row, according to OPEC Secretary General, Mohammad Sanusi Barkindo.

Addressing the International Petroleum Week in London on February 21, he told delegates that the gravity of the sharp contraction in oil industry investment had been underscored in the fact that, in both 2015 and 2016, a dramatic rationalization of projects was witnessed.

In his keynote address to the event on *'The future economy of oil from the Middle East and across OPEC',* Barkindo pointed out that global oil and gas exploration and production spending fell by around 26 per cent in 2015 and a further 22 per cent in 2016.

"Combined, this equates to above $300 billion. This has impacted new projects coming onstream and new discoveries too," he affirmed.

He stressed that stability in the oil market today was also vital for stability in the future, given that the oil industry was very much a medium- to long-term business.

"Moreover, the industry remains a growth business. We see the world requiring more oil in the years ahead. Oil will remain a fuel of choice for the foreseeable future," he maintained.

In OPEC's latest *World Oil Outlook (WOO)*, oil was still expected to supply over 26 per cent of the world's energy demand by 2040. Oil demand increased by around 17 million barrels/day between 2015 and 2040 to reach close to 110m b/d, he observed.

"This will require significant investments. And new barrels are needed to not only increase production, but also to accommodate for decline rates from existing fields."

Investment requirements

"Overall, we see oil-related investment requirements of around $10 trillion over the period to 2040."

Barkindo asserted that the oil industry needed regular, timely and sustainable investment to guarantee security of supply to the global community.

"It is essential for our industry's future and that of the global economy. It is essential to all those consumers around the world who rely on hydrocarbon resources for their everyday needs. And it will be essential to the future of those currently without access to modern energy services," he stated.

In this regard, the OPEC Secretary General contended that it should not be forgotten that today 2.7 billion people still relied on biomass for their basic needs and 1.3bn had no access to electricity. "The energy transition should take this global challenge into account."

Barkindo told delegates that it was also important to note where the future supplies were expected to come from. OPEC's *WOO* projected that non-OPEC liquids production would see a recovery in the medium-term, after dropping considerably in 2016. However, it would reach a plateau over the next decade, reaching 61.4m b/d in 2027, before declining to 58.9m b/d by 2040.

"In the long-term, it is OPEC that will be required to meet much of the expected additional demand," noted Barkindo.

He said in terms of crude, OPEC's supply was estimated to increase to 41m b/d by 2040, an increase of around 9m b/d from 2016, while non-OPEC supply was anticipated to witness an overall decline of 2m b/d. In terms of all liquids, the increase for OPEC was close to 12m b/d from 2016, and for non-OPEC there was growth of about 3m b/d. "It means that the estimated share of OPEC crude in the total world liquids supply in 2040 is 37 per cent, which is three percentage points higher than the 2015 level," the OPEC Secretary General observed.

To meet their obligations as secure and reliable suppliers of oil to world markets, he said, OPEC Member Countries remained committed to investing in new capacity and the necessary infrastructure, despite the downturn the industry had witnessed in the last couple of years.

"We believe that the recent decisions taken by OPEC and non-OPEC countries are already creating the favourable conditions for the industry to deliver the necessary medium- and long-term investments for our energy future," he professed.

Barkindo was referring to the landmark and historic decisions made by OPEC towards the end of 2016 — in Algiers, Algeria, in September and Vienna, Austria, in November, followed by the 'Declaration of Cooperation' with non-OPEC producers, reached in the Austrian capital in December.

He explained to the audience that since he spoke in London the last time — at the *Oil & Money* conference in October 2016 — from the perspective of OPEC and the oil industry as a whole, a lot had happened. "My discussions back in October 2016 were focused on OPEC's Algiers decision adopted at the 170th (Extraordinary) Meeting of the OPEC Conference on September 28. At this meeting,

the OPEC Conference opted for an OPEC production target ranging between 32.5 and 33m b/d, in order to bring the market rebalancing forward," he said.

Barkindo said the focus and preoccupation was the unprecedented build-up of inventories over the period 2015–16 that dislocated oil market fundamentals and sent oil prices plunging by as much as 80 per cent. "The Algiers decision was a landmark achievement for the Organization and the industry and I recall the optimism portrayed by Khalid Al-Falih, Saudi Arabia's Minister of Energy, Industry and Mineral Resources, who was speaking at the same October conference. However, I recall that in some quarters doubts were raised about whether OPEC could actually implement the Algiers decision in a full and timely manner."

He said scepticism was also voiced loudly about the ability of OPEC to bring non-OPEC producers onboard, following the decision in Algiers to develop a framework of high-level consultations between OPEC and non-OPEC countries. "Despite this pessimism, OPEC embarked on the most extensive consultations among OPEC Member Countries and between OPEC and non-OPEC producing nations. At the same time, we also undertook deliberations with the broader international community and other multilateral organizations to further build consensus about the strategic urgency of restoring sustainable oil market stability."

Barkindo said the intervening period between the Algiers decision and the Vienna decision on November 30 was no doubt one of the most challenging and intense periods in recent oil industry price cycles.

"The shuttle diplomacy that was undertaken across the world and the encouraging and consistent advocacy in a variety of international energy platforms and fora, facilitated consensus and commitment."

This, he said, was crucial in the adoption of the Vienna decision at the 171st Meeting of the OPEC Conference and the 'Declaration of Cooperation' with non-OPEC countries on December 10.

"For the first time in the history of the industry, 13 OPEC nations and 11 non-OPEC participating countries, led by the Russian Federation, came together to help rescue and stabilize this strategic global industry — one that has been vital to the development of modern civilization.

"To achieve this historic feat, our Heads of State and Government, Ministers, Ambassadors, and many officials from the 24 participating countries — both individually and collectively — played decisive roles in the run-up to these landmark decisions."

The OPEC Secretary General said that through a shared vision, among both OPEC and non-OPEC producers, collaborative and timely intervention was taken to address the prevailing market realities.

"It was a commitment to all oil industry stakeholders, both producers and consumers, as well as one to the broader global community, through the restoration of oil market stability and the potential positives of this for the global economy."

Martin Gammon for Energy Institute

Mohammad Sanusi Barkindo, OPEC Secretary General.

To implement these timely decisions, Barkindo explained that a Joint Ministerial Monitoring Committee (JMMC) was also established, which met for the first time in Vienna on January 22.

He said the adoption of the framework for oversight and monitoring implementation, which involved a Joint Technical sub-Committee, was both innovative and unique.

The OPEC Secretary General said the Organization was determined to realize the joint conference decision to strengthen and sustain the OPEC/non-OPEC cooperation already established.

"We want this to be a lasting and flexible partnership that when necessary can help reduce volatility, provide more confidence to the market, and steer a path towards more sustainable stability."

Barkindo said that, in the short term, it was expected that this cooperation, alongside recent indications of some improving macroeconomic conditions, would see the rebalancing process brought forward and more stability returned to the market. I cannot over stress how vital this is, not only to the industry, but the global economy too," he affirmed. He said it was evident in the last quarter of 2016 that total OECD commercial oil stocks were falling and it was expected that there would be a further drop during 2017, as a result of the decisions taken.

"We will continue to focus on the level of inventory drawdown to bring the level closer to the five-year industry average. These decisions should also mean that prices stabilize at levels that are more conducive to the kind of investments the industry needs, specifically by lessening the financial and operational stresses for companies and reducing the pressure to cancel or postpone planned projects. We believe as the market rebalances the price will find its equilibrium," said Barkindo.

Elaborating on the future, he said there were still many other challenges for the oil markets to deal with, including the prospects for the global economy; excessive speculation and the role of financial markets; the impact of geopolitics; advances in technology and their impacts on exploration and production; policy uncertainties in a number of leading producing and consuming countries; and environmental and sustainable development concerns.

And there was also "the major topical issue of our time" to contend with — climate change. "It obviously has the potential to impact energy demand, the overall energy mix and the future economy of oil."

Barkindo stressed that OPEC not only welcomed the Paris Agreement on climate change from COP 21 and its early enforcement toward the end of 2016. "Our Member Countries played an important role in reaching the Agreement — and they will also play a role in its implementation. All 13 OPEC Member Countries have signed the Agreement and all are in the process of ratifying it," he added.

Barkindo highlighted that he visited Bonn, Germany in October last year to meet with Patricia Espinosa, Executive Secretary of the UN Framework Convention on Climate Change (UNFCCC), to enhance cooperation between the UNFCCC and OPEC. "This collaboration is a new and positive development that was welcomed by the UNFCCC."

He stated: "It is vital, however, to remember that the implementation of the Paris Agreement should continue to be guided by the principles and provisions that were provided for in the UNFCCC. The unique situation of developing countries, in particular, should be given the priority it deserves, including those developing countries dependent on oil."

Barkindo said that in terms of the energy mix, "we can expect to see a further shift towards renewables in the coming decades. Let me stress that OPEC is greatly supportive of the development of renewables. Many of our countries have vast sources of solar and wind, and significant investments are being made in these fields.

"Of course, we also acknowledge the challenges of emissions that come from burning fossil fuels. In this regard, we recognize the need to use energy efficiently and to continually look to develop and adopt cleaner energy technologies, such as carbon capture and storage and many others in the future.

"I am a believer that solutions can be found in technologies that reduce and ultimately eliminate these emissions. In this regard, I welcome coordinated action with the industry and through various research and development platforms."

In conclusion, the OPEC Secretary General said the Organization remained optimistic about a sustainable future for oil.

"We believe it will continue to play a central role in helping provide heat, light and mobility to billions of people across the world, and we believe it will continue to help drive the economies and the diversification of our Member Countries.

"The focus needs to be on sustainable oil market stability. It is the concern that links us all," he stated. "Stability is vital for security of supply and security of demand, which are in turn both vital to stable investments and future capacity expansion. This is beneficial to both producers and consumers.

"To put it simply: oil market stability is one of the central pillars of a well-functioning global economy," he added.

Al-Sada voted 'Man of the Year' for international oil diplomacy

Qatari Minister of Energy and Industry, Dr Mohammed Bin Saleh Al Sada, who was President of the OPEC Conference last year, has been named *'International Oil Diplomacy Man of the Year'* for 2016.

The Award, presented to Al-Sada at the Energy Institute's *International Petroleum Week* conference in London in February, was in recognition of the key role he played throughout last year in leading OPEC Member Countries and coordinating with non-OPEC producers to secure landmark decisions to adjust global oil supplies.

The Award is also in recognition of the critical role Qatar has played in leading producing countries from around the world to find common purpose in cooperation and partnership.

"As President of the OPEC Conference, Dr Al-Sada has made history by showing exemplary vision and stewardship in reaching a historical decision to cap oil output among OPEC and non-OPEC oil producers at a time when the energy industry was at its lowest ebb," Louise Kingham, Chief Executive of the London-based Energy Institute, said in handing the Award to Al-Sada.

In a speech on the occasion, the Qatari Minister pointed out that the Award was truly a recognition of the role of the State of Qatar under the leadership of the Emir, Sheikh Tamim bin Hamad Al-Thani, "who consistently guided and encouraged me to keep the process on track, right through 2016, despite the many challenges and hurdles we faced. In doing so, Qatar relied on its cordial relations and mutual trust with the international community."

Under these hard circumstances, continued Al-Sada, Qatar, as President of OPEC in 2016, undertook the responsibility of building bridges among OPEC Members, followed by bringing together both OPEC and non-OPEC producers to a common platform with a unified objective.

"Persistent and persuasive diplomatic initiatives were adopted as the course of action. This helped in the development of the Algiers decision (in September), which further paved the

Martin Gammon for Energy Institute

Dr Mohammed Bin Saleh Al-Sada (l), Minister of Energy and Industry, Qatar, receiving his award from Louise Kingham, Chief Executive of the Energy Institute in London.

way in the formulation of the Vienna decision in November, leading to the OPEC and non-OPEC 'Declaration of Cooperation' ten days later," he observed.

Al-Sada stressed that this historic decision represented a consensus that was reached amongst a diverse group of countries "from the far corners of the world: the Americas; Europe; Asia; the Middle East; and Africa. It proved that multilateral, beneficial, global decisions are still possible through positive diplomatic initiatives. Such an approach could help in resolving many other international issues."

He maintained that as a result of this landmark development the outlook for the oil market this year had now improved with a more positive tone. A year ago, crude oil prices had fallen to a 13-year low of $27/barrel.

"Today, oil prices are essentially double that level. The Vienna decisions are expected to reduce the high oil inventories and return balance to the oil market later this year."

The Minister underlined that economists agreed that the drop seen in crude oil prices over the past two years was not in favour of any party. "Everyone has lost. They also agree that the recovery of the oil industry will inevitably lead to the recovery of the world economy."

Al-Sada, who holds a PhD from the University of Manchester, in the UK, with over 28 years of service with Qatar Petroleum, was appointed Qatar's Energy and Industry Minister in January 2011, succeeding elder statesman Abdullah Bin Hamad Al Attiyah, who held the position for 18 years.

The Energy Institute is the largest professional body for the energy industry. Established in 2003, it supports over 23,000 individuals working in or studying energy and 250 companies worldwide, providing learning and networking opportunities to support professional development, as well as professional recognition and technical and scientific knowledge resources on energy in all its forms and applications.

OPEC Secretary General pays first visit home to Nigeria since assuming office

OPEC Secretary General, Mohammad Sanusi Barkindo, paid a working visit to Nigeria towards the end of February — the first time he has been to his home country since assuming office at the Organization on August 1, last year.

During the seven-day visit, he met in Abuja with Professor Yemi Osinbajo, Acting President of the Federal Republic of Nigeria, Emmanuel Ibe Kachikwu, Nigeria's Minister of State for Petroleum Resources, as well as senior government officials and corporate leaders.

Barkindo expressed his deep gratitude to Osinbajo for Nigeria's steadfast support during the recent period of extensive consultations between OPEC and non-OPEC nations that led to the Organization's historic decisions made in September and November and which culminated in the 'Declaration of Cooperation' reached with 11 non-OPEC nations in December.

The OPEC Secretary General also briefed the Acting President on the implementation of the decisions, as well as recent oil market developments and prospects.

Key oil market matters

Barkindo also focused on key oil market matters in a keynote speech he made to the Nigeria Oil and Gas conference in Abuja *(see speech on page 35)*, stressing that the landmark decisions taken last year were central to the market stability required by oil-producing countries, for their economic growth and development.

He pointed out that all 24 countries that were party to the adjustments were committed to the process, adding that the decisions had already positively impacted the market, as seen by the onset of a more bullish sentiment among oil investors and the global oil industry, as well as a welcome spillover effect to the global economy with improved performance in some key industrialized countries.

"These positive indicators are leading to better short- and medium-term perspectives for the market, in particular for investment," he maintained.

Looking longer term, the OPEC Secretary General said there was no doubt that oil would remain a fuel of choice for the foreseeable future. Oil demand was anticipated to climb to over 109 million barrels/day by 2040, an increase of 16.4m b/d from 2015. By then, oil and gas would still satisfy 53 per cent of total primary energy demand.

Prestige for Nigeria

In talking about the Nigeria Oil & Gas conference — the 16th edition — Barkindo highlighted the importance of the event and the prestige it had brought to the country over the years.

The event, he observed, was created through the vision and leadership of the late Dr Rilwanu Lukman, then OPEC Secretary General, and the close collaboration that grew between him and Dr Alirio Parra, a former Minister of Energy & Mines of Venezuela, now Honorary Chairman of the conference.

Meanwhile, the OPEC Secretary General also delivered a speech at an event hosted by Minister Kachikwu, with invited guests including the Nigerian-based Ambassadors of the other 23 countries that were party to last year's OPEC decisions and the 'Declaration of Cooperation'.

Barkindo said it was a "great honour" to speak to all those present and specifically thanked Nigeria's President, Muhammadu Buhari, and Kachikwu for their "support, guidance and encouragement" in helping OPEC and non-OPEC nations deliver the historic decisions that were taken at the end of 2016.

He added that "the vision, leadership and courage of all Heads of State and Government, oil ministers and envoys to the complex decision-making process meant

Mohammad Sanusi Barkindo (l), OPEC Secretary General, with Emmanuel Ibe Kachikwu (r), Nigeria's Minister of State for Petroleum Resources.

that we have turned a historic page in the global oil industry."

The OPEC Secretary General pointed out that "for the first time in the history of the industry, 13 OPEC nations and 11 non-OPEC participating countries, came together to help rescue and stabilize this strategic global industry — one that has been vital to the development of modern civilization."

Accompanying Kachikwu and other high-level officials, Barkindo also took a tour of the conference's exhibition, visiting various stands, including the one occupied by OPEC's Public Relations & Information Department.

Other Members of the OPEC delegation participated in the conference, with Dr Hojatollah Ghanimi Fard, Head of the Petroleum Studies Department, moderating a session titled *'Resetting Nigeria's Oil & Gas Industry — Reviewing Global Trends'*. The panel for the session also included Nadir Guerer, Senior Research Analyst at the OPEC Secretariat.

The OPEC team also made presentations on short-term oil market conditions, the long-term oil outlook, as well as an update on the Joint Ministerial Monitoring Committee and the Joint Technical sub-Committee, to the Ministry of Petroleum and the Nigerian National Petroleum Corporation.

The OPEC Secretary General also took time out to visit his home town of Yola, where he was received by the Governor of Adamawa State, Mohammed Umar Jibrilla Bindow, and hosted to a Durbar by the Lamido of Adamawa, Dr Muhammadu Barkindo Aliyu Musdafa, the ruler of Adamawa.

"... the vision, leadership and courage of all Heads of State and Government, oil ministers and envoys to the complex decision-making process meant that we have turned a historic page in the global oil industry."

— Barkindo

Barkindo thanks "people and nations" that helped OPEC's market rebalancing efforts

*While in Nigeria, **Mohammad Sanusi Barkindo**, OPEC Secretary General, made an address to Ambassadors from OPEC and non-OPEC nations that participated in last year's historic decisions. In his comments, he recounted the unique events of 2016 and thanked "those people and nations" that had helped the Organization in its efforts to speed up the rebalancing of the global oil market and return sustainable stability to the industry.*

Mohammad Sanusi Barkindo, OPEC Secretary General.

OPEC Secretary General, Mohammad Sanusi Markindo, has offered thanks and praise for "those people and nations" that have done so much to help bring forward the rebalancing of the global oil market and return sustainable stability to the industry.

"I would like to begin by thanking Nigeria's President, Muhammadu Buhari, and the Nigerian Minister of State for Petroleum Resources, Dr Emmanuel Ibe Kachikwu, the generous host of this evening's event," he told assembled Ambassadors and officials in Abuja.

"The support, guidance and encouragement they have given to me, and to OPEC as an Organization, have been a tremendous help in allowing us to deliver the historic decisions that were taken by OPEC and non-OPEC nations at the end of 2016."

Barkindo was referring to the Organization's historic decisions made in September and November 2016 and which culminated in the 'Declaration of Cooperation' reached with 11 non-OPEC nations in December last year.

"It is also a great honour to have here this evening the Ambassadors of the participating nations to the landmark OPEC and non-OPEC decisions of 2016. The vision, leadership, courage and guidance of your esteemed Heads of State and Government, oil ministers and envoys to the complex process of bringing OPEC and non-OPEC nations together, and to agreeing on the decisions taken, have been widely applauded. Together we have turned a historic page in the global oil industry," he pointed out.

"For me personally, I can safely say that when I assumed office as OPEC Secretary General back on August 1, 2016, I could not have envisaged what we have achieved over the past six months.

"Of course, I cannot stand here and say it was an easy process! It was an incredible challenge, a mammoth undertaking, but through a shared vision and a resolute strength of purpose we were able to achieve something that many thought was beyond us," he maintained.

Barkindo noted that there were many sceptics who proposed that OPEC Member Countries could not achieve unity among themselves.

"They were mistaken. And there were possibly even

more sceptics who poured scorn on the idea that non-OPEC nations would join OPEC in the market-rebalancing process. They were also mistaken."

The OPEC Secretary General said he would like to take the opportunity of his address to describe in greater detail how the parties involved reached last year's landmark decisions. "It is a story that needs telling and retelling. I hope after I have finished that you feel able to also share with others."

He stated that, in 2016, it was evident that all producers, as well as consumers, were beginning to fully comprehend the gravity of the current oil cycle. There was an acknowledgement that stability on a sustainable basis had been absent from the industry for too long, to the detriment of producers, consumers and the global economy.

This unexpected instability, he said, was reflected in the sharp crude price decline observed between June 2014 and January 2016, when the OPEC Reference Basket price fell by an unprecedented 80 per cent.

"It is the largest percentage fall in the five cycles of sharp price declines we have observed over the past three decades," he revealed.

Sharp inventory build

Barkindo explained that there had been a sharp global inventory build between mid-2014 and the start of 2016 as supply outpaced demand. OECD commercial oil stock levels reached historic highs in early 2016 and for most of the year remained more than 300 million barrels above the five-year average, corresponding to around 800,000 b/d, or 64 days, of forward cover.

In both 2015 and 2016, he observed, the industry witnessed a dramatic contraction in investments. Global oil and gas exploration and production spending fell by around 26 per cent in 2015 and a further 22 per cent in 2016. Combined, this equated to above $300 billion. "This was impacting not only new projects coming onstream, but new discoveries too," he said. "The industry was also witnessing significant job losses, as well as increasing financial and operational stresses for many companies."

Barkindo said that, to put it simply: the oil industry could not continue along this path. Something had to be done to tackle the major stresses that were suffocating the industry and impacting current and future oil supplies.

It led to OPEC embarking on the most extensive consultations among OPEC Member Countries and between OPEC and non-OPEC producing nations.

"At the same time, we also undertook deliberations with the broader international community and other multilateral organizations to further build consensus about the strategic urgency of restoring sustainable oil market stability in a collective manner," he stated.

"From Doha to Algiers, from Caracas to Tehran, from Baghdad to Riyadh, from Moscow to Istanbul — I felt I was flying more than an airline pilot!"

Barkindo said that, from OPEC's perspective, this initially led to the decision in Algiers, Algeria, which was agreed by all OPEC Member Countries at the 170th (Extraordinary) Meeting of the OPEC Conference on September 28.

"The decision focused on the urgent need to stimulate the acceleration of the drawdown of the stock overhang, bring the market rebalancing forward and ensure that much-needed investments return to the industry," he said.

The Algiers decision also initiated a process of consultations between OPEC and non-OPEC oil-producing countries, to establish a platform from where OPEC and non-OPEC producers could take proactive measures that would ensure a balanced oil market on a sustainable basis.

"The challenge then was ensuring the Algiers decision was delivered in a full and timely manner," said Barkindo. "I can honestly say that the two-month period after the Algiers decision was the most intense period of talks and negotiations I have been involved in during my more than 30-year involvement with OPEC."

He said that turning it into a lasting and viable solution for oil market stability took a great deal of hard work, diligence, courage and compromise from every OPEC Member Country and many non-OPEC producers too.

The OPEC Secretary General told the Ambassadors that following two months of exhaustive and determined diplomacy efforts and consistent and encouraging advocacy in a variety of international energy platforms and fora, the Vienna decision was adopted at the 171st Meeting of the OPEC Conference on November 30, in Vienna. That was followed soon after by the 'Declaration of Cooperation' with non-OPEC countries on December 10.

"For the first time in the history of the industry, 13 OPEC nations and 11 non-OPEC participating countries, came together to help rescue and stabilize this strategic global industry — one that has been vital to the

development of modern civilization," stressed Barkindo.

"Through a shared vision by Heads of State and Government, ministers, ambassadors, and many officials from the 24 participating countries, collaborative and timely intervention was taken to address the prevailing market realities," he affirmed.

"Let me also stress that we want this OPEC and non-OPEC relationship to be a lasting and flexible partnership that when necessary can help reduce volatility, provide more confidence to the market, and steer a path towards more sustainable stability."

Barkindo said the commitment made by the 24 nations was one to all oil industry stakeholders, both producers and consumers, as well as one to the broader global community, through the restoration of oil market stability and the potential positives of this for the global economy.

In putting the importance of this in some context, he said oil was perhaps the most strategic growth engine of the global economy with more than 94m b of oil currently produced and consumed every day.

"In the industrialized world, oil has transformed economies and societies. The products derived from this precious natural resource are fundamental to daily lives. And we need to remember that many billions of people across the world continue to suffer from energy poverty. They need to benefit from the great advantages oil has brought to billions of others."

Barkindo said the scale of the industry and its potential underscored the importance of sustainable oil market stability. The industry needed regular, timely and sustainable investment to guarantee security of supply to the global community.

"It is essential for our industry's future and that of the global economy. It is essential to all those consumers around the world who rely on hydrocarbon resources for their everyday needs. And it will be essential to the future of those currently without access to modern energy services," he professed.

The OPEC Secretary General made it clear that despite all the hard work and the progress made, the historic decisions of 2016 were not the end of the process.

To support the implementation, a Joint Ministerial Monitoring Committee had been established, which met for the first time in Vienna on January 22.

Barkindo said the adoption of the framework for oversight and monitoring implementation, which also involved a Joint Technical sub-Committee (JTC) that met for the first time on February 22, in Vienna, was both innovative and unique. "At OPEC, we value the importance of data-sharing, openness and transparency."

The report of the JTC and the data for January showed conformity from participating OPEC nations above 90 per cent. Similarly, figures for non-OPEC nations had also proven to be positive, he said.

Looking ahead, the OPEC Secretary General said he firmly believed that all countries involved in the process remained resolute in the determination to achieve a higher level of conformity. "Our common goal is 100 per cent conformity," he stated.

"We are already seeing more favourable conditions for the industry to deliver the necessary medium- and long-term investments for our energy future. Confidence is returning to the market. However, we cannot rest on our past successes; we need to continually strive to ensure that we push for the timely and full implementation of these decisions."

Barkindo maintained that the overall goal must remain on ensuring sustainable oil market stability.

"This is central to everything we do. We need stability — for investments and capacity expansion, to guarantee supply levels are adequate and sufficient, and to enable producers to respond quickly and appropriately in times of unexpected supply constraints.

"We need stability — for investors and producers to realize a fair return from the exploitation of their non-renewable resource.

"We need stability — for consumers to receive reliable and secure supplies.

"We need stability — for the market to react and respond to future unforeseen events.

"We need stability in all its forms. It guarantees a more balanced market today, which also guarantees a balanced market in the future," he stated.

The OPEC Secretary General said it was the legendary American football coach, Vince Lombardi, who said 'the achievements of an organization are the results of the combined effort of each individual.'

"That quote is very apt for what OPEC has achieved over the past six months and what OPEC and non-OPEC has achieved too. The effort of many individuals has enabled us to accomplish great things.

"Thank you, again, for being here this evening. It has given me great pleasure to share with you the story of the historic and landmark decisions taken by us all at the end of 2016. I hope that this is just the beginning of a long and successful relationship between OPEC and non-OPEC nations," he concluded.

OPEC stresses importance of structured partnership for global oil producers

*During the busy working visit to his home country, **Mohammad Sanusi Barkindo**, OPEC Secretary General, made a keynote address to the 16th Nigeria Oil and Gas International Exhibition in Abuja on February 28. In his remarks, he pointed to the success of the Organization's decisions in 2016 and highlighted the continuing need for an institutionalized framework for structured, sustained and transparent partnership with non-OPEC countries.*

Mohammad Sanusi Barkindo, OPEC Secretary General.

OPEC's landmark decision in Vienna, reached at the 171st Meeting of the OPEC Conference at the end of November last year, underlined the importance and urgent need for an institutionalized framework for structured, sustained and transparent partnership with non-OPEC countries.

That was the strong view put forward by OPEC Secretary General, Mohammad Sanusi Barkindo, to the 16th Nigeria Oil and Gas International Exhibition in Abuja, Nigeria, on February 28.

He told delegates in a keynote address that the Vienna decision, the first for OPEC since its Ministerial Meeting in Oran, Algeria in 2008, came after many months of intensive consultations held around the world between OPEC Member Countries and between OPEC and non-OPEC producers to try and find solutions to the current oil crisis.

Barkindo explained that the extensive consultations resulted in the signing of three landmark decisions.

Firstly, the Algiers decision on September 28 in Algeria that saw the OPEC Conference opt for an OPEC production target ranging between 32.5 and 33 million barrels/day, in order to bring the market rebalancing forward;

Secondly, the consensus decision on the final output adjustment for OPEC Member Countries was reached at the 171st Meeting of the Conference on November 30 — the Vienna decision — which saw the Organization commit to adjusting production by around 1.2m b/d, effective January 1, 2017.

And thirdly, as an integral part of the implementation decision of the Ministerial Conference (on November 30), voluntary production adjustments of 558,000 b/d were formalized by 11 non-OPEC countries through a 'Declaration of Cooperation' signed on December 10 in the Austrian capital.

Barkindo pointed out that the 'Declaration of Cooperation' underlined the resolve of the 24 producing countries to achieve an accelerated realignment of global oil supply and demand. It also demonstrated the shared commitment of both OPEC and non-OPEC participating countries to work together to reinforce the decision through the establishment of a Joint Ministerial Monitoring Committee comprising Kuwait, Algeria, Venezuela, the Russian Federation and the Sultanate of Oman.

"The 'Declaration of Cooperation' came into force on the first day of January 2017 and it commits a global platform of oil producers — 24 altogether — to a production adjustment of around 1.8m b/d, during the first six months of 2017. This was the first of its kind — a new historic page!" he said.

Barkindo noted that the landmark decisions had already positively impacted the market as seen by the onset of a more bullish sentiment among oil investors and the global oil industry, as well as a welcome spillover

effect to the global economy with improved performance in some key industrialized countries.

Data confirmed that the OPEC-11 achieved a conformity level of 94 per cent in January, while together with participating non-OPEC producing countries the conformity level stood at 86 per cent.

"Let me stress that all 24 countries are confident of further improvements to reach the full and timely conformity of the decisions taken. Our common goal is 100 per cent conformity," he added.

The OPEC Secretary General said that the positive indicators that had been seen were leading to better short- and medium-term perspectives for the market, in particular for investment.

"Market stability is paramount to economic growth and development, particularly for oil-producing countries that are often closely linked to resource endowments. OPEC and its Member Countries have been tireless in striving to maintain stable markets for the benefit of both producers and consumers," he affirmed.

Looking back, said Barkindo, the sharp decline in oil markets that started in June 2014 saw the OPEC Reference Basket price plummet by an unprecedented 80 per cent by January 2016.

"This constitutes the largest percentage fall of the five downward cycles we have seen over the last three decades. During these past years, global inventories also rose to the highest levels ever witnessed and investment was scaled back for two consecutive years — this is also unprecedented."

Barkindo observed that the knock-on effect caused by price volatility had been felt deeply within economies and throughout various sectors.

"Most, if not all of our Member Countries, rely largely on oil revenues for their national budgets and we have seen these, in some cases, shrink by as much as 70 per cent.

"Oil companies have had drastic reductions in earnings, with significant job losses across the industry. Global oil and gas exploration and production spending fell by around 26 per cent in 2015 and a further 22 per cent in 2016.

"Economic growth slowed in many emerging countries, with some major economies facing recessionary pressure," he said.

Looking ahead, the OPEC Secretary General said it was clear that the world's need for energy would continue to grow as the population expanded and more people came out of poverty.

Quoting figures from OPEC's *World Oil Outlook for 2016,* he said the global population was expected to increase by almost 1.8 billion from 2015–40 to surpass 9.0bn, with most of the growth occurring in developing countries, in particular led by the Middle East and Africa.

GDP growth was also expected to gradually improve and average 3.4 per cent per annum from 2015 to 2021, with the overall growth rate between 2015 and 2040 slightly higher at 3.5 per cent annually. Most of the expansion was expected to come from developing countries, with especially strong growth in India and China.

As a result of these trends, said Barkindo, total primary energy demand was set to increase by 40per cent, reaching 382m barrels of oil equivalent a day by 2040. Of this amount, 53 per cent would still be satisfied by oil and gas. "There is no doubt that oil will remain a fuel of choice for the foreseeable future," he stated.

Looking specifically at oil demand, Barkindo said it was expected to surpass 99m b/d by 2021, climbing to over 109m b/d by 2040, an increase of 16.4m b/d from 2015. This came mainly from the road transportation sector, petrochemicals and aviation. In parallel with energy growth, oil demand would rise most in developing countries.

Non-OPEC returning to growth

He said that reflecting demand trends, supply would also undergo adjustments. Non-OPEC supply was expected to return to growth during 2017. It was currently anticipated to grow by 200,000 b/d after a contraction of 700,000 b/d in 2016. It was also expected to experience a further gradual recovery in the medium-term, reaching 58.6m b/d by 2021, with most of the growth coming from Latin America, the US and Canada.

In the longer term, US tight crude would remain a major source of growth until 2030, before declining. However, the supply outlook faced considerable uncertainty from factors such as cost, technology, geology, policies and geopolitical developments.

Barkindo said the contribution of OPEC crude oil to global supply would remain robust and was expected to rise steadily to reach 41m b/d by 2040, when the share of OPEC crude in the total world liquids' supply would reach 37 per cent — three per cent higher than in 2015.

He said that, understandably, these significant oil market developments would have strong implications

for the downstream sector of the oil industry in both the medium- and long-term.

On the world scale, he informed, new required refining capacity would continue to mirror demand growth in developing regions, led by the Asia-Pacific, and would continue to move away from the industrialized regions.

Assessed project additions to 2021 totalled 7.3m b/d of crude distillation capacity, compared with the existing base capacity at the beginning of 2016. It was also important to note that, in the medium-term, the capacity of secondary units followed the increase in distillation capacity.

Beyond current projects, Barkindo said further capacity requirements of 12.2m b/d were projected by 2040, for a total of 19.5m b/d of new crude distillation capacity requirements by the end of the forecast period.

"Africa is one of the regions forecast to witness increasing refining capacity deficits over the next several years and I know this is a subject being discussed widely in Nigeria. On the other hand, Africa is also expected to see a lot of new long-term additions that may help satisfy its growing demand. In fact, the continent is well positioned for downstream capacity additions," he maintained.

Barkindo said that, currently, the region imported about 30 per cent of the refined products it consumed, making it by far the largest net product importing region.

"This is because of a combination of insufficient refining capacity and very low utilization rates in many facilities. Distillation capacity additions for Africa between 2016 and 2021 are expected to be around 600,000 b/d. Some capacity expansion is likely to be forthcoming in Nigeria by 2020 through the rehabilitation of existing refineries and some grassroots projects," he observed.

The OPEC Secretary General pointed out that the downstream sector was expected to face several uncertainties in the coming years, including the reaction of refiners to the need for capacity rationalization, changes in the quality of the global crude slate, and adopting to tight environmental regulations and product specifications. Additionally, lower oil prices in the past two years had led to many investors deferring projects, which may be re-considered if prices continued to recover.

Barkindo also spoke on what he referred to as "one of the most important topics of our time" — the issue of climate change within the context of the global energy transition.

He told delegates that the policy changes resulting from climate change concerns had the potential to impact energy demand, as well as the overall energy mix and the future economy of oil.

"OPEC Member Countries welcomed the Paris Agreement that resulted from COP 21 and indeed played an important role in reaching the Agreement. OPEC Member Countries will also play a leading role in its implementation — all 13 OPEC Member Countries have already signed the Agreement and are in the process of ratifying it," he professed.

Additionally, he said, OPEC had been working closely together with the UN Framework Convention on Climate Change (UNFCCC) to promote cooperation between the two bodies.

"This new and positive development resulted from a working visit I had with the UNFCCC Executive Secretary, Patricia Espinosa, in October last year in Bonn, Germany," he revealed.

"However, I want to reiterate that the implementation of this agreement should continue to be guided by the principles and provisions laid out by the UNFCCC, particularly the principles of common but differentiated responsibilities and respective capabilities.

"Market stability is paramount to economic growth and development, particularly for oil-producing countries that are often closely linked to resource endowments."

"Equity is at the heart of the UNFCCC and subsequent COP agreements. It is a core principle that holds together the sometimes competing aspirations of the people of the world represented at the COPs."

Barkindo noted that OPEC Member Countries, as developing country parties to the UNFCCC, were not only impacted by the harsh realities of climate change with enormous impacts on the world's eco-systems, but equally faced increasing severe unintended consequences from the policy programmes of developed country parties.

"It is important to therefore remember that oil and gas will continue to be the bedrock of our economies for the foreseeable future, despite the heroic efforts of our governments, in embarking on a variety of macro-economic reforms."

Barkindo also highlighted OPEC's leading role in tackling sustainable development through its sister organization, the OPEC Fund for International Development (OFID).

"Sustainable development and mass poverty, including energy poverty, are subjects we attach high priority to,

and OFID is doing a great deal on the African continent to tackle these issues, with projects in nearly 50 countries."

He stated that the institution — which celebrated its 40th birthday last year — helped these countries through public and private sector lending, trade financing and grants.

OFID's resources, he noted, consisted of voluntary contributions made by OPEC Member Countries and the accumulated reserves derived from its various operations. At the close of 2015, cumulative commitments of the Organization topped $16bn and total disbursements were close to $13bn.

At the beginning of his address, the OPEC Secretary General paid tribute to the late Dr Rilwanu Lukman, former Nigerian Petroleum Resources Minister, OPEC Secretary General and Nigerian Presidential Adviser, whose vision and leadership helped create the Nigeria Oil and Gas International Exhibition. There was also close collaboration between Lukman and Alirio Parra, a former Minister of Energy of Venezuela.

"... notable reforms to the NNPC will help the company become more transparent and profitable and encourage investment, thus helping Nigeria meet its hydrocarbons potential."

"The first NOG event took place in London and some three years later NOG was brought to Abuja and it has since evolved to become a major independent platform for discussion and debate among all Nigerian oil industry stakeholders, including a critically important theme of national content. In my view, NOG can be considered as one of the great energy events that has brought much acclaimed prestige to Nigeria," remarked Barkindo.

"I should like here to pay a glowing tribute to Dr Lukman — an icon of the oil and solid minerals industry. This is not only as one of the longest-serving heads of both the Nigerian oil industry and OPEC, spanning over four decades with the best interests of his country and OPEC at heart, but also as one of the oil industry's most influential and respected ambassadors and personalities.

"On behalf of OPEC, I should also reiterate our deep appreciation to the honourable Nigerian Minister of State for Petroleum Resources, Dr Emmanuel Ibe Kachikwu, for his outstanding leadership through the recent challenging downturn in the oil market, as well as his exemplary role in assisting OPEC accomplish the historic decisions in 2016.

"Your efforts, alongside the efforts of fellow OPEC Ministers, as well as non-OPEC ministers, should be highly commended."

Barkindo said he also wanted to seize the opportunity to convey to the Nigerian Government and President Muhammadu Buhari "our sincere thanks and admiration for his open and cooperative stance, his willingness to use his good offices and international respect to intervene at his level and for his flexibility in reaching a consensus solution. All this was instrumental in helping carve out the landmark achievements with concrete deliverables and implementation structures."

Speaking also on his country, Barkindo noted that Nigeria was a very important nation on the African continent and in the world of energy in terms of size, economy and resources, especially regarding petroleum.

With an economy of more than half a trillion dollars, Nigeria was by far the largest economy on the continent. It also had the second-largest proven oil reserves in Africa and accounted for more than three per cent of the world's proven crude oil reserves.

"Although 2016 was a tough year for all producers, the 2017 forecast for the country is positive, with a growing output target and some exciting new discoveries, such as the Owowo field. Analysis suggests that incremental growth will be recorded for the next three years," observed Barkindo.

"In addition, notable reforms to the Nigerian National Petroleum Corporation will help the company become more transparent and profitable and encourage investment, thus helping Nigeria meet its hydrocarbons potential.

"As the honourable Minister of State for Petroleum Resources, Dr Emmanuel Ibe Kachikwu, stated in a recent address, there has already been a bullish re-entry by oil majors and others to find reserves in the country in 2017, the Petroleum Industry Governance Bill has made good progress and improvements in Niger Delta issues have led to a recent jump in oil production. In general, the future looks bright," stressed Barkindo.

In conclusion, the OPEC Secretary General told delegates that "we should be conscious of our resources, we should use them effectively and efficiently to help support our development aspirations, uplift our economies and aid diversification.

"OPEC is committed to sustainable stability for the benefit of both producers and consumers and one of our most important tools to that end is dialogue. Sharing views and experiences with industry leaders is essential in building a stable and sustainable future."

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Neil Atkinson, Head of the Oil Industry and Markets Division at the International Energy Agency.

Dr Sun Xiansheng, Secretary General of the International Energy Forum.

Mohammad Sanusi Barkindo, OPEC Secretary General.

IEA-IEF-OPEC Technical Meeting underscores value of producer-consumer dialogue

The 2nd Joint IEA-IEF-OPEC Technical Meeting on the Interactions between Physical and Financial Energy Markets was held at the OPEC Secretariat in Vienna, Austria on March 16.

The gathering represented the seventh event in the ongoing dialogue involving the three organizations and again underscored the need for and value of concerted cooperation between oil producers and consumers.

The high-level meeting was chaired by OPEC Secretary General, Mohammad Sanusi Barkindo, together with Dr Sun Xiansheng, Secretary General of the International Energy Forum, and Neil Atkinson, Head of the Oil Industry and Markets Division at the International Energy Agency.

In his welcoming remarks, Barkindo said it was "a testament to the growing importance of this complex and evolving subject that we continue to meet and gather such a distinguished and diverse group of high-level experts."

Addressing the participants, he stated that "each brings a different perspective of the market — from the financial side, the physical side, governments, regulatory bodies, market analysts and experts."

He stated: "This is a testament to the strengths of this dialogue as it allows us to exchange views and collectively present a more complete and rounded picture of the market."

Barkindo told assembled delegates that as an organization of physical oil producers, OPEC was keenly aware of the evolution that had taken place in the oil market with the emergence of oil as an asset class — a development that took off in earnest in 2005.

"It is this unique perspective that has allowed the Organization to take a leadership role in highlighting the need for a better understanding of the interactions between physical and financial oil markets," he asserted.

Barkindo recalled that as Acting OPEC Secretary General in 2006, he had the opportunity to pioneer and co-chair a workshop organized under the OPEC dialogue with the EU on the impact of financial markets on the price of oil.

This, he said, laid the groundwork for subsequent consumer-producer summits held in Jeddah and London in 2008 during the global financial crisis, as well as the now well-established Joint IEF-IEA-OPEC Workshops on Interactions between Physical and Financial Energy Markets that had been held since 2010.

"It has been through this international energy dialogue and collaboration that OPEC and our sister organizations in the IEF and IEA have helped to contribute to the more widespread recognition that crude oil price formation is the result of a complex interaction of physical and financial factors, including the activities of money managers."

At the same time, continued Barkindo, OPEC recognized that financialization of the oil market — the result of the emergence of oil as an asset class — remained an important driver of market developments, in conjunction with fundamentals, as well as other non-fundamental factors.

"The impact of financialization on both price behaviour and market functioning is acknowledged to be evolving rather than static and, as a result, requires continuous monitoring and analysis, as well as engagement with market participants across the physical and financial oil market divide.

"This is the reason that since my assumption of office last summer I have made an effort to engage in a dialogue with the broader financial energy community. This is in recognition that we share the same market and therefore benefit from a mutual exchange of views and perspectives," observed Barkindo.

In his opening remarks, Sun underscored the strong relationship between the IEF and oil producers and consumers like OPEC and the IEA.

"Our meetings have proven their use and relevance over the years. Physical and financial energy market

A view of the meeting in session.

dynamics are now much better understood, but interactions have become more multifaceted too since we first met in London in 2010 and debated these in our meetings in Vienna over the years," he maintained.

"Our on-going dialogue has helped provide a more nuanced and balanced understanding of the interactions between physical and financial energy markets."

Sun contended that current market turbulence was less pronounced than in previous episodes, consequently, even though volatility had increased after a period of relative stability.

"Indeed, our objective is not to arrive at fixed conclusions, but rather to share views and identify shifts and new emerging issues about the interactions between physical and financial energy markets," he stated.

Enhancing market transparency

Sun stressed that the IEF remained committed to enhancing energy market transparency through dialogue with physical and financial energy market participants from consumer and producer countries and the Joint Organizations Data Initiative (JODI).

He pointed out that the relevance of inclusive dialogue could not be overstated considering the more fluid dynamics the physical and financial energy markets were exposed to.

New technologies, he said, and shifts in demand and supply, as well as policies, severely reduced upstream investment and long-term market liquidity.

Sun noted that the Technical Meeting's discussions on oil market volatility thus far had naturally focused on developments at the front end of the futures curve.

"On the one hand, current physical and financial energy market interactions impact longer-cycle investment — a growing concern for long-term oil market stability."

Sun continued: "On the other hand, too little is known about how physical and financial markets will respond to long-term policy goals and new technologies, such as the implementation of the Paris Agreement and changes in the power generation and transport sector."

He said that these long-term trends were likely to increase oil price volatility in the shorter term as energy markets transition within the time horizons of investment decisions on medium-term oilfield development.

"We should keep our eyes on the ball in front of us, but also dare to look ahead collectively — to not lose sight of our shared goals on the horizon as we progress through volatile episodes," he added.

Meanwhile, Atkinson told participants that at the same time last year, Brent crude oil was hovering just below the $40/barrel mark and volatility was at a six-year high.

"Today, oil prices are hovering just above $50/b and we have just ended a period of volatility at a ten-year low. This demonstrates the fluctuating fortunes of the oil market and reminds us that the quest for stability remains important," he affirmed.

Atkinson observed that interaction amongst the players in the oil market had taken place in many forms over the years and remained a major priority "if we are to better understand each other's interests and how common ground can be found."

He said the IEA had always sought to play an important part in the process of dialogue, both via its own

contacts with the energy community and in cooperation and partnership with "our colleagues in OPEC and the IEF."

Atkinson told participants: "We read that OPEC has recently sought to improve dialogue with the financial community and we commend the efforts of the OPEC Secretary General in this regard.

"The IEA and our colleagues at the IEF stand ready to support this process as it develops. We must wait to see if the interests of physical producers of vital crude oil and products supplies can find common cause with those who use their capital to benefit from movements in the price of oil."

In the meantime, said Atkinson, at the IEA, "in cooperation with our colleagues at the IEF and OPEC we continue our efforts to improve the timeliness and quality of oil data with regard to the fundamentals of supply and demand.

"This is an important contribution we can make to improving transparency, which, in turn, leads to better understanding of markets and, hopefully, greater stability."

Atkinson said the tripartite Technical Meeting played an important role in moving the dialogue forward "and we look forward to further meetings as we seek to broaden and deepen the debate."

Discussions during the one-day event were structured into four sessions, focused on a number of key topics. These comprised recent oil market volatility; the evolving role of financial firms in the oil market; financial oil market regulation and assessing the impact of Brexit and the new US administration; in addition to developments in market structure, including the impact on commercial and floating storage

The Joint Technical Meeting is one part of the trilateral work programme established by the three organizations and endorsed by energy ministers at the 12th IEF Ministerial in Cancún, Mexico, in March 2010.

Since then, the joint IEA-IEF-OPEC meetings covering the evolving inter-linkages between physical and financial energy markets have developed into a unique, high-level technical event.

They bring together a diverse range of market participants to discuss issues that are not addressed in other high-level fora.

Trilateral cooperation commended

The trilateral cooperation between the organizations was recently commended by G20 Energy Ministers in their Beijing *communiqué* in June 2016, which requested that they continue their fruitful collaboration to further enhance understanding of the interaction between physical and financial markets.

Energy ministers at the 15th IEF Ministerial in Algeria in September 2016 further endorsed the value of this important consumer-producer dialogue.

To encourage open and informative discussion, the Joint Meeting was held under the Chatham House Rule, with participation limited to key market participants on the financial and physical sides of the market.

At the conclusion of the Workshop, the three organizers thanked participants for their engaging and frank discussions on such complex and evolving issues and looked forward to convening the next Joint Workshop inviting high-level stakeholders from government, industry and financial markets in 2018.

Group picture of the attendees.

UAE Energy Ministry hosts first Technical Workshop with OPEC Secretariat

Twenty-five delegates, together with a delegation from the OPEC Secretariat's Data Services Department (DSD) Statistics Team in Vienna, Austria, attended a three-day Joint OPEC Secretariat/United Arab Emirates (UAE) Technical Workshop held at the UAE Ministry of Energy in the country's capital, Abu Dhabi, on February 6–8, 2017.

The event, the first-ever Joint UAE/OPEC Secretariat Technical Workshop to be convened in the Gulf OPEC Member Country, achieved excellent results and feedback.

A training programme delivered to participants by the DSD's Statistics Team proved to be particularly valuable.

It was specifically tailored to the needs and benefit of energy professionals in charge of hydrocarbons data collection, verification and dissemination at the various national administrations in the UAE.

Employees of the UAE Energy Ministry and other oil-related national entities and companies, including the Abu Dhabi National Oil Company (ADNOC), the Emirates National Oil Company (ENOC) and the Abu Dhabi Oil Refining Company (TAKREER), were actively involved over the busy three days of the event.

The main objective of the Workshop was to further strengthen the understanding of global technical definitions relevant to JODI oil, JODI gas, as well as the OPEC Annual Questionnaire (AQ). The structural approach of the Workshop was highly interactive in nature. This encouraged intensive and fruitful discussions, which took place throughout the various presentations.

A view of the meeting room with Suhail Mohammed Al Mazrouei (second l), UAE Minister of Energy, who briefly attended the gathering; with Eng Ahmed Mohamed Alkaabi (l), UAE's Governor for OPEC; and Adedapo Odulaja (third l), Head of OPEC's Data Services Department.

Adedapo Odulaja, Head of OPEC's Data Services Department.

Addressing the Technical Workshop is Eng Ahmed Mohamed Alkaabi, UAE's Governor for OPEC, and Assistant to the Undersecretary of the Energy Ministry.

Based on the evaluation of the corresponding feedback survey, the majority of participating delegates considered the training workshop to be extremely beneficial and effective.

UAE Minister of Energy, Suhail Mohammed Al Mazrouei, who briefly attended the gathering, expressed his profound satisfaction and appreciation to all those involved. The Ministry's initiative to host the Workshop underlines its commitment to further develop specialized national skills through the exchange of expertise and knowledge.

Officials elaborated on the provision of data in line with international standards, as well as on the current methods of evaluating data quality in both the oil and gas industries.

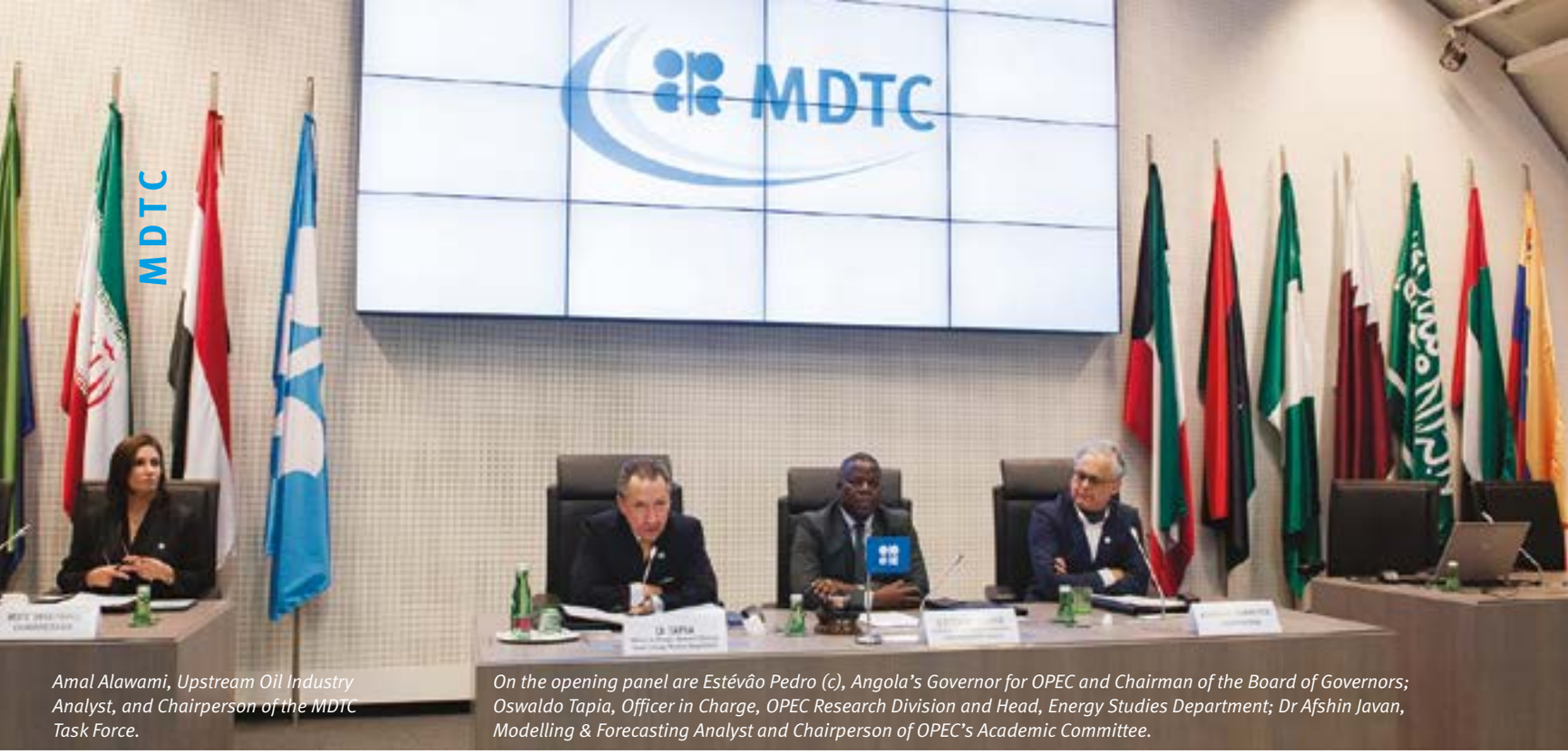
The Workshop proved very successful in enhancing knowledge and cooperation between the OPEC Secretariat and the UAE.

It also provided a number of additional advantages, such as increasing the network to UAE data providers from the various national energy-related institutions, as well as offering unique first-hand data-related knowledge.

The Workshop is an ongoing initiative of cooperation and commitment of the OPEC Secretariat in its support of Member Countries and their activities.

Such meetings are extremely beneficial in allowing the Secretariat to focus on one country only, enabling it to help deal with the unique individual challenges that exist.

Delegates of the Workshop take time out for a group photograph.



Amal Alawami, Upstream Oil Industry Analyst, and Chairperson of the MDTC Task Force.

On the opening panel are Estévâo Pedro (c), Angola's Governor for OPEC and Chairman of the Board of Governors; Oswaldo Tapia, Officer in Charge, OPEC Research Division and Head, Energy Studies Department; Dr Afshin Javan, Modelling & Forecasting Analyst and Chairperson of OPEC's Academic Committee.

17th MDTC draws on OPEC experience

The 17th Multi-Disciplinary Training Course (MDTC), held on February 20–24 at the OPEC Secretariat in Vienna, Austria was once again a great success, with 34 participants from six countries attending.

Along with the regular programme, new elements this year included a website created for the course and the reintroduction of a social event for participants, to the delight of those in attendance.

Over a busy five days, attendees from OPEC Member Countries learned about supply and demand determinants in the oil market and the global economy and how these impacted the industry.

In addition, analysts discussed oil product markets, market modelling, stock movements, data collection, transportation, sustainable development and energy policies. Participants were also informed about OPEC's Long-Term Strategy, which forms the basis for all activities at the Secretariat.

In his introductory comments, Tapia Oswaldo, Head of the Energy Studies Department, in Charge of the Research Division, stated: "We are proud of this course at OPEC and the reputation that it has gained among OPEC Member Countries. The interaction between former attendees and the Secretariat's experts and staff over previous training courses had led to a smooth-running machine with a very high value."

His comments were backed by Afshin Javan, Head of the OPEC Academic Committee, who pointed out that the MDTC was starting to have quite a history.

MDTC participants listen to OPEC's presentations during the one-week course.

"Though its goal has not wavered over time, its visibility has certainly changed. The number of participants has climbed since the first MDTC 17 years ago and continues for the most part to grow, showing that this has become a much sought-after and highly valued course among OPEC Members."

Javan explained that the MDTC was "the only programme of its kind, offering intensive training dedicated to learning about OPEC and its role in the oil market."

He continued that the cornerstone of OPEC's work was research and data-gathering, which underlay all results. OPEC specialists, he observed, were focused on analyzing this information to support OPEC's macro- and micro-economic modelling.

Bringing solid information

This work was necessary to bring solid information to dialogues with other market participants, whether they be producers, consumers or other high-level market players. This, in turn, helped stabilize the oil market, maintained Javan.

"As stated in its Statute, one of OPEC's key objectives is "to coordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry," he said.

"Although the Organization has shifted over time to adapt to this changing world, its central objectives remain the same," asserted Javan.

"It is OPEC's commitment to this principal that makes it one of the most respected inter-governmental institutions in the world today."

Amal Alawami, Head of the MDTC Task Force, speaking on the subject of human resources development, quoted to participants the words of the famous cultural anthropologist, Margaret Mead, who said: "Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has."

Ms Alawami added: "You all belong to OPEC Member Countries and work in the oil industry. Use this opportunity to connect with your peers and expand your contact base, as well as to find out about industry issues and solutions in other OPEC Countries.

"These discussions may give you insights that you can take home and put to use later. Focus on enhancing your own professional skills. In this endeavour, you play a key role. Many alumni of this event have gone on to further involvement with OPEC in one form or another," she noted.

Participants gather for a group photograph at the headquarters of the OPEC Fund for International Development (OFID).

A view of the seminar in session.

OPEC holds first Litigation Seminar

The OPEC Secretariat in Vienna, Austria, on March 14–15, held its first Litigation Seminar for legal teams from the Organization's Member Countries.

The specialized event — with an impressive line-up of external speakers specialized in international litigation — was held in response to a specific request made at the 145th Meeting of the OPEC Board of Governors.

The goal of the Seminar was for the OPEC Secretariat to exchange information with its Member Countries and to share the expertise and strategies of its Legal Defence Team (LDT).

OPEC Secretary General, Mohammad Sanusi Barkindo, in his opening remarks, stated that the Seminar's extensive programme, which included the participation of so many experienced external professionals, "would be of immense use to all of us.

"It is important to remember that as the Organization has evolved over the past five-and-a-half decades, so too have its role and function," he explained.

Barkindo said that what started off as a rather innovative attempt to safeguard the interests of oil-producing countries had evolved into an established and well-respected global institution — and OPEC was now recognized as playing a key role in supporting market stability, helping consumers meet energy demand and ensuring a fair income for producers.

He stated that with evolution there were always challenges, thus the work of the Secretariat's Legal Office (LO) had increased in importance. It provided internal services to the Secretariat, including drafting and negotiating contracts, interpreting staff regulations and decisions of the OPEC Board of Governors, overseeing internal rules, considering financial regulations and interpreting intellectual property laws.

The LO also provided advice on international legal issues that may be significant to the Organization and its Member Countries. Such work involved very specialized knowledge of international law — from United States and European Union commercial and trade law, to laws ensuring the sovereignty of Member Countries over their own national resources.

In addition, said the OPEC Secretary General, there were ongoing and constantly evolving environmental considerations.

"Such work is quite challenging — particularly since the issues facing the oil industry are increasingly complex

Seminar delegates in session and at a group photograph.

OPEC Litigation Seminar

and the rules governing it are always changing," he maintained.

In response, the LO had, over time, expanded its services to meet such challenges and its team had become involved in a number of national and international matters, observed Barkindo.

Despite the many external challenges, the central objective of the LO remained very much the same — to support the OPEC Secretariat and the Secretary General in carrying out their work in the best interests of the Organization's Member Countries.

"It is important to recognize that increased international scrutiny of the Organization in recent years has meant that we have had to become more vigilant," professed Barkindo.

"We have had to become more prudent about the content of our publications and the language used in public statements. But we have also had to strengthen our areas of expertise," he affirmed.

During a busy two days of the Seminar, OPEC's legal risk profile and the history of claims were examined, as well as the principle of natural resource sovereignty in international law and the kinds of legal defences that have been used with regard to sovereign oil production decisions.

Outside experts discussed key strategic issues that have arisen in the course of their work on behalf of OPEC, including potential future risks. They looked at various areas of sovereign defence and gave overviews of antitrust compliance policies.

Top legal specialists discussed the rules of civil procedure under both Austrian and US law, as well as the implications and guarantees for the Organization.

Member Country participants were urged to make the most of the sessions and to strive to benefit as much as possible from the ideas and legal opinions of the specialists who provided information over the two days.

Zanganeh stresses importance of South Pars projects to Iran

The SPQ1 gas platform is seen on the southern edge of Iran's South Pars gas field in the Gulf, off Assalouyeh.

Iran's Minister of Petroleum, Eng Bijan Namdar Zanganeh, has announced that $20 billion of investment made in the domestic oil industry would be put to use in the near future.

Historic events in Iran's oil

Speaking to newsmen during a visit to South Pars projects in the southern Iranian province of Bushehr at the end of March, he stated that in the new Iranian year, which began on March 21, big developments and historic events would take place in the country's oil industry.

He stressed that phases 12, 15, 16, 17, 18, 20, 21 and 19 of South Pars were among the priorities of the Petroleum Ministry — and now all of them had been launched.

"With the new phases of South Pars being operational, we successfully passed winter time without any gas shortage, although gas imports decreased compared with the previous year," he affirmed.

Iran's *SHANA* news agency quoted the Minister as saying that inaugurating six phases of Iran's South Pars gas field in the near future would add 150 million cubic meters to the country's daily gas output.

Zanganeh said Iran was currently operating 21

phases of the gas field's development projects, adding that the number would rise to 24 by the end of the current Iranian year.

Shared with Qatar

South Pars, known as North Dome in Qatar, is the world's largest gas field. The field with an area of 9,700 square kilometres is shared between Iran and Qatar. Some 3,700 sq km of the total area belongs to Iran.

Officials have estimated that South Pars will eventually account for 80 per cent of Iran's total gas output in the years ahead. Its complete development is expected to guarantee Iran's energy supply, with forecast earnings of up to $100 billion annually.

Meanwhile, the Deputy Managing Director of the National Iranian Oil Company (NIOC), Gholamreza Manouchehri, has said that the development of the South Pars gas field had reversed Iran's energy balance worldwide.

He maintained that $8–10 billion annually should be invested in the offshore oil fields.

Manouchehri asserted that the South Pars development had led to economic growth, expanded welfare, technological advancement and the upgrading of working standards of Iranian contractors.

"Iran is the only country in the region which is capable of building, installing and exploiting platforms and sea pipelines without resorting to foreign companies," he stipulated.

He said such giant projects as Farzad A and Farzad B, the North Pars gas field, Forouz A and B fields, as well as the Ferdowsi field in the non-border fields, were examples of future opportunities for the Iranian offshore oil industry.

However, Manouchehri said the future of Iran's oil industry needed more technology and capital. "In the offshore sector, more than 70 per cent of the investment cost is endured by Iranian companies."

Iran's President, Hassan Rouhani.

Eng Bijan Namdar Zanganeh, Iran's Minister of Petroleum.

Saudi Arabia and China: Strategic ties reach new heights

Saudi Arabia's King Salman bin Abdulaziz Al-Saud (l), and China's President Xi Jinping (r), shake hands during a signing ceremony in Beijing, China, in March.

The Kingdom of Saudi Arabia has taken steps to enhance its already solid ties with the People's Republic of China by signing a number of strategic Memoranda of Understanding in the fields of energy, labour and manufacturing, among others.

According to a report carried by *Reuters*, the Custodian of the Two Holy Mosques, King Salman Bin Abdulaziz, who was on an Asian tour for a month, agreed on deals worth $65 billion with the world's second-largest economy.

The extensive cooperation included MoUs with Saudi Arabia's state oil giant, Saudi Aramco, and the China North Industries Group Corporation in the refining and chemical planting sector.

It also included cooperation between the Saudi Basic Industries Corporation (SABIC) and the Beijing-based oil and gas company, Sinopec, in the area of petrochemicals.

In Beijing's cavernous Great Hall of the People, where the landmark meeting took place, King Salman emphasised the role that China could potentially play in the affairs of the Middle East.

He was quoted as saying: "Saudi Arabia is willing to work hard with China to promote global and regional peace, security and prosperity."

President of the People's Republic of China, Xi Jinping, stressed the capacity and stability of the Chinese oil market.

He commented "For a long time, China and Islamic countries have respected each other and had win-win cooperation. They have also created a model of the peaceful coexistence of different cultures."

According to *Arab News*, one of Saudi Arabia's leading daily newspapers in English, top businessmen have publically commended the promising initiative undertaken by the Saudi Monarch.

Seventy businessmen in team

Sheikh Abdullah Al-Meleihi, Board Member of the Council of Saudi Chambers of Commerce and Industry,

pointed to the huge delegation that accompanied King Salman.

He revealed that around 70 businessmen joined his entourage, looking forward to strengthening existing commercial ties and forming new partnerships with Chinese counterparts.

Al-Meleihi said: "King Salman is giving a strong message to different countries that the Kingdom welcomes investors."

Yasser Al-Harbi, a member of the Saudi-Chinese Business Council, observed that "the visit comes at a crucial time as the Kingdom carries out its Vision 2030 plan."

During his Asian tour, King Salman visited Japan, Brunei, Indonesia and Malaysia, among other countries, all aimed at establishing solid partnerships and discussing issues of common interest, such as the promotion of the highly anticipated IPO of the global oil giant, Saudi Aramco.

In an effort to strengthen the OPEC Member Country's national economy, the Saudi Monarch has led the launch of the Kingdom's ambitious plans to diversify its economy and generate new streams for national revenues as part of the Kingdom's National Transformational Programme and Vision 2030.

Historical IPO in review

Meanwhile, Saudi Aramco's Board of Directors, Chaired by Khalid Al-Falih, the Kingdom's Minister of Energy, Industry and Mineral Resources, is preparing for the firm's momentous Initial Public Offering (IPO).

The initiative, which has been launched and steered by the Saudi King and Mohammad bin Salman, Deputy Crown Prince, seeks to offer five per cent of one of the world's largest markets to be traded publically, as part of the Kingdom's National Transformational Plan and Vision 2030.

According to a report carried by *Reuters*, the Board of Saudi Aramco will be holding its semi-annual meeting in Shanghai on May 10, 2017, to discuss the firm's business plans, investments and the highly anticipated IPO. The Board held a previous meeting in China in 2010.

Al-Falih, who is President of the OPEC Conference for 2017, has emphasized the importance of setting solid ties with key Asian businesses and energy giants for Aramco's forthcoming IPO.

He commented to *Nikkei,* Japan's leading financial newspaper: "We believe the deal (with Petronas) will strengthen the equity story of Saudi Aramco when it goes public next year."

According to *Bloomberg*, Malaysia's state oil firm, Petronas, and Saudi Aramco, have come to an agreement worth $7 billion in a refining project to be based in Johor in the south of Malaysia.

Khalid Al-Falih, Saudi Arabia's Minister of Energy, Industry & Mineral Resources.

Meanwhile, in an interview with *CNN*, Amin Nasser, Saudi Aramco's President and Chief Executive Officer, said he expected to launch the firm's IPO in 2018.

He was quoted as saying: "We are still looking at 2018 and no change in our plan to deliver in that time."

During the Saudi King's visit to Asia, several agreements were concluded with a number of international energy firms, including Sinopec, Aerosun Corp and Norinco of China, Pertamina of Indonesia and Petronas of Malaysia.

Algeria's Sonatrach planning to invest $50 billion in all operations

Algeria's national energy company, Sonatrach, is planning to invest more than $50 billion in all its operations over the next four years.

According to Farid Djettou, Head of the company's Associations Division, which is responsible for foreign contracts, the company plans to boost its domestic crude oil production by 14 per cent over the period.

It also expects to invest billions of dollars in exploration projects with an amount of $9 billion earmarked from 2017 to 2021 in the search for new deposits of oil and natural gas, he said.

Noureddine Boutarfa, Algeria's Minister of Energy, who is looking to create a Mediterranean energy market.

Djettou, quoted in an interview while visiting the Algerian coastal city of Oran, revealed that Sonatrach would drill an average of 100 wells annually over the period mentioned.

The report noted that Sonatrach's exports generate more than half of the Algerian government's budget revenue.

However, data compiled by *Bloomberg* shows that the OPEC Member Country's crude oil output has declined since August 2008. In February this year, it said, production stood at 1.04 million barrels/day, the lowest level since 2002.

This compares with a February production figure of 1.08m b/d sent by Algeria to the OPEC Secretariat in Vienna and contained in the March edition of the *Monthly Oil Market Report (MOMR)*.

However, Djettou said in the interview at the North Africa Petroleum Exhibition and Conference in Oran that Sonatrach's annual production would exceed 230m t of oil equivalent by 2021, with foreign companies increasing their annual output by 10m t of oil equivalent.

Mediterranean energy market

Meanwhile, Algeria's Minister of Energy, Noureddine Boutarfa, is looking to facilitate the creation of a Mediterranean energy market and to develop an "integrated, safe and lasting" regional power transmission network, according to a *communiqué* issued by his Ministry.

In a meeting with Angelo Ferrante, Secretary General of the Association of the Mediterranean Transmission System Operators (Med-TSO), the Minister called for increased efforts and support for institutional initiatives aimed at facilitating the creation of such a Mediterranean energy market.

In this regard, Boutarfa expressed his satisfaction regarding Med-TSO's contribution to the construction of an integrated and secure network for power transmission in the Mediterranean, thanks to the coordinated actions at the institutional level by member countries.

He also saw the need for Med-TSO to further focus on studies and the implementation of a shared database to become "a competent and proactive player, as well a source of proposals" for institutions and other relevant European and Mediterranean stakeholders.

Qatar set to develop new gas project in North Field

Qatar Petroleum (QP), the state energy company, has announced its intention to develop a new gas project in the southern sector of the giant North Field, a move that will boost current production by around ten per cent.

QP President and Chief Executive Officer, Saad Sherida Al Kaabi, in making the announcement, pointed out that QP's technical studies and assessment of the North Field had confirmed the potential for developing a new gas project that could be targeted for export with a capacity of about two billion cubic feet per day.

"It is worth noting that a project of this size will increase the current production of the North Field by about ten per cent, which will add about 400,000 barrels/day of oil equivalent to the State of Qatar's production," he affirmed.

Conducting extensive studies

Al Kaabi disclosed that, since 2005, the national energy company had been conducting extensive studies and exerting exceptional efforts to assess the North Field.

This, he said, included drilling a number of appraisal wells to better estimate the field's production potential, "which enabled us to reach this satisfactory result today."

Al Kaabi stressed: "This new project will further strengthen Qatar's leading position as a major player in the global gas industry and underline the pivotal role of the country's oil and gas industry as the mainstay of the national economy.

"This, in turn, will contribute to and stimulate the economy in both the public and private sectors as part of the comprehensive development of the country and the achievement of the objectives of Qatar National Vision 2030," he added.

The QP President revealed that the project would start production within five to seven years. At which time the increase in production would mainly be for export purposes.

He explained that the exploratory studies were carried out solely by QP, adding that it had not yet been decided whether the natural gas would be converted to liquefied natural gas (LNG), gas-to-liquids (GTL) or would be kept in its original state.

Al Kaabi said the increase in production would ensure Qatar's ranking as the largest exporter of LNG with a yearly production of 77 million tons for years to come.

He pointed out that the seismic survey carried out in the North Field several years ago was the largest survey conducted in the world.

In addition, a number of exploration wells were drilled and based on that the decision was made to develop the new gas project.

Also commenting on the Qatargas and RasGas merger, Al Kaabi said that by the end of the year, this would be completed.

Al Kaabi confirmed that QP remained committed to ensuring Qatar's global position in oil and gas, both nationally and internationally.

Saad Sherida Al Kaabi, CEO of Qatar Petroleum, seen during a news conference in Doha, Qatar.

Shell to fuel world's first LNG-powered Aframax crude tankers

LNG trade in 2016 at new record, but faces investment shortage

The liquefied natural gas (LNG) industry, which saw trade expand by five per cent last year, is facing a shortfall in supply in about five years' time, according to Patrick Pouyanné, Chairman and Chief Executive Officer of French oil major, Total.

He told the Gastech industry conference in Chiba, Japan in early April that this was because low prices had kept producers from making new investments in production. A similar problem has been facing the global oil sector in recent years.

"Today we are facing global overcapacity that is putting pressure on prices," Pouyanné maintained, adding that, as a result, "the industry is entering a period of reduced investments," which could result in a lack of supply in five years.

"We must carry on investing for the future," he was quoted as saying by the *Reuters* news service.

Pouyanné maintained that the current LNG glut would persist well into the next decade unless suppliers found ways to reduce costs to levels that made gas as affordable as rival fuels.

He explained to delegates that gas had historically competed against liquid fuels, but today faced competition from coal and renewables.

However, he said that to ensure gas did not get squeezed out, costs must be reduced, Around 15 years ago, he observed, LNG could be produced for a delivered cost of around $500/ton. That had soared to as much as $1,500 as costs spiraled out of control. They must be brought back down to around $500 level again.

He disclosed that Total, a major LNG player, in 2016 created a new gas, renewables and power division in 2016 and was looking to be 20 per cent low-carbon by 2035.

Global LNG trade increased by five per cent to a new record of 258 million tons last year, compared with 2015 figures.

Global LNG trade increased by five per cent to a new record of 258 million tons last year, compared with 2015 figures. The International Gas Union (IGU) said that this was driven by new supplies coming online from the United States and Australia

In its latest annual *World LNG Report,* the IGU said total liquefaction capacity stood 339.7 million tons in 2016, up from 301.5m t in 2015, following start-ups at the Sabine Pass terminal in the US Gulf of Mexico and at Australia's Gorgon and Australia Pacific LNG.

It noted that 2016 was the third year running that global LNG trade had hit a new record.

The IGU said that it saw LNG capacity continuing to grow over the coming years, with 114.6m t of new capacity under construction as of January 2017.

The rise in trade was also attributed to rising demand from new markets, with a notable increase in China, where LNG consumption soared by 35 per cent to 27m t, the Union noted.

"… LNG maintains an essential role in expanding access to gas across the globe, acting as a key pillar in the future energy mix," IGU President David Carroll stated.

IGU figures show that 31 LNG new-builds were added to the global shipping fleet last year, which rose by seven per cent to 439 vessels.

Stricter emissions regulations

Meanwhile, a unit of Royal Dutch Shell is set to fuel the world's first LNG-powered Aframax crude oil tankers under a deal signed with Russian shipping firm, the SCF Group (Sovcomflot).

News reports pointed out that shippers were looking more and more to liquefied LNG to help them meet stricter emissions regulations in 2020. From that year, shipowners and operators face tougher regulations on marine fuel, also known as bunker fuel.

Under International Maritime Organization (IMO) requirements, that were announced in October last year, the cap on sulphur emissions from vessels will fall sharply to 0.5 per cent by 2020 from the current 3.5 per cent.

Maarten Wetselaar, Director of Integrated Gas and New Energies at Royal Dutch Shell, said in an announcement that oil tankers were "another marine segment embracing the benefits of LNG fuel."

Under the landmark move, Shell Western LNG will supply four Aframax tankers operating in the Baltic Sea and northern Europe from a bunkering vessel that will load at the Gate terminal in Rotterdam and a second supply point in the Baltics.

The dual-fuelled tankers are scheduled to begin operations at the start of the third quarter of 2018.

Scientific evidence shows that LNG has virtually no sulphur content. Its burning produces low levels of nitrogen oxides compared to that of fuel oil and marine gasoil.

Targeting air quality

Speaking on the general LNG situation, Wetselaar maintained that four things were needed for gas to thrive in the long term, according to *Reuters*.

First, he said, governments should be encouraged to introduce policies, such as carbon taxes, targeting emissions and air quality that would benefit gas at the expense of coal. Carbon taxes had been championed by European companies, including Shell and Total.

Patrick Pouyanné (top l), Total's Chief Executive Officer during a shareholders meeting in Paris.

Again, costs also had to be cut along the whole supply chain, from upstream to delivery, to make gas more affordable for customers.

Third, he continued, suppliers must get a grip on methane emissions to back up the claim that gas was the cleanest fossil fuel.

And fourthly, LNG suppliers also needed to open up new markets for gas in terms both of countries and consumption sectors, such as marine and land transport.

In the following pages, the OPEC Bulletin continues to record the Secretary General's shuttle diplomacy, which has received high praise from many quarters for contributing to the success of OPEC's recent historic production decisions.

OPEC Secretary General meets with Eni CEO

OPEC Secretary General, Mohammad Sanusi Barkindo, met on February 6 with Eni's Chief Executive Officer, Claudio Descalzi, at the oil major's headquarters in San Donato Milanese, south of Milan, in Italy.

The visit by Barkindo and his team from the OPEC Secretariat in Vienna was an opportunity to discuss major issues facing the oil and gas sector, as well as the energy sector in general. The officials also had the chance to look at the new dynamics of global energy and oil, and study their impact on the markets.

Claudio Descalzi (r), Eni's Chief Executive Officer, with Mohammad Sanusi Barkindo (r), OPEC Secretary General.

The meeting allowed Eni's top management to present the company's strategy and growth prospects to the OPEC delegation, including their views on the uncertainties facing the international oil and gas sector.

Descalzi's presentation focused on Eni's upstream model, based on key elements such as time to market and cost optimization from the exploration phase to the production of discovered resources.

The OPEC Secretary General expressed his appreciation for the approach followed by Eni, not only on the hydrocarbons production growth strategy adopted by the company, but also on Eni's commitment to the development of activities related to energy production from renewable sources.

In paying tribute to Descalzi and his team, Barkindo said: "They have successfully transformed Eni into an integrated international conglomerate, operating in 69 countries, that has weathered the worst oil storm."

He pointed out that the new global dynamics of the oil industry called for a bridging of the gap between OPEC and the international oil companies "in the interest of the industry, and the global economy."

Descalzi acknowledged the positive changing face of OPEC and the Organization's great efforts towards restoring stability to the oil market on a sustainable basis.

Barkindo holds talks with Total's Award-winning chief executive

Patrick Pouyanné (r), Chairman and Chief Executive Officer of Total, with Mohammad Sanusi Barkindo (l), OPEC Secretary General.

OPEC Secretary General, Mohammad Sanusi Barkindo, met with Patrick Pouyanné, Chairman and Chief Executive Officer of French oil and gas company, Total, who has been named Energy Intelligence 'Petroleum Executive of the Year' for 2017.

In the high-level meeting, which took place at the company's headquarters in Paris, both Barkindo and Pouyanné underscored the critical objective of sharing perspectives on the energy and oil market, as well as data, modelling and forecasting methodologies, and working to enhance collaborative efforts at both expert- and high-levels.

Barkindo exchanged information with Pouyanné on OPEC's recent landmark production adjustments, describing the extensive bilateral consultations that had taken place in the lead-up to the historic decisions — the first of their kind in decades — which were aimed at restoring balance in the oil market.

In his comments, the Total head provided a synopsis of the company's strategies and view of the oil market.

He commended OPEC's achievements, together with other producing countries, and reiterated the necessity of these accomplishments for sustainable market stability in the medium- to long-term.

Pouyanné also expressed appreciation for OPEC's initiative to visit Total following their recent bilateral meetings in various international policy platforms, and efforts to engage in closer cooperation with international oil companies, in the interest of the global oil industry

Senior officials and analysts from both Total and OPEC held discussions on the prospects for energy and oil, with a focus on supply and demand, refining, gas and renewables, and climate change. They also addressed future challenges in the energy sector under various scenarios.

Both parties agreed to continue such interactions regularly at both expert- and high-levels, with a view towards enhancing ongoing energy dialogue and cooperation.

Pouyanné has been CEO of Total since 2014. His prestigious Energy Intelligence Award is in recognition of his leadership of the French oil major in just three years in office.

In announcing the Award, Jim Washer, Executive Editor of Energy Intelligence, pointed out that the past few years had presented enormous challenges for the oil and gas industry and no company had responded to those challenges more dynamically than Total.

"That dynamism reflects the leadership of Patrick Pouyanné, who in less than three years as chief executive has led an overhaul of Total's strategy aimed at preparing the company for a future of 'lower-for-longer' oil prices and uncertainty over the transition to lower carbon energy sources," he stated.

Pouyanné will receive his Award at a black tie dinner in London on October 17 as part of the 38th annual *Oil & Money* conference.

Barkindo meets with new UN Deputy Secretary-General

Mohammad Sanusi Barkindo (l), OPEC Secretary General, with Amina J Mohammed (r), the new Deputy Secretary-General of the United Nations.

OPEC Secretary General, Mohammad Sanusi Barkindo, met in New York on March 10 with the new Deputy Secretary-General of the United Nations, Amina J Mohammed, former Nigerian Minister of the Environment.

In conveying his congratulations on Ms Mohammed's "well-deserved appointment," Barkindo pointed out that it acknowledged her tireless work on a wide range of global issues, including her instrumental role in the COP 21 Paris Agreement and her commitment to sustainable development in terms of bringing about the 2030 Agenda for Sustainable Development and the UN Sustainable Development Goals (SDGs).

He added that the appointment was also a celebration of Nigeria and its people and would be a source of great pride to Nigerians all over the world.

Barkindo stressed that Ms Mohammed's outstanding achievements would be an inspiration to women all over the world.

"I have no doubt your prominent new position at the United Nations will encourage women to aspire to such high-profile roles and to believe that nothing is out of their reach," he affirmed.

Ms Mohammed thanked the OPEC Secretary General for his visit and highlighted the importance of all stakeholders engaging in the implementation of the Paris Agreement on climate change and issues related to sustainable development.

She said it was vital to improve advocacy, to ensure that people and organizations did not work in silos on these vital global issues and to be practical and creative in finding entry points into the process for businesses, industry sectors, organizations and governments.

Barkindo stressed that OPEC and its Member Countries were looking forward to collaborating with her and the UN in future, on the climate and sustainable development agendas, particularly highlighting the need to tackle energy poverty around the world.

In terms of the international climate change negotiations, he said OPEC Member Countries welcomed the early enforcement of the Paris Agreement, stating that they were committed to playing a role in its implementation.

"All 13 OPEC Member Countries have signed the Agreement and all are in the process of ratifying it," he added.

The OPEC Secretary General also discussed his recent collaboration with Patricia Espinosa, Executive Secretary of the UN Framework Convention on Climate Change (UNFCCC), most recently at CERAWeek 2017 in Houston.

He said that the talks in Houston had specifically focused on "enhancing collaboration between OPEC and the UNFCCC, on such matters related to climate change, sustainable development and economic diversification."

The two officials also discussed the work being undertaken by the initiative 'Sustainable Energy for All', which is concentrated on driving actions and mobilizing commitments to positively transform the world's energy systems, as well as the work being undertaken to alleviate energy poverty by OPEC's sister Organization, the OPEC Fund for International Development (OFID).

OPEC was registered with the UN Secretariat as an inter-governmental organization on November 6, 1962, following UN Resolution No 6363.

OPEC Secretary General holds talks with Energy Charter counterpart

OPEC Secretary General, Mohammad Sanusi Barkindo, met on March 13 at the OPEC Secretariat in Vienna with his counterpart at the Energy Charter, Dr Urban Rusnák.

The two officials discussed rekindling cooperation between the two bodies and future areas of collaboration.

Barkindo stressed that the Charter played a very important role today, especially in the current energy landscape, which was very dynamic, adding that OPEC wanted to focus on areas of cooperation between the Energy Charter and its Secretariat.

"I want to work on a relationship between your Secretariat and ours … and rekindle this very beneficial relationship," he commented.

Rusnák replied by saying that the two bodies had several common areas of interest that could be developed, including OPEC's involvement with organizations like the International Energy Forum (IEF), the International Energy Agency (IEA) and the European Union (EU), as well as some mutual members.

He maintained that there had never before been such a good mutual starting point for the Secretariats and that common interests would be identified. "It is important to pick up one or maximum two priorities and focus on this, then build from there … it is important to make a more structured cooperation."

Both Secretary Generals emphasized the importance not only of security of energy supply but security of demand, in order to keep investment steady and to minimize future price spikes.

Barkindo went on to state that OPEC advocated an all-inclusive process and access to energy for all.

"The energy transition must be an all-inclusive agenda and process. With climate change issues, we need to embark on a transition going forward," he asserted. "For many of our Member Countries access to energy is still a big challenge. We should not crowd out the two billion people who have no access to energy."

Rusnák stated that the Energy Charter was mostly interested in regulatory frameworks. Legal frameworks were a common concern and all countries had the same challenge — finding regulation that fit their current needs.

He explained that the Energy Charter was technically neutral and did not advocate any fuel. "It is up to the members to decide what energy mix suits them best. It is in their hands and we help them deal with key issues regarding energy security." He invited the OPEC Secretary General to attend the Energy Charter Conference in Turkmenistan on November 28–29, 2017.

Mohammad Sanusi Barkindo (l), OPEC Secretary General, with his counterpart at the Energy Charter, Dr Urban Rusnák.

The Energy Charter Treaty provides a multilateral framework for energy cooperation that is unique under international law. It is designed to promote energy security through the operation of more open and competitive energy markets, while respecting the principles of sustainable development and sovereignty over energy resources.

The fundamental aim of the Treaty is to strengthen the rule of law on energy issues, by creating a level playing field of rules to be observed by all participating governments, thereby mitigating risks associated with energy-related investment and trade.

Since assuming office in January 2012, Rusnák has focused his efforts on the modernization of the Energy Charter Process and on updating institutional arrangements for the conference.

The culmination of the modernization efforts has been the adoption of the International Energy Charter in May 2015. This is a new political declaration which addresses the energy challenges of the 21st century.

Two OPEC Member Countries are signatories to the International Energy Charter and eight OPEC Members are observers to the Energy Charter Conference.

OPEC Secretary General in closed-door meeting at CERAWeek

Whilst at CERAWeek 2017, OPEC Secretary General, Mohammad Sanusi Barkindo, participated in a closed-door informal meeting with Khalid A Al-Falih, Saudi Arabia's Minister of Energy, Industry and Mineral Resources and President of the OPEC Conference for 2017; Jabbar Ali Hussein Al-Luiebi, Iraq's Minister of Oil; Alexander Novak, Minister of Energy of the Russian Federation; and Aldo Flores-Quiroga, Deputy Secretary of Energy for Hydrocarbons of Mexico. Their talks were followed by a press conference. Pictured at the press conference are (l–r): Barkindo, Flores-Quiroga, Al-Falih and Novak (Al-Luiebi is not pictured).

In the course of his official duties, OPEC Secretary General, Mohammad Sanusi Barkindo, visits, receives and holds talks with numerous dignitaries.

January 14

IEF SG visits OPEC Secretary General
Mohammad Sanusi Barkindo (l), OPEC Secretary General, received Dr Sun Xiansheng, Secretary General of the International Energy Forum (IEF).

January 21

Gopegui visits OPEC Secretary General
Mohammad Sanusi Barkindo (l), OPEC Secretary General, received Justo Camilo Gopegui, Equatorial Guinea Representative.

March 15

Qatar's Ambassador visits OPEC Secretary General
Mohammad Sanusi Barkindo (l), OPEC Secretary General, received Sheikh Ali Bin Jassim Al-Thani, Ambassador of Qatar to Austria.

March 16

Morse visits OPEC Secretary General
Mohammad Sanusi Barkindo (l), OPEC Secretary General, received Edward Morse, Global Head of Commodities Research at Citigroup.

Human resources and the oil industry...

Fuelling the right prospects for today and tomorrow

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The international oil industry has to cope with numerous pressures as it conducts its business — from uncertainty and volatility through to rampant speculation. But one of the underlying detrimental factors that goes virtually unnoticed, but has the potential to threaten the professional standing and competence of this vital economic sector going forward, is experienced manpower — or rather a lack of it. With many of the industry's top engineers and skilled workers leaving the sector through retirement or retrenchment there is scarce replacement taking place. Is this because the oil industry carries too much risk of regular employment in difficult times, or is it simply that oil companies and institutions are not doing enough to attract the right students at an early age? It is an intriguing conundrum. **Saúl Castro Gómez** (r) reports for the *OPEC Bulletin*.

"When one's expectations are reduced to zero, one really appreciates everything one does have." This famous saying by Stephen Hawking, a heartfelt reflection of his challenged life, may well exemplify the numerous times policymakers and common individuals, for one reason or another, form the belief that a specific 'trend of public opinion' is the correct one, but later on, through trial and error, come to the realization that some form of amendment is often indispensable.

The landmark conference on climate change held in December 2015 in Paris, the city that owes its popular nickname — the city of lights — to being one of the first cities to exhibit the benefits of electric power transmission (with the aid of fossil fuels), opened up a historic opportunity to inform everybody about the wide-ranging subject of energy. The news came and went and, in all the euphoria, we heard that renewable energy had unprecedented potential and was being hailed by some as the next big thing. Yes, such resources are welcome and attainable to some extent, but one really needs to keep within realistic parameters over these resources so that expectation does not turn into disenchantment.

While it is true that the need for a better use of environmentally friendly energy is necessary and that other options like renewables are now obtainable, it is imperative to consider all the relevant data — in other words, to put everything into its proper perspective.

In reality, the rising level of global demand for energy in the years to come will require the use of all energy sources — including non-conventionals and renewables — with fossil fuels continuing to play a significant role. Veritably, even with the world fertility rate decrease experienced over the last years, the global population will continue to increase and family dynamics, coupled with commercial activities, means that at least another 1.1 billion people will own an automobile by 2040 (crude oil = fuel for vehicle transportation).

As for air transportation, it will hardly be able to rely on better and more efficient fuels than those with roots in fossils. However, in the name of the environment, Amen to some successful experiments, such as 'solar impulse' and tobacco 'blend jet fuel'.

Moving from transportation to the more comprehensive functionality of energy, the expectations of many non-OECD countries lie in the initiatives of the oil stakeholders in helping them satisfy their basic means of cooking and lighting, to say the least. Hence, without denying the importance of developing renewable energy, the fact is that in the predictable future, when looking at the overall energy mix, renewable sources will represent just a small share and their upsurge will be gradual and aimed at specific regions and specific niches of production.

This situation not only ratifies the continuing importance of the oil sector, but also suggests a renewed commitment for the industry to up its game, as it were. On the one hand, it should keep its status as the industry that helps to improve standards of living and fight energy poverty, while on the other maintaining and promoting the preservation of the environment, which, unfortunately, is not an easy task when referring to energy, in which oil plays a determinant role. The topic is so complex and wide that it really needs a willingness to learn and understand all the variants involved.

Interestingly, renowned Cambridge professor, the late David MacKay, author of *'Sustainable energy without the hot air',* one of the best contemporary manuscripts on energy, in explaining his motivation to write the book, expressed the sentiment: "I was distressed by the poor quality of the debate surrounding energy." According to him, a constructive conversation was needed.

Within this perspective, in an energy sphere that has multiple centres of influence, education on energy, objective information, and, of course, access to proficient manpower, are all emerging as being central to maintaining the goals of prosperity and environmental well-being. And in the specific case of those working with petroleum there is a pressing need to underline the importance of understanding just how vital an influx of skilled engineers and personnel is for the future of the industry.


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First things first

Let us consider the various statements made by economists, financial experts and petroleum analysts. One can say that the amount of information generated by them through their observations, articles, in addition to the ever-present rumour mill, regarding forecasts for oil production and required investments, is quite considerable. What is probably less well known is the proportion of comments, prognoses or studies focusing on what makes this vital economic function efficiently — the availability of human resources.

It is not surreptitious to acknowledge that the international oil sector has, for some time now, been facing a manpower deficiency. Generations of skilled workers have been retiring and not enough people are replacing them. This becomes more intricate during the current digital and IT era. The fact is a great number of fresh graduates or potential employees that in the past were the locomotive of the energy sector are now turning their attention to other dynamic sectors to boost their professional standing and work creativity.

Of course, virtually all the productive sectors today have been subjected to automation and the oil companies themselves do have many individuals working within their IT departments. But the preceding statement refers to the proportion of potential employees that were once occupied in, let us say, the area of oil exploration or natural science research, but are now more interested in the development of a new healthy beverage or any given phone App, just to mention a few hypothetical cases.

Maybe one of the important questions to be asked before any nebulous forecast about the use of energy and oil exploitation is made is whether the current oil industry workforce is sufficient to ensure that the long-term plans of the sector are possible to attain.

Under this scenario, one has to consider the new and relative large additions to world oil production seen in recent years from crude extracted from petroleum-bearing formations of low permeability, better known as 'fracking', which found a big ally in the pizzazz of marketing. Initial predictions were for this process to become a 'game changer' for the industry. But what one can certainly elucidate so far is that the development of so-called 'tight' oil just worked to destabilize the market. More nations have now suffered economically from fracking than those who bolstered their balance sheets. And right now, with the prevailing low crude prices, it seems that difficulties of bank financing for such shale developments may continue to affect future crude oil production from this source.

Again the important question is — what is the extent of the workforce available in this domain and what is the real status on training for the use of this modern form of extraction?

But the oil industry is not only a key player for helping to develop societal wellbeing, it is also central to the latest technological advances and innovations in computer and information science,

even though this is not something commonly acknowledged at first sight. At the forefront of this are the generation of products that are derivatives of petrochemical processes. But reviewing the status of human resources in the industry and how the activities of these personnel are perceived by others would perhaps be needed first among executive managers before creating ideas over a substantial next investment, especially in this time of the information age.

It is not always easy to find the right source in trying to review what different entities linked to the oil industry have been doing — what specific programmes they have launched — to inspire future potential employees in the oil industry.

To name just a few, there is the Visiting Research Fellow Programme at the OPEC Secretariat, the Corporate Graduate Programme at Norway's Statoil and the Ayacucho Programme of Venezuela's PDVSA.

But in Germany's largest internationally active crude oil and natural gas producer, Wintershall, we found a good sounding board. Wintershall explores and produces oil and gas in Europe, North Africa, South America, Russia, and the Middle East. The company, which is wholly-owned subsidiary of the chemical group BASF, has been active for over 85 years and has a workforce in excess of 2,000 employees from more than 50 nationalities. It bases its

While many innovations in computer and information science are taking place in Sweden, at the level of natural science talented employees in companies such as Nynas AB are also ensuring that infrastructure for the whole productive apparatus is made possible. Pictured is Nynas's Director of Comnunication, Hans Östlin.

Nynas AB

success on "our technical know-how and strong international partnerships', and says "it is hard to imagine business operations and private activities in our global industries without oil and gas." So the company is well placed to answer some of the *OPEC Bulletin's* questions on human resources in the oil sector:

In the future, how important do you think education in oil will be?

We are convinced that our industry has to benefit from fresh faces and new ideas. The best example is the oil price: we saw an average oil price of $40/barrel for Brent in 2016, but we expect this to rise again. But the price instability shows that the industry must continue to find ways to become more robust in its technology and breakeven prices to be able to handle these shocks in the future. And for this huge task we need young talent with new ideas. The SPEAD-Programme, which develops young and highly qualified university graduates within our company for an international position, and commitment on issues of education are our ways to get in touch with the young talent we require.

So it is clear that in tandem with continuing to develop new technology, the influx of personnel and skilled engineers is vital for the future of the industry. But on the other hand, it appears to be difficult to promote interest among future college students or professionals in an industry that, generally speaking, has been associated with the detriment of the environment. What do you think would be the best way to market the oil industry among college students and young professionals? Have you any specific examples?

We boost the interest of the students through high-quality and international development programmes, for example SPEAD, which is for talented young geoscientists and engineers. The SPEAD programme is two years long. During this time, the students will gain hands-on experience in our operating divisions in Germany and abroad. Additional measures, such as teambuilding courses, specific technical seminars, and personal development events, will ensure they are perfectly equipped for a career in our company. Once they have completed the SPEAD programme, they will be ready to take on exciting tasks with an international focus in our company. The SPEAD programme is just one way for us to get in contact with high-potential students. Furthermore, it is our aim to inspire young people for natural science in general. Wintershall is supporting efforts to promote natural sciences and technology subjects among school students, especially in the city of its main headquarters, Kassel. Wintershall Executive Board Member, Thilo Wieland, on the reasons for Wintershall´s commitment: "As a company with its roots in natural sciences, we strongly believe in making sure young people who are interested in natural sciences are supported and stretched. After all, it is these young minds that approach challenges from a fresh new perspective, and whom we will have to thank for new solutions in the future."

Since the development of the SPEAD programme has the company noticed an increase in interest from young minds towards the activities carried out by the company or in natural sciences? Or is this rather a long process and difficult to measure?

Since the start of the SPEAD programme in 1999, Wintershall has noticed an increased interest in its activities from young professionals and graduates. In general, the international development programme for talented young geoscientists and engineers was beneficial for the perception of Wintershall. The programme allows graduates to gather hands-on experience in the operating divisions in Germany and abroad. However, it is difficult to derive general trends as the current job situation in the E&P industry changed rapidly in the last few years.

Not so far from Germany; Sweden is a good location to get to know more about an organization working with crude oil, especially in a country where a great deal of informative trends concentrate notes on computer and information science. Yet, companies like Nynas AB offer a contribution, so, in great measure, the substructure for these technological developments is possible.

Nynas AB produces naphthenic oils and bitumen. It refers to itself as a different kind of oil company working together with its customers to make full use of oil's potential to help create valuable applications for customers and society as a whole.

"We've made it our business to unlock oil's potential and provide value to our customers around the world," the company says on its website.

In the context of communication, instrumental for human resources consolidation, the company's Director of Communication, Hans Östlin, offered some brief highlights on the subject for the *Bulletin*. His roles for Nynas include internal and external communication and also responsibility for the brand. The company focuses on different marketing communication activities towards existing and potential customers across the world. Internal communication is also important to Nynas as a widespread organization.

Despite important efforts carried out by the industry in terms of sustainability, generally speaking it is still negatively associated with the environment. What do you think is the best way to promote the oil industry among future college students or those interested in a career in the industry?

For us at Nynas, I think we attract future employees by using oil in a different way. We express this, as: 'We want to use oil, not burn

it'. Nynas is a company of specialists, focused on the research, production and supply of specialty oils for a growing global market. Our products help shape the world in a positive way and we drive the development in the recycling of bitumen, a heavy oil product for making asphalt, and clean and efficient oils used for example in tyres contributing to less pollution and decreased fuel usage. The size of Nynas is also attractive. Here 'people will be noted and there are possibilities to really grow' in one's role.

While it is true that transportation is a central activity and perhaps the most common activity associated with crude oil, what can be done to expand the connection with oil beyond transportation? Would it be possible to visualize oil with other societal/practical activities?

Yes, we often show that oil is an important ingredient in many products we all use on a daily basis, from asphalt to tyres, from electrical transformers to printing ink, in different plastics and rubber products, in lubes and greases necessary for cars and machines etc. The list is long.

Technological innovation:

Sabinije von Gaffke, a prolific and key recognized moderator at many international events, where innovation and technology are usually at the core of discussions, also set time aside for the OPEC Bulletin to answer a couple of questions. Based in Stockholm, a very important epicenter worldwide on entrepreneurial trends, she has witnessed a great deal of initiatives aimed at improving the quality of life for many.

It seems that a new digital ecosystem is taking place at an accelerated pace, particularly in the industrialized nations. However, we cannot expect this to happen in all regions of the world. For certain countries, safeguarding energy needs is a major priority, which is needed also for them to be able to advance in other areas of knowledge or productivity. Has it ever been discussed or mentioned in any of the events you have moderated, how the drastic fluctuation in oil prices could affect plans for the IT sector internationally?

No, this topic has not been raised nor has it been a theme at any of the moderator assignments that I have had to date. I have moderated a panel debate on 'Future Materials' but that included steel, composites, ceramics, 3D printing etc, but with no reference to oil.

Considering that a significant amount of raw material derivatives from crude oil are essential for the creation of products that are envisioned for entrepreneurs in a wide range of activities, in your opinion what are the reasons for the lack of better cooperation between the petroleum sector and the entrepreneurs, particularly those in the technology field?

I find that this question is outside my range of knowledge and therefore my answer cannot be seen as an answer from a person with knowledgeable insight in the petroleum sector. In general, factors to increase cooperation between industries are usually based on communications, interaction, shared knowledge and allowing both sides to discuss issues of importance and relevance for each part.

Oil is not just a source of energy — it is also an extraordinary raw material. In fact, an amazing range of products and objects highly esteemed by individuals are made from crude oil. For example, cosmetics and makeup are only possible thanks to petrochemicals. In your opinion, what have been the obstacles among the strategic communicators in the oil industry for not advertising the value of oil in a more comprehensive way?

I think looking at the aspect of sustainability, health and organic ingredients, it is wary to advertise the value of oil in a comprehensive or favourable way, when it comes to, for example, cosmetics as these ingredients are on many occasions not good for our health and not the optimal ingredient in cosmetics.

Obviously, the great work of companies like Wintershall and Nynas AB positively influences the development of the industry and, in turn, the quality of life in society. The game-changers in tech are also doing their part. But based on the many events with a focus on technology innovation that we have had the opportunity to observe in recent years, in a general sense, one could point to a disconnection at the level of technical cooperation or perhaps a cooperation that is rather too nominal between two sectors that are dependent on each other — computers and information science. Both of these rely a great deal on refined materials from fossil fuels. On the other hand, the oil industry could perhaps make better use of the ever-evolving information technology events and trends. Nevertheless, it is precisely within this tech scene where a sort of communicational paradox takes place in disfavour for the oil industry.

Let us also consider social media, for instance. With its development and scope the oil industry might want to keep both the public in general and those individuals who might be the right fit to work in the industry appropriately informed of what it has to offer. A potential labour force within the so-called 'millennial generation' is an approachable audience of countless ideas from all walks of life, comprising too those viewpoints on energy. In this respect, a message with a major echo lately is that of ideas or initiatives related to the preservation of the environment. Of course, this includes

both the good initiatives and also those that are, in essence, just 'greenwashing'. It is not certain if the communicators in the oil sector have comprehensively measured the impact of oil industry news (from serious journalistic sources) and the information flow on social media when related to the use of energy. At a glance, the perception would be that it is more common to see posts carrying information depicting the benefits of renewable sources of energy than those showing the unique everyday benefits and solutions that are found in hydrocarbons.

The sardonicism rests in the fact that the innovation of both hardware and software, electronics and technological entrepreneurship, is dependent on an oil industry running to its full capacity, so that the necessary raw materials can be available at any given time to assist the 'creative mind'. The Colombian sociologist and well-versed professor at the University del Valle, Fernando Urrea, when referring to communication, points out: "Social media generate a link between some specific events and collective realities, in these experiences the actions are promoted by feelings, uniting the masses."

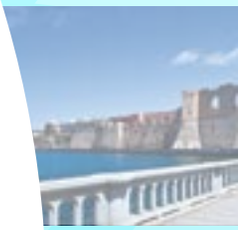
In this sense, in the existing communicational context, together with standard marketing practices, branding and academic programmes, other key aspects for oil companies to consider for attracting outstanding professionals in the future might also be a better awareness of the benefits of online communications. The younger generation needs to know what is being implemented by the industry towards improving living standards, while conserving the environment. It is possible to classify companies in the industry as national oil companies or international oil companies. But for the effects of exhibiting the benefits of the product to the general public, whilst ensuring that both potential employees and current workers are kept motivated, it does not really matter if the company is small, big, national or international. What really matters is the cohesion of the message presented to the public across all of them.

Likewise, propitiating awareness over the level of collaboration that should exist between oil companies and both established firms and start-ups in the technological field would be meaningful. For these tech enterprises, fossil fuels might be something more than 'retransmitted news' in the many platforms of computational science they support.

The existing challenge might be found in knowing or not knowing how to show to future generations and potential human resources that crude oil, the information age, and social well-being are truly an integrated biome. In the meantime, while energy consumption from fossil fuels has recently slowed in developed nations, for developing countries — which host the majority of inhabitants on our planet — consumption has increased more rapidly. A well-prepared and innovative oil industry will be certainly needed more than ever in the decades to come. And that will require all the professional help and experience it can muster!

Not far from Stockholm, the locality of Nynäshamn hosts a key Nynas AB refinery. Today, crude oil from the tropical lands of Venezuela finds its way to this facility, contributing to the Swedish economy and the company's supply chain of products internationally.

Nynas AB



OPEC CITIES IN FOCUS

Pictured above:
The bay of Algeria's Oran.

For well over half a century, OPEC Member Countries have played a prominent role in the oil and gas sector. Supplying the world with approximately a third of its daily crude oil requirements has enhanced the international standing of the Organization and its Member Countries, both in the petroleum market and the global economy in general.

This prominence has allowed individual Member Countries to become key energy players in their own right, but while also remaining proactively committed under the OPEC umbrella to the Organization's broader objectives in regard to sustaining market stability and maintaining its equilibrium. In the process, many landmark contributions have been made to the industry, creating a remarkable legacy for the Organization as a whole.

However, the 13 Member Countries that make up the Organization today have much more to offer than just energy resources. The *OPEC Bulletin,* in a new series — **OPEC Cities In Focus** — will endeavour to highlight these other attributes, offering a window into various Member Country municipalities, showing, among other things, their cultural diversity and unique magnetism.


Shutterstock

Oran

Fusion of culture and international commerce

Algeria, which joined OPEC in 1969, is, territorially, the largest nation in both Africa and OPEC. With a population estimated at around 40 million, the oil and gas sector is the backbone of the nation's economy with the country's other natural resources including iron ore, phosphates, uranium and lead. In this first feature in our new series, the OPEC Secretariat's ***Ayman Almusallam*** *looks at the historic coastal city of Oran, which has grown to be one of Algeria's key municipalities.*

In 900 AD, lions populated a coastal area overseeing the Mediterranean in North Africa. These proud animals were unfortunately hunted until only two remained. These were also eventually killed — the two lions, or Oran — today a key city in the Republic of Algeria.

Oran ranks second in terms of importance and significance in the OPEC Member Country, after the capital city, Algiers. It contributes notably to the country's wealth of culture and heritage, in addition to its significant role in expanding the national economy and developing various industries.

The city of Oran is located in Algeria's north-western region. It is bordered by the Mediterranean Sea in the north, the Mostaganem region in the east, the province of Mascara in the south, Sidi Bel Abbes province in the south-west and the region of Aïn Témouchent in the west. It lies 432 kilometres from Algiers.

According to the Open Data for Africa Initiative, the land area of Oran stands at 2,121 square km, while its population exceeds 1.4 million.

The strength and advancement of Oran's regional economy as an economic centre and industrial hub is well manifested through its diverse and well-developed industries. Active sectors include tourism, fisheries, oil and gas, and conference and meeting facilities.

The city holds significant importance for Algeria, which joined OPEC in 1969. The country has been an influential and active player in the Organization's affairs over the years, particularly in helping to stabilize the international oil market.

In fact, towards this end, Oran hosted OPEC's 151st (Extraordinary) Meeting of the Conference in December 2008, a meeting that witnessed the landmark reaffirmation of Member Countries to oil market stability and balance.

Wabrani, Wikimedia Commons

Lion statue in front of Oran's Convention Centre.

Climate and geography

The city of Oran enjoys a moderate semi-arid climate that experiences a lower rate of precipitation and is notably influenced by the Mediterranean, situated on its northern border. In summer, the city is warm with an average temperature of 30° Celsius, while winter is considered relatively cool with temperatures falling to as low as 17° C. August is usually the warmest month and January the coolest.

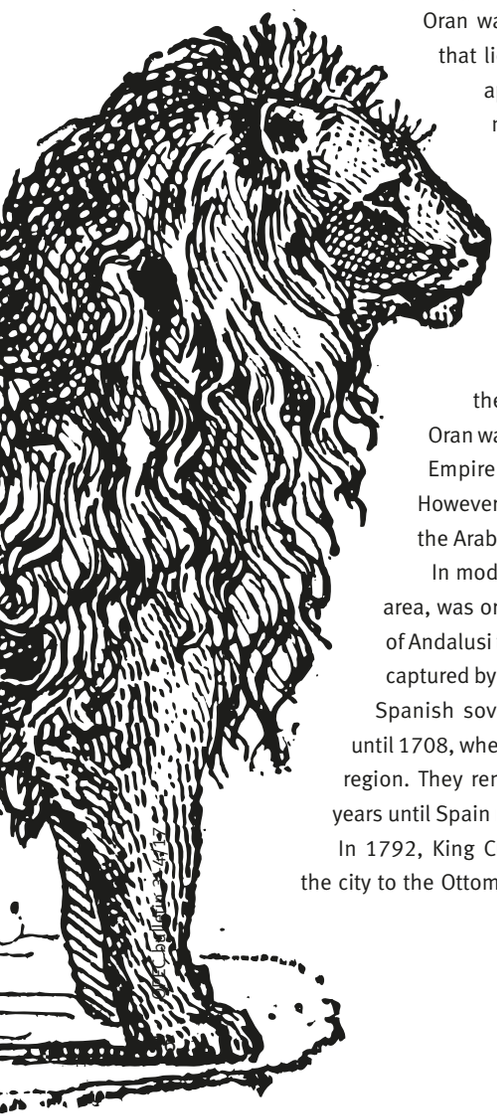
Due to its location, Oran faces the constant threat of earthquakes, many of which have been destructive in the past.

Although Oran dates back to the 900s, the majority of its existing buildings are relatively modern. Notably, the oldest remaining buildings were erected in the 18th century during the French colonisation period. Today, the local authority has enhanced the criteria for construction to ensure that new buildings are reinforced to withstand seismic activity.

Buildings in French colonial style seen in Oran, Algeria.

Etymology

The name Oran originates from Berber roots and its literal translation is lion. That meaning stands today after scrutinising several Berber languages. In local culture, it is said that the name Oran was derived from a popular legend asserting that lions lived in the area. The lions started disappearing until the last two were killed in a nearby mountain, currently referred to as the Mountain of Lions. A statue of two lions adorns the entrance of Oran's city council offices.



Historical overview

According to historians, records show that the geographical zone that now encompasses Oran was initially settled during the era of the Roman Empire. It was then referred to as Unica Colonia. However, the settlement did not exist for long due to the Arab conquest of Africa's north-west region.

In modern history, Oran, in its current geographical area, was originally inhibited in the year 903 by a group of Andalusi traders. Several years later, it was captured by the Spanish cardinal Cisneros. Spanish sovereignty over the land lasted until 1708, when the Ottomans conquered the region. They remained in power for some 24 years until Spain regained control of the area.

In 1792, King Charles IV ordered the sale of the city to the Ottomans for economic purposes to establish a reign that lasted until 1831 and ended during the French colonisation. During this era, Oran became a prominent town with great potential with regard to its economy, commerce, culture and art.

In July 1940, Oran became a British colony, which only lasted for two years. Then, some 22 years later, a landmark agreement with France was ratified instigating a ceasefire and the claiming of full independence.

Today, Oran is considered a major centre for commerce, oil and gas, a meeting and conference centre, in addition to being a key port for the OPEC Member Country and a hub for education, culture and modernity.

Mostaganem province of Oran, vintage engraved illustration. Magasin Pittoresque 1844.

Panaromic view of Monument of Sidi Brahim in Place du 1er Novembre. Oran's major square and tourist attraction where the Theatre and town hall are located.

Tourism and POIs

The unique mix of history and contemporaneousness shaped Oran to become a favoured destination for local and international tourists. The city's authorities have invested considerable resources and effort to satisfying this rising demand, providing all the various required facilities and amenities.

Today, Oran is perceived as a prominent international destination that tourists visit for various purposes, such as culture, leisure, and business. The city hosts a wide range of accommodation facilities, such as luxury hotels, modern bed and breakfasts and hostels, in addition to restaurants, museums, theatres, cinemas, art centres and exhibitions.

Oran's main museum, officially known as Musée National Ahmend Zabana, plays an important role in exhibiting natural history, art mosaics and extraordinary paintings and portraits.

Furthermore, the Algerian football club, Mouloudia d'Oran, is located in the city's district of El-Hamri, an attraction that is notably visited by many sport enthusiasts.

And tourists who are keen on learning about Oran's history are advised to visit Medina Jadida, which is an important historical district. The area dates back to the French colonisation era and hosts one of the biggest traditional markets in the region.

Another significant attraction is the grand mosque, which was constructed to celebrate the end of the Spanish regime in Oran.

In the northern area of Oran, the historical suburb — Sidi El-Houari — can be found. The area hosts several notable attractions, such as Saint-Louis College. Tourists, as well as local residents, can visit the old mosque of Pasha, which dates back to the 17th century, in addition to many other monuments and landmarks from the 16th and 17th centuries.

Music

Oran is the hometown of the renowned music genre, *Rai*. This global sound, which was developed in 1930, is heavily influenced by western and oriental music. Of note, the literal meaning of the term *Rai* in Arabic is 'opinion'. Singers of *Rai* music are normally referred to by a prefix, *Cheb,* an Arabic word for young in English.

Oran was the birthplace of many notable musicians, such as *Rai* artist Cheb Khaled and violinist Akim El-Sikameya.

Oran in contemporary media

The charming city of Oran has been represented in a great number of international movies and television series, as well as in well-known novels.

The award-winning film, *Casablanca,* which was filmed in 1942 and displayed publically in the United States in 1943, was filmed partially in Oran.

Moreover, Miguel de Cervantes and Albert Camus published their renowned novel, *The Plague,* in 1947 and republished it in 1948, 1960 and 2001. The story plot occurs in large in Oran.

2021 Mediterranean Games

In 2021, all eyes will be directed on the city of Oran as the XIX Mediterranean Games will be inaugurated there. As part of the selection process, the city competed initially with four other cities — three in Europe and one in Africa. The cities were Kotor in Montenegro, Dubrovnik in Croatia, Sfax in Tunisia and Mostar in Bosnia and Herzegovina. During the final stage, Oran was chosen as the host country after receiving 51 votes, while Sfax obtained 17 votes.

Logo of the Mediterranean Games

The games will be held mostly in the Olympic Complex of Oran, in addition to some other venues. It has been reported that Oran's city council has allocated five billion Algerian dinars to cover the costs incurred, as it aims to complete the preparations for the event by 2019.

The major sport event will host a vast number of games, such as football, basketball, swimming, jumping, fencing, sailing, shooting, water skiing and volleyball. Some 25 countries are expected to participate in the event.

Algeria's history extends beyond the 2021 Mediterranean Games. Algiers hosted the 1975 Mediterranean Games, an event that was highly anticipated, well attended and added to the state's sport sector.

Reuters

Ancient ruins in Diriyah, Saudi Arabia, which were designated as a UNESCO World Heritage site in 2010.

The ancient and the modern meet in Diriyah

Much of Saudi Arabia's history can be traced back to the ancient town of Diriyah, which was the headquarters of the first Saudi dynasty. Now, with plans for the construction of a new avant-garde cultural heritage centre, the ancient city is about to embrace a new wave of modernity. The OPEC Bulletin's **Scott Laury** *reports.*

Located on the north-western edge of Saudi Arabia's capital city of Riyadh and nestled in the lush Wadi Hanifah valley, Diriyah was the original home of the Saudi royal family and the capital of the Emirate of Diriyah during the first Saudi dynasty from 1744 to 1818.

In July 2010, the United Nations Educational, Scientific and Cultural Organization (UNESCO) designated the city's ancient Turaif district with its earthen palaces and ruins as a World Heritage site.

The UNESCO designation, embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, was first adopted by UNESCO in 1972 and helps preserve and protect cultural and natural heritage at over 1,000 sites in around 165 countries worldwide.

Potential heritage sites undergo a rigorous evaluation process based on a wide range of criteria before being selected, but sites must be, according to UNESCO, "considered to be of outstanding value to humanity."

An artistic rendering of Diriyah's modernistic Urban Heritage Administration Centre, which was designed by Zaha Hadid Architects.

The ancient city

The ruins of the ancient city of Diriyah are divided into three zones — Ghussaibah, Al-Mulaybeed and Turaif — which are perched majestically atop hills overlooking the Wadi Hanifah valley.

The city was founded in the 15th century by Mani Al-Mraydi, an ancestor of the Saudi royal family. Its ancient structures are a prime example of Najdi architecture, which is unique to the central Arabian peninsula. This architectural style is well adapted to its desert surroundings with the use of adobe and battered earth to build palatial structures with intricate geometrical features.

In the 1700s, Diriyah continued to grow and gain in wealth, as well as in political and religious influence to become a major player in the Middle East.

From 1811 to 1818, the Ottomans invaded the Saudi state, and consequently, much of the ancient city was destroyed. In 1818, the original inhabitants left Diriyah and moved to Riyadh, where the new Saudi capital would end up being established.

In his 1981 book *The Kingdom*, British historian and author, Robert Lacey, described the abandoned town, saying the inhabitants had "left the shell of their old capital behind them, an enduring reminder of the frontiers of the possible" and characterized the city as "a sand-blown Pompei."

From the mid to late 20th century, the area was resettled by nomads, and by the 1970s, the Saudi government began to develop it as a newer, more modern city. Since then, it has grown in size to become the seat of the Diriyah Governorate, which includes several other villages.

The newer part of the city is located at the foot of the hill upon which the Turaif district is perched.

North of the town, there is a lush area dotted with palm groves, gardens, small farms and estates.

A new era

Today, the ancient sector of the city continues to be restored by the Saudi government and attracts a steady stream of tourists.

Since 1976, the area has been under the protection of the Antiquities Act, which safeguards the ancient heritage of the site. The Ministry of Education and the Council of Antiquities, in collaboration with the police authorities, ensure that the laws protecting the area are duly enforced.

HK Woo, Wikimedia Commons

Ruins of Diriyah's ancient towers, which are prime examples of the adobe and battered earth structures of Najdi architecture found in the central Arabian peninsula.

The Saudi Commission for Tourism and Heritage (SCTH) has developed a global management plan to oversee the future development and conservation of this site, as well as the Kingdom's three other World Heritage sites.

A hub for Saudi culture and heritage

A centrepiece of these plans to preserve and protect Diriyah's historic sites is the design and construction of the Urban Heritage Administration Centre, a new cultural heritage centre and museum complex covering 8,780 sq m.

The Centre is being designed by world-renowned architect, the late Zaha Hadid, and will be situated next to the new Diriyah Governate complex. The Governate buildings are being designed by Dar Al-Omran and when completed will comprise two modernistic structures covering 6,330 sq m.

Hadid's design will be adapted to the local desert landscape and feature symbolic elements of Saudi culture and history.

Two main architectural features include a water-themed atrium and four green oases within the façade, which are direct references to the rich and lush geography of the Wadi Hanifah valley in which the structure is located.

The building's façade has a series of distinct perforations that serve the dual purpose of protecting the interior from solar glare and heat while, at the same time, providing impressive views of the surrounding terrain.

The robust feel of the structure's double-layered façade also alludes to Diriyah's historic rammed-earth brick buildings, which are an integral aspect of the UNESCO site.

Tradition and innovation

The office of Zaha Hadid describes their goal for the site as finding the perfect harmony between tradition and innovation.

"True authenticity resides in the balance between tradition and ever-evolving innovation. This has been integral throughout the project's design process," a statement on the firm's website reads. "In so doing, the

Methanoia, Zaha Hadid Architects

Interior rendering of the Urban Heritage Administration Centre in Diriyah.

Ancient palatial building in the old city of Diriyah.

Alamy

Urban Heritage Administration Centre becomes part of the nation's evolving cultural heritage, achieving the ambitions of the Saudi Commission for Tourism and Heritage."

Once complete, the new Centre will serve as headquarters for the Urban Heritage Museum, hosting a permanent exhibition space, a library, a lecture hall, an educational area, as well as archaeological research facilities available to scientists and academics from around the world.

In addition to the Turaif district in Diriyah, Saudi Arabia has three other historical sites listed on UNESCO's register of World Heritage sites: the Al-Hijr archaeological site; the Gate to Mecca in historic Jeddah; and rock art located in the Hail Region of the Kingdom.

Al-Hijr archaeological site

Located in the northwestern province of Al-Madinah, the ancient archaeological site of Al-Hijr (Madâin Sâlih) is Saudi Arabia's first World Heritage property to be designated by UNESCO and was registered in 2008.

Formerly known as Hegra, it is the largest preserved site of the Nabataean civilization south of Petra in Jordan.

The Nabataeans were a nomadic tribe that inhabited northern Arabia and the southern Levant from the 4th century BC to around 106 AD, when the Romans conquered the Kingdom to expand their empire and trading links. They re-named the region Arabia Petrea.

The site contains around 111 well-preserved tombs, some with decorated façades, dating from the 1st century BC to the 1st century AD. There are also 50 inscriptions from the pre-Nabataean period and a series of cave drawings.

Al-Hijr bears witness to the Nabataean civilization's architectural prowess and its expertise in hydraulic engineering techniques that enabled it to build an impressive network of water storage cisterns.

Its capital city was Raqmu, now called Petra, which became a major east-west trading post for spices and other goods.

In her 2001 book, *Petra and the Lost Kingdom of the Nabataeans,* writer Jane Taylor described the Nabataeans as "one of the most gifted peoples of the ancient world."

The Al-Hijr site, situated in the north-western province of Al-Madinah, boasts the largest preserved area of Nabataean civilization south of Petra in Jordan.

© UNESCO/Véronique Dauge

Historic Jeddah — the Gate to Mecca

Another World Heritage site, registered in June 2014, is found on the eastern shore of the Red Sea in the historic city of Jeddah.

In the 7th century AD, the city was created as a major port for Indian Ocean trade routes, moving goods to Mecca. It was also a principal gateway for travellers arriving by sea on their annual pilgrimage to the holy sites of Mecca and Medina.

These factors resulted in the city's development into an influential international hub, characterized by a distinctive architectural tradition, which featured tower houses built in the late 19th century by the city's merchants and Red Sea coral building techniques.

Today, Jeddah is a major urban centre, the largest city in the Mecca province and the largest sea port on the Red Sea. With a population of approximately 4.2 million people, it is the Kingdom's second-largest city after Riyadh.

Rock art in the Hail region

The latest Saudi property to be inscribed as a World Heritage site is the Hail region, which boasts a spectacular display of rock petroglyphs and inscriptions depicting ancient life through human and animal figures. UNESCO registered the site in July 2015.

The drawings chronicle nearly 10,000 years of history at the Jabel Umm Sinman site in Jubbah and at the Jabal al-Manjor and Jabal Raat sites located in Shuwaymis.

The images depicted in the sites' rock art provide an invaluable history lesson on ancient culture and customs that once existed in this area of the Kingdom and its surrounding region.

Sharing a rich heritage

Shortly after UNESCO announced that the Hail region had been officially registered as a World Heritage site, His Royal Highness (HRH) Prince Sultan bin Salman bin Abdulaziz, President of SCTH, stated that the announcement was proof of the Kingdom's cultural profoundness, and that this development would be of benefit not only to the Kingdom, but to the whole of humanity. It would serve to raise the international profile of the Kingdom, while helping boost tourism and enhancing the economy.

At the time of the site's unveiling, he congratulated the Custodian of the Two Holy Mosques, HRH King Salman bin Abdulaziz Al Saud, on this great achievement and prestigious gesture of international recognition for the Kingdom. He also expressed his gratitude to the King for his steadfast support and care for the preservation of the Kingdom's rich heritage and culture.

The ancient city of Jeddah is characterized by its distinctive architectural tradition, which features tower houses built in the late 19th century by the city's merchants and Red Sea coral building techniques.

Nouf Kinani, Wikimedia Commons

Diversifying the economy

These efforts to promote and protect the Kingdom's cultural heritage sites are in line with its plans to diversify the economy away from fossil fuels towards other industries and sectors.

Tourism is an important sector in Saudi Arabia's economy and is expected to continue growing in the years to come to become a one of the Kingdom's largest industries.

"Tourism represents the second most important economic sector in the Kingdom," said economic analyst Fadl Saad Al Bu Ainaian, speaking at an event hosted by SCTH.

"Despite its low contribution to the gross domestic product (GDP) of only 2.7 per cent, development plans in tourism show its ability to raise its contribution to higher levels and makes it more capable to develop targeted areas, especially the rural and remote areas that need comprehensive economic development to create jobs and investment opportunities."

An estimated $21.3 billion (December 2015) in revenue comes from tourism and this does not include the significant income, estimated at $5.68bn, generated by the millions who undertake the annual pilgrimage to the holy sites of Mecca and Medina.

Though there is no tourist visa currently available, the Kingdom is offering increased opportunities for national and international visitors to enjoy its cultural and heritage sites.

In an interview with US news agency *The Associated Press* shortly after the launch of the Kingdom's much anticipated Vision 2030, which outlines Saudi Arabia's plans for diversifying its economy, HRH Prince Sultan bin Salman explained how tourism would play an increasingly important role in the future.

In terms of domestic tourism, he hopes to attract the interest of Saudi youth and help bolster the sense of national identity among all the Kingdom's citizens.

"Smelling and hearing the sounds of their country and tasting this fantastic multicultural country is something that's important for any nation that wants to go to the future confidently," he proclaimed.

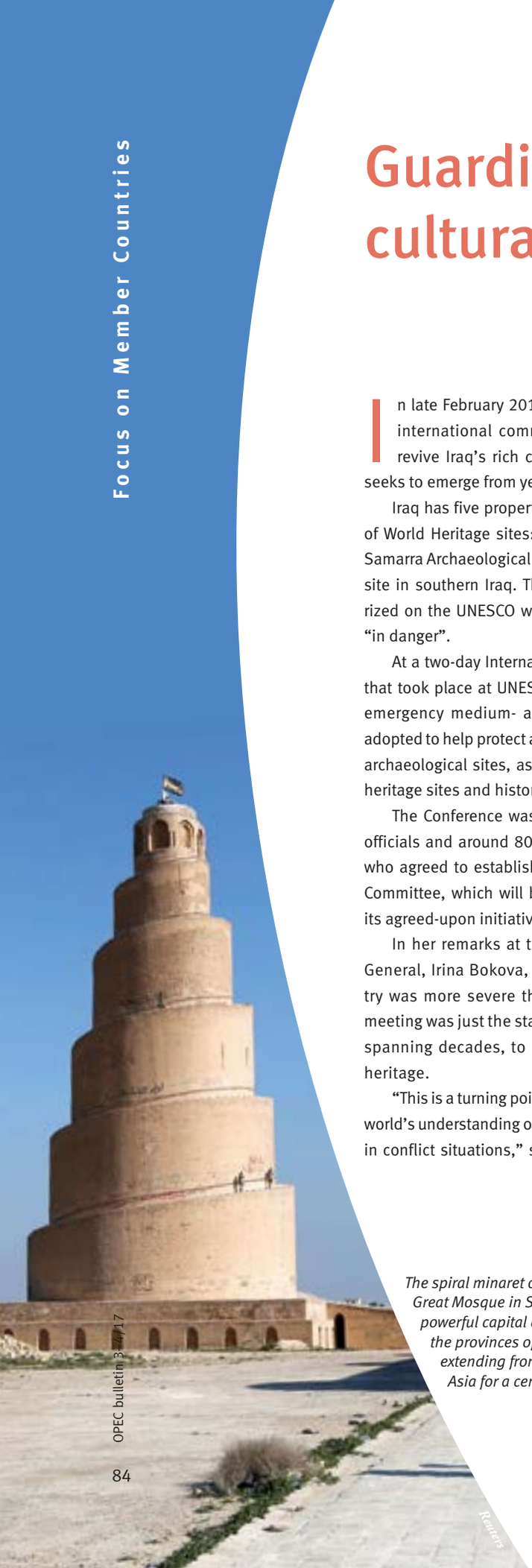
He also hopes to see an increase of international visitors travelling to the Kingdom for a variety of reasons.

"It is open for people that are doing business, for people working in Saudi Arabia, investing in Saudi Arabia, and people who are visiting for special purposes. And now it will be open for tourism again on a selected basis," he stated.

"The issue is very important to us, that people come and find a country that is stable, that is secure, to show off, if you like, our country," he said.

The Hail region, inscribed as a World Heritage site in 2015, offers a spectacular display of rock petroglyphs and inscriptions depicting ancient life in Saudi Arabia through human and animal figures.

© UNESCO / Dr Majeed Khan



The impressive ancient citadel in Erbil, Iraq, a fortified settlement that sits atop a circular hill.

Guarding Iraq's cultural heritage

By Scott Laury

In late February 2017, UNESCO made a plea to the international community to help safeguard and revive Iraq's rich cultural heritage as the country seeks to emerge from years of conflict and destruction.

Iraq has five properties registered on UNESCO's list of World Heritage sites: Hatra, Ashur (Qal'at Sherqat), Samarra Archaeological City, Erbil Citadel and the Ahwar site in southern Iraq. The first three listed are categorized on the UNESCO website as cultural sites that are "in danger".

At a two-day International Coordination Conference that took place at UNESCO's headquarters in Paris, an emergency medium- and long-term action plan was adopted to help protect and preserve Iraq's many ancient archaeological sites, as well as its museums, religious heritage sites and historic cities.

The Conference was attended by Iraqi government officials and around 80 international heritage experts, who agreed to establish a joint UNESCO-Iraqi Steering Committee, which will be responsible for coordinating its agreed-upon initiatives.

In her remarks at the meeting, UNESCO Director-General, Irina Bokova, said that damage in the country was more severe than expected, adding that the meeting was just the start of a long process, potentially spanning decades, to help renew Iraq's rich cultural heritage.

"This is a turning point for the Iraqi people and for the world's understanding of the role of heritage for societies in conflict situations," she stated. "UNESCO is already mobilizing on the ground to support Iraq in protecting heritage and objects most at risk, and to fence off and guard sites."

Around three months ago, UNESCO coordinated emergency missions to the cities of Nineveh and Nimrud, and, more recently, a damage assessment mission was conducted at the Ashur World Heritage site.

Qais Rasheed, Iraq's Vice-Minister of Culture for Antiquities and Tourism Affairs, reported that extremists had badly damaged important archaeological sites, destroying up to 70 per cent of Nineveh and 80 per cent of Nimrud.

In a desperate quest for antiquities to sell on the black market and on the internet, the extremists dug a series of tunnels in Mosul and at other heritage sites.

Iraqi Minister of Education, Mohammad Iqbal Omar, reminded attendees at the meeting of UN Security Council Resolution 2199, which bans all cultural trade from Iraq and Syria, adding that trading in Iraqi antiquities must be halted and money flowing to the perpetrators must be averted.

Fryad Rawandouzi, Iraq's Minister of Culture, said that assistance from international organizations would be crucial to this cause.

"As we reclaim our country," he said, "We need help from UNESCO, the UN and others to rehabilitate museums, cities and sites, and return stolen objects. We need a plan with a timeline, as well as technical and financial support."

The meeting classified several action items as urgent, including the need to conduct thorough damage assessments and establish protection measures, such as the fencing off of vulnerable sites.

Education Minister, Omar, concluded his remarks with a final, determined call to the international community for action to save his country's precious heritage.

"Daesh tried, but will never erase our culture, identity, diversity, history and the pillars of civilization. I call on the world to help us."

The spiral minaret of the ninth century Great Mosque in Samarra, Iraq, a powerful capital city that ruled over the provinces of the Abbasid Empire extending from Tunisia to Central Asia for a century.

Reuters

Alamy

The well-preserved ruins of the Hatra World Heritage site.

© UNESCO/Véronique Dauge

The ancient walls in Ashur, Iraq, a city that dates back to the third millennium BC.

Alamy

‘Sow the Oil’

While the OPEC Secretariat in Vienna is known as the home of the 13 Member Countries of the Organization, for one lovely day in late March it became the home of Venezuela’s Orquesta Sinfónica Simón Bolívar (Simón Bolívar Symphony Orchestra). Courtesy of the Venezuelan Embassy in Vienna, through Ambassador **Jesse Alonso Chacón Escamillo**, the Orchestra visited the Secretariat and shared a little of their musical magic with the staff. **Mario Fantini** reports.

Jesse Alonso Chacón Escamillo, Venezuelan Ambassador to Austria.

On March 29, at a Secretariat-wide gathering of all OPEC staff — all “great fans”, including the Organization’s Secretary General, Mohammad Sanusi Barkindo — more than 100 young people from the Simón Bolívar Symphony Orchestra received a glowing tribute from the Secretary General and OPEC officials.

But it was the performance of a quintet of young men from the Orchestra on the first-floor conference room that really made the day. For a brief, but enriching 45 minutes, various musical selections brought everyone in the place together and music — once more, as it has through the ages — demonstrated its unique power to unite people through aural sensation.

The five young men — playing an oboe, French horn, clarinet, flute and bassoon — performed six lovely pieces, which ranged from the flowing and pastoral to the colourful and lyrical. There were even some moments where the influence of traditional or indigenous Latin American musical rhythms was apparent.

As the bassoonist later explained to the *OPEC Bulletin*, the first three pieces were composed by Claude-Paul Taffanel (1844–1908), a French flautist, conductor and instructor who is widely regarded as one of the founders of the so-called ‘French Flute School’. The quintet played Taffanel’s *Quintette in G minor*, composed in 1876, for woodwind instruments, with great virtuosity.

The next three pieces performed were from the works of Omar Acosta, a still-living Venezuelan flautist, composer and conductor who has performed and recorded with other musicians around the world. Interestingly, Acosta himself is a ‘graduate’ of the Orchestra, having originally obtained a place as flautist at the tender young age of 17.

The Orchestra, many of whose musicians are still youths, is of course the product of Venezuela’s famed ‘El Sistema’ musical education and training programme. A cover story in the January/February edition of the *OPEC Bulletin* featured an in-depth profile of the programme and of its Musical Director, Gustavo Dudamel, now also the Music & Artistic Director of the Los Angeles Philharmonic. On January 1, 2017, Dudamel became the youngest maestro to ever conduct the Vienna New Year’s Concert in what the OPEC Secretary General called “a crowning accomplishment”.

In his comments before the quintet’s recital, Barkindo said: “Gustavo is a citizen of all OPEC Countries and a citizen of the world.” But it seems most appropriate, he continued, that now he and his Orchestra find themselves in “the hometown of Mozart, Schubert and Strauss … the city of music and culture.”

In 2016, the Orchestra had gone on an eight-concert tour through seven different European countries. This year, they have have performed in such cities as Barcelona, Madrid, Hamburg and Vienna. Their visit to the OPEC Secretariat — the “home to this

A quintet of young musicians from the SBSO during their performance at the OPEC Secretariat.

Orchestra", in the words of the Secretary General — was a generous side visit during their 2017 European tour.

No stranger to classical music, Barkindo elaborated on the importance of music in helping young people, particularly those from lower socio-economic backgrounds. "Youths in developing countries are looking for mentors … to lift them out of their hopelessness, in order to realize their potential in life," he noted. And what Dudamel and, earlier, José Antonio Abreu, the founder of the Orchestra and El Sistema, have achieved with their work is important not just for Venezuela but for the entire world, he said.

The Secretary General's remarks were followed by brief comments by Venezuelan Ambassador Chacón, who said the "whole Orchestra is making history." It is "the first South American orchestra to perform Beethoven's 9th Symphony in the Golden Hall of the Musikverein," he observed. Their visit to OPEC, he said, is an opportunity for the Orchestra to join OPEC staff for "an intimate gathering" and to "share a meal together and get to know what OPEC does."

The Executive Director of El Sistema, Eduardo Méndez, was also present to speak about the programme. In fact, he noted that given the success of the initiative in Venezuela — particularly among youths across the country — perhaps the idea of supporting the growth of El Sistema elsewhere, in other countries, might be something worth exploring. He added that he was purposefully "planting the seed of the idea" among OPEC officials so that perhaps in Member Countries, too, someday children and young people may also be transformed through classical music.

Gustavo Dudamel, conductor, during his visit to the OPEC Secretariat.

Gustavo Dudamel viewing the January/February 2017 issue of the OPEC Bulletin, which featured a cover story on his achievements.

Arriving to thunderous applause

Shortly after the quintet's recital, Dudamel himself, also a graduate of the El Sistema programme, visited the Secretariat. Arriving to thunderous applause, he took a few moments to thank the Secretary General for his hospitality — and spoke about the importance of music and culture for human development. In speaking about the importance of music and culture to the health of a society and its members, he referred to Spanish philosopher Miguel de Unamuno (1864–1936), who had said that the only freedom there is to give to people is culture.

Dudamel made sure to also praise the incredible achievements of Abreu — who many people don't realize was himself not just a conductor, pianist, and educator, but also a politician and petroleum economist. It was through the creation of the El Sistema programme that Abreu — "that beautiful, wonderful, crazy man", said Dudamel with obvious affection — contributed so much to his beloved country and showed the world the importance of sharing the beauty of music.

In fact, Dudamel noted that the role and importance of art and music in society has changed dramatically over the years — and principally for the better. "Art is no longer a luxury but a *need*," he said. "It is necessary for our people." And it helps "build better citizens for our world."

This is why culture needs to continue supporting people everywhere, he noted. In fact, Dudamel recalled the work of Venezuelan intellectual, lawyer, journalist and writer, Arturo Uslar Pietri (1905–2001), who in 1936 wrote an article titled "*Sembrar el petróleo*" ('Sow the Oil'). It spoke of the importance of oil and oil revenues to support, strengthen and enhance long-term national development efforts — particularly in non-oil sectors, including art, culture and music. What's important, Dudamel urged others, "is how we use these resources to enrich the soul of the people, the soul of our beautiful country of Venezuela."

At the end of the special gathering, the Secretary General was presented with the "*Medalla de la Orquestra*" — the Medal of the Orchestra. Amid rounds of applause, triumphantly raised arms and warm embraces, the youths of the Orchestra and OPEC staff then mingled, chatted and exchanged a few brief moments of friendship and solidarity. As the Secretary General had said earlier, music certainly does help in "bringing people and nations together." And as was apparent in that room that day, music continues to be "the language of hope, the language of unity."

Mohammad Sanusi Barkindo (l), OPEC Secretary General; welcomed Gustavo Dudamel (c), conductor; and Eduardo Mendez (r), Executive Director of El Sistema, at the OPEC Secretariat.

El Sistema and OPEC staff members gather for a group photograph.

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

Visits to the Secretariat

January 25 Students from the Long Island University, New York, US.

February 2 Students from Johns Hopkins SAIS, Bologna, Italy.

February 6 Students from the Ivan Franko National University of Lviv, Ukraine.

February 8 Students from the Colgate University, New York, US.

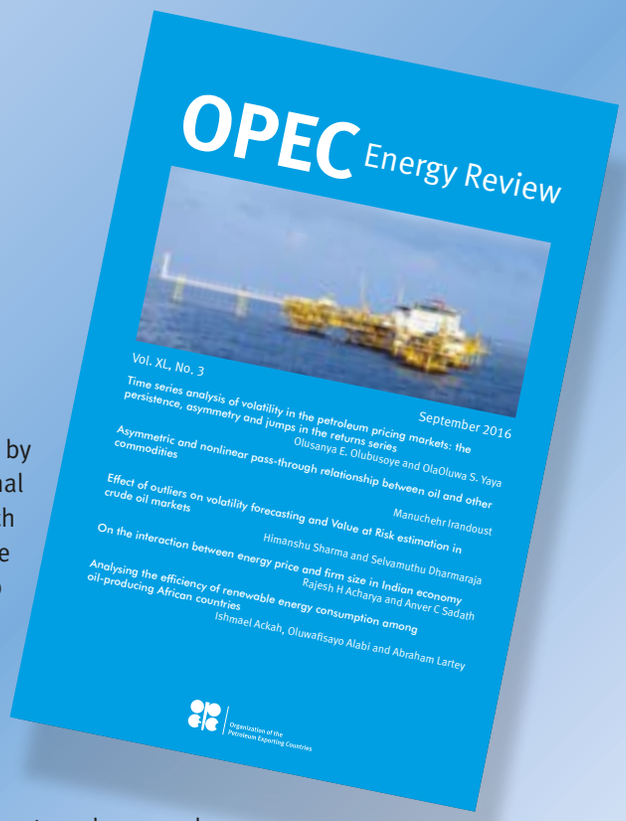
February 9 Executives from various Lycée Français around Europe.

March 8 Students from the Lycée Aline Mayrisch, Luxembourg.

March 8 Students from the United Nations Youth Association, Rome, Italy.

March 17 Students from the University of Colorado, Denver, CO, US.

CALL FOR PAPERS



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)*.

OPEC praised for continued support of Science and Engineering Fair

As part of its Outreach Programme, OPEC once again sponsored the annual Science and Engineering Fair held in the Austrian capital for middle and high school students of international schools in Vienna, Prague and Sofia.

The fair took place on March 25, 2017 at the Lycée Français de Vienna, with over 45 projects submitted from 11 schools, covering the life sciences, earth and space science, physics, chemistry, computer science, mathematics and health and human behaviour.

The theme of this year's exhibition was *'Space and sea: exploring new heights and depths'*, with more than 100 students displaying and presenting the results of their research. The Fair was also open to the public and the media for viewing.

The Fair is organized annually by the Vienna chapter of the Institute of Nuclear Materials Management (INMM) and seeks to encourage and support young people in the exploration of science and technology.

In an attempt to raise awareness and enhance knowledge about the Organization, OPEC has displayed some of its flagship publications and screened its film 'Instrument of Change', providing the students and visitors with some background information about its history, goals and objectives and activities, as well as its Member Countries.

Hind Zaher (l), PR Specialist in OPEC's PR & Information Department, talks to a student.

OPEC's stand was well attended and visited by students, teachers, parents, judges and staff members from the International Atomic Energy Agency (IAEA).

The visitors took the opportunity to ask questions about the Organization's history, showing great interest in OPEC's functions and wanting to know more about its structure and various activities.

Those who came to the OPEC stand were also impressed by the different samples of crude oil displayed, expressing a keen interest in the petroleum industry.

The Organization's book for students — 'I need to know' — was also distributed among the visitors, who found it very informative and useful. Participating schools were also invited to visit the OPEC Secretariat in Vienna for a general briefing. A certificate of gratitude was awarded to OPEC for its continuous generous support as an exhibitor.

In fact, the organizers commended OPEC, not only on its role as a well-recognized Organization and in supporting stability in the oil market, but also its appreciated role in supporting the next generation of scientists and engineers.

They further stated that the Fair was made possible by the generous sponsors and exhibitors, like OPEC, who contributed to the success of the event and supported the advancement of the future generations in the areas of science and engineering.

Below: Ayman Almusallam (r), from OPEC's PR & Information Department, at the OPEC stand.

Marking UN World Water Day ...

OFID helping to boost access to potable water

In 1993, the United Nations General Assembly officially designated March 22 as World Water Day, which is coordinated by UN-Water in collaboration with international governments and partners.

Each year, the event gauges just what progress has been made in the global community's bid to alleviate the world water crisis. The Sustainable Development Goals, launched in 2015, include a target to ensure that everyone has access to safe water by 2030, making water a key issue in the fight to eradicate extreme poverty.

But even though great strides have been made over the years, the unfortunate fact is that today UN figures show that around 1.8 billion people globally still use a source of drinking water that is contaminated.

And as the OPEC Fund for International Development (OFID) points out in its latest *Quarterly* magazine, the UN also estimates that water scarcity affects more than 40 per cent of the global population — a figure that is sadly projected to rise.

"Add to this the worrying thought that more than 80 per cent of wastewater resulting from human activities is discharged into rivers or seas without any treatment and the scale of the problem is clear," OFID Information Officer, **Steve Hughes**, observes in the publication's commentary.

OFID's proud mandate has always been to help the world's poorest countries and giving them access to essential potable water is an important and continuing priority. As the *Quarterly* points out: "Access to water, sanitation and hygiene is a human right." In this regard, the Vienna-based institution recently signed agreements that have helped the water resources plight of four countries — Bolivia, Haiti, Lesotho and Lebanon.

Bolivia, Haiti benefit from access to clean water

Working with the Spanish-based Foundation for the Social Promotion of Culture (FPSC), a non-governmental organization, OFID is ensuring that rural households in Bolivia and Haiti are provided with reliable access to clean water. OFID's **Fatma Elzahra Elshhati** reports.

In 2014, OFID supported the Foundation for the Social Promotion of Culture to empower and improve living conditions for rural households in Bolivia and Haiti. The project, funded through OFID's grants window, secured more inclusive and reliable access to water resources.

More than 20,000 people have benefitted from improved water facilities in Bolivia. The project, which targeted eight towns in Santa Cruz, has responded directly to the needs of each of the districts.

Larger districts were provided with water purification plants, while in smaller communities, deep wells were constructed.

OFID's support, which amounted to $800,000, also contributed to improving living conditions for the rural poor in Haiti.

This component of the project involved Food for the Poor, one of the largest international relief and development organizations in the United States.

The aims were similar to those in Bolivia: to improve living conditions for the country's rural poor. Over 19,200 people have benefitted directly through the construction of houses with proper sanitation and solar water filtration units.

The Santanas, a family of six from Haiti, are proud new homeowners. Before the project, they described how they lived in unsanitary conditions and worried about the health risks posed to their four children.

"We would pretend it was safe and that they would never get hurt or infected," they said.

Now the Santanas have been provided with a new home equipped with a personal sanitation unit and a water cistern.

People like Candelaria Anduíra, from Bolivia's indigenous community, Guaraní, have also experienced a profound change.

"Life was very hard," she said, "especially for women, as we had to travel up to five miles a day to bring water."

As a result of clean water delivered directly to homes, women in Candelaria's community have time to cater to other tasks. "I now have time to be with my children after they come back from school," she added.

Safe water for drinking, cleaning and other sanitary purposes will help significantly in the fight against waterborne diseases.

In line with this, the project targeted communities prone to illnesses such as cholera and encouraged them to become more involved in the management of their own resources.

One of OFID's health and hygiene promotion programmes in Haiti.

FPSC

The project has created a transformational change in the communities it has reached.

In Bolivia, the communities involved took up the challenge to support better water sustainability by creating potable water associations.

Quality water at a reasonable price

David Mariscal, President of the Samaipata Water Cooperative, explained: "Now that we have provided potable water, we have established a solidarity fee amongst all, which allows families access to quality water at a reasonable price."

The fee has enabled cooperatives to maintain their operating expenses and invest in improvements and extensions to other families in the areas, Mariscal added.

In Haiti, the project promoted a sense of strong accountability and ownership within the community. Many residents voluntarily gave a helping hand during the construction stages by digging and carrying water for cement.

Moreover, after completion of the project, local Safe Water Committees were established to ensure resources are properly managed, going forward.

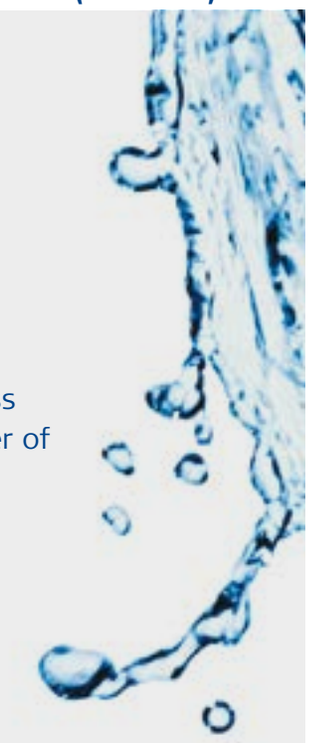
The governments of both countries have placed priority on ensuring the reliable delivery of water services is a reality for all.

One of the many problems faced by Bolivia and Haiti has been the poor management of resources. It is an especially pertinent problem for the rural poor. Many people still lack access to adequate sanitation facilities.

However, OFID's project shows the potential for successful development where resources are correctly targeted and managed.

OFID's awareness workshop for school children in San Antonio de Lomerío, Bolivia.

FPSC



Improving access to water and sanitation in Lesotho

At the inauguration ceremony of the Maseru Water Supply Project in 2012, OFID Director-General, Suleiman J Al-Herbish, said: "Living conditions cannot be improved without access to safe and reliable water." Or to quote the words of Dr Timothy Thahane, Former Minister of Finance of Lesotho: "Water is Life". OFID's **Silvia Mateyka** reports.

In 2003, OFID received a request from the government of Lesotho for financial assistance to rehabilitate water infrastructure and extend distribution networks in the capital city Maseru. The project that followed saw the installation of 300 kilometres of pipeline, along with connections and metres for thousands of homes.

Two new reservoirs were built, with a total storage capacity of approximately 3,750 cubic metres, while two existing reservoirs were enlarged. Two pumping stations were constructed, while another was completely upgraded.

OFID joined with the Arab Bank for Economic Development to co-finance the project, located in the northwest and southwest zones of Maseru. Previously in the capital, home to more than 450,000 people, only around one-half of the residents had an adequate supply of drinking water. Others, especially those living in the peri-urban areas, had to purchase water from vendors at inflated prices, or wait in long queues at public water points.

The project, executed by the country's Water and Sewerage Company, was a resounding success.

Syahrul Luddin, OFID Country Officer for Lesotho, explained that after the project's completion in 2012 more than one million people in the area could access safe water and sanitation.

"Women and children, who had previously carried the burden of fetching water, have benefited most from the improvements," he maintained.

Households connected to the water supply network are not only able to save money, as they no longer have to pay the high prices demanded by water resellers, but the project has also reduced the use of unsafe water sources and the inadequate sewerage system.

Helping economic development

"The direct impact on people's health was immediate," observed Luddin. In addition, the project also contributed to economic development since it provided water to support the garment manufacturing industry, he explained.

Suleiman J Al-Herbish (l), OFID Director-General, during a visit to Lesotho.

OFID/Luisa Gil

Impediments to the economic development of Lesotho have included the lack of natural resources, vulnerability to drought and serious land shortages, combined with the country's dependence on South Africa.

Made up mostly of highlands, many of Lesotho's villages can be reached only on horseback, by foot or using light aircraft. However, water is one of the country's greatest natural assets. It is a source of wealth and prosperity for the 2.1 million people of the tiny South African enclave.

The government of Lesotho understandably prioritizes the development of the water sector. After all, it contributes around ten per cent to the Kingdom's overall GDP. A Water Sector Policy — aimed at improving the management of water resources, the provision of water supply and sanitation services, and overall coordination within the sector — was adopted some years ago.

However, the lack of an adequate supply infrastructure and the uneven distribution of available water can still prove an impediment to the country's socio-economic development.

Many rural people and urban poor still do not have sustainable access to safe drinking water and sanitation. Moreover, long dry periods can prove disastrous for farmers trying to eke out a living in marginal areas and leave the inhabitants of urban slums vulnerable to disease due to poor sanitation.

Vital infrastructure provided

Since commencing cooperation with Lesotho in 1976, close to 40 per cent of OFID's support to the mountain kingdom has helped fund projects in the water sector.

These funds have been used to build vital infrastructure, including dams, reservoirs, water treatment plants, pumping stations and distribution networks.

With a GDP per capita of a little over $986 in 2014, a life expectancy at birth of around 49 years (2010–15) and an urban population that represents just over a quarter of the total population, according to UN data, there remain significant development opportunities to pursue.

OFID is currently appraising a follow-up opportunity to further support the Maseru Water Supply Project.

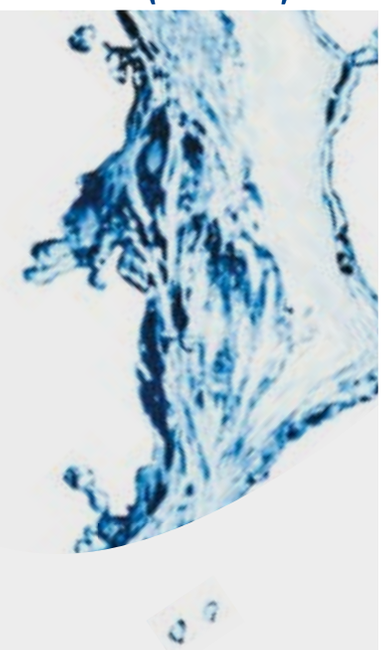
OFID boosts Lebanese agriculture through improved water access

In Lebanon, OFID is working with the International Fund for Agricultural Development (IFAD) to co-fund a major project aimed at significantly increasing agricultural productivity in the country by improving access to water. OFID's **Lilian Al-Bazaz** has this report.

Forming part of the government of Lebanon's ambitious plan to address the pressing issue of water security, the ongoing Hilly Areas Sustainable Agriculture Development Project is focused on improving living standards for rural and war-stricken areas of the country. OFID Country Officer for Lebanon, Ahdi Alhunaif, explained how some 24,000 households would benefit when the project is completed. The main expected benefits include improved income for farmers through better crop performance.

Water and soil conservation initiatives under the project aim to excavate around 30 ponds and reservoirs, as well as five lakes, with a combined total storage capacity of 1.5 million cubic metres.

Other works include the construction of irrigation



networks, the provision of technical support to small farmers, the establishment of grading, packing and refrigeration facilities and the start-up of a scheme to help local producers purchase reasonably-priced inputs, such as fruit trees, seeds and fertilizers.

The Lebanese economy is heavily dependent on trade and services, such as tourism, finance, housing, transport and health and education.

While agriculture plays a relatively minor role in the country's overall economy (about six per cent of GDP in 2008 and eight per cent of the effective labour force), it is particularly important for populations in the poorest rural areas which depend on the sector as their primary source of income and employment, Alhunaif explained.

Irrigation is a key requirement for agricultural productivity in most parts of Lebanon, given the country's prevailing Mediterranean climate, which features scarce rainfall during the main summer growing season. The country's principal crops are citrus fruits, potatoes, tomatoes and tobacco.

The proportion of poor populations in the focus areas of Akkar-Dannieh, North Baalbeck and Hermel and South/Lower Litani is higher than on the plains. However, these hilly areas have good potential given that the majority of the land is suitable (when water is available) for growing high-value crops, such as fruit and vegetables.

This represents the main possibility for very poor rural households to substantially raise their farm incomes. Before the project, some of the focus areas were left fallow, due to the lack of water.

Located in Western Asia, Lebanon is bordered by Syria to the north and east and has a coastline of about 220 kilometres on the Mediterranean Sea. It is a highly demographically and geographically diverse country, with vast resources.

Climate, soils and vegetation differ markedly within short distances. Generally, the coastal lowlands are hot and humid in summer, becoming mild in winter.

In the mountains, which occupy much of Lebanon, the weather is cool in summer with heavy snowfall in winter. The country occupies an area of more than 10,000 sq km.

However, water scarcity, rather than land resources, is currently limiting the expansion of agricultural production. Water efficiency in most existing irrigation schemes is usually quite low.

In addition, uncontrolled private well drilling and pumping result in a significant lowering of the water table and increased salinity. Thus, a focus on the sustainable management of water is vital.

Out of a total population of more than four million, it is estimated that 20–25 per cent of the country's population is engaged in some form of agricultural activities.

Alhunaif explained that the development of the agriculture sector was a priority since it played such an important role in employment and pro-poor growth.

The rise in farmers' average incomes, directly accessible water, smart water and soil management practices and the adoption of improved agricultural techniques, is helping to develop the project area.

The scheme also aims to improve market linkages for small farmers via technical support services and to strengthen the capacities of implementing agencies and partners.

From an environmental perspective, the project is expected to alleviate water shortages during the summer periods, increase the infiltration of run-off water and improve the capacity of downstream aquifers that supply either irrigated schemes and/or drinking water networks.

Water reservoir in the mountains of Lebanon.

Head, Energy Studies Department

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 Head of Energy Studies Department is to plan, organise, coordinate, manage and evaluate the work of the Energy Studies Department in accordance with the work programmes and budget of the Department so as to optimize its support to the Secretariat in achieving its overall objectives. The work covers studies and analyses of medium to long-term world energy developments and prospects, in particular, the preparation of OPEC's world oil outlook, studies and analyses concerning world energy supply and demand, upstream to downstream oil industry, technology, alternative energy sources, institutional and fiscal petroleum regimes, as well as energy policies in producing and consuming countries. It also covers studies and analyses of related international issues, in particular in the areas of trade, sustainable development and climate change.

Main responsibilities:

- Plans, organises, coordinates, manages and evaluates the work in the Energy Studies Department covering: world energy developments in the medium to long-term; oil supply and demand in the medium and long-term; upstream to downstream industry developments; impact of energy policies and environmental regulations on world oil markets; energy-related technologies including alternative sources of energy; impacts of technology developments on the petroleum industry; impact assessment of developments in international issues, such as sustainable development, trade and climate change;
- Ensures adequate development, simulation and modelling capabilities of the Department;
- Ensures full responses to requests by the Conference, BOG, ECB and standing committees for studies and special reports relevant to the work program of the Department;
- Arranges presentations at relevant OPEC meetings and international forums representing the Secretariat as required;
- Develops and maintains networks with external experts and institutions in fields relating to the work of the Department;
- Keeps the Director of Research Division fully informed on all aspects of the work of the Department, and draws his attention to important analyses performed by it;
- Evaluates the performance of the staff of the Department, and recommends to the Director of Research Division, staff development, salary increase, promotion and separations as appropriate;
- Ensures that the staff of the Department receive the supervision and guidance necessary to broaden and deepen their skills and continuously improve their performance;
- Prepares the annual budget for the Department.

Required competencies and qualifications:

Education: Advanced University degree in Economics and/or Engineering; PhD preferred.
Work experience: Advanced university degree: 12 years in the oil industry with a minimum of four years in a managerial position, preferably at large national, regional, or international institutions; PhD: ten years.
Training specializations: Energy studies; international energy related matters; professional management & leadership.
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 B reporting to the Director of Research Division. 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 **April 29, 2017,** quoting the job code: 5.1.01 *(see www.opec.org — Employment)*.

Head, Petroleum Studies Department

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; 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; conducts regular forecasts, elaborates and analyses oil market scenarios and prepares and publishes reports on these findings; 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 pod casts and prepares and contributes to reports to be submitted to the ECB, the BOG and the MMSC as well as papers for various OPEC publications.

Objective of position:

The Head of Petroleum Studies Department is to plan, organise, coordinate, manage and evaluate the work of the Petroleum Studies Department in accordance with the work program and programmed budget of the Department so as to optimize its support to the Secretariat in achieving its overall objectives. The work covers short-term studies and analyses, as well as periodic reports on the international oil market, in particular oil supply and demand, stock, refinery products as well as petroleum trade and transport and economic analyses of oil price and related financial issues.

Main responsibilities:

- Plans, organizes, coordinates, manages and evaluates the work in the Petroleum Studies Department covering: world oil market developments in the short-term; short-term forecasting, with particular attention to the impact of world economic and financial market developments; oil supply and demand in the short-term; oil stock movements; oil prices, its volatility and fluctuation; refinery operations and capacity development; trade and transportation; major oil companies' operational performance and other determining factors of the oil market as well as crude oil/product markets assessments; preparation of the periodic reports, in particular the Monthly Oil Market Report and Daily Oil Market Report;
- Develops and maintains adequate forecasting and modelling for oil market research;
- Ensures full responses to requests by the Conference, BOG, ECB and standing committees for studies and special reports relevant to the work program of the Department;
- Arranges presentations at relevant OPEC meetings and international forums representing the Secretariat as required;
- Develops and maintains networks with external experts and institutions in fields relating to the work of the Department;
- Keeps the Director of Research Division fully informed on all aspects of the work of the Department, and draws his attention to important analyses performed by it;
- Evaluates the performance of the staff of the Department and recommends to the Director of Research Division, staff development, salary increase, promotion and separations as appropriate;
- Ensures that the staff of the Department receive the supervision and guidance necessary to broaden and deepen their skills and continuously improve their performance;
- Prepares the annual budget for the Department;
- Carries out any other tasks assigned to him/her by the Director, Research Division.

Required competencies and qualifications:

Education: Advanced university degree in Economics or equivalent subject; PhD preferred.

Work experience: Advanced degree: 12 years in the oil industry with a minimum of four years in a managerial position, preferably at large national, regional, or international institutions; PhD: ten years.

Training specializations: Short-term oil market; oil price forecasting; professional management & leadership.

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 B reporting to the Director of Research Division. The compensation package, including expatriate benefits, is commensurate with the level of the post.

Applications:

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In order for applications to be considered, they must reach the OPEC Secretariat through the relevant Governor not later than **April 30, 2017,** quoting the job code: 4.1.01 *(see www.opec.org — Employment).*

Forthcoming events

Base oil & lubes Middle East 2017, May 3–4, 2017, Dubai, UAE. Details: Conference Connection Administrators Pte Ltd, 105 Cecil Street #07-02, The Octagon, 069534 Singapore. Tel: +65 6222 0230; fax: +65 6222 0121; e-mail: info@cconnection.org; website:www.cconnection.org/events/blm2017.

Middle East & Africa retail and downstream conference, May 3–4, 2017, Dubai, UAE. Details: Conference Connection Administrators Pte Ltd, 105 Cecil Street #07-02, The Octagon, 069534 Singapore. Tel: +65 6222 0230; fax: +65 6222 0121; e-mail: info@cconnection.org; website: www.cconnection.org.

18th Abu Dhabi international downstream summit 2017, May 7–9, 2017, Abu Dhabi, UAE. Details: The World Refining Association, Bedford House, Fulham Green, 69-79 Fulham High Street, London SW6 3JW, UK. Tel: +44 207 38 48 013; fax: +44 207 38 47 843; e-mail: enquiry@wraconferences.co.uk; website: http://adid.wraconferences.com.

Iran oil conference, May 7–9, 2017, Tehran, IR Iran. Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16-18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 000; fax: +44 207 978 0099; e-mail: sshelton@thecwcgroup.com; website: www.iranoilconference.com.

FLNG global, May 8–9, 2017, Amsterdam, The Netherlands. Details: Informa Group PLC, 5 Howick Place, London SW1P 1WG, UK. Tel: +44 207 01 75 000; e-mail: headoffice@informa.com; website: https://energy.knect365.com/flng.

Flame, May 8–11, 2017, Amsterdam, The Netherlands. Details: Informa Group PLC, 5 Howick Place, London SW1P 1WG, UK. Tel: +44 207 01 75 000; e-mail: headoffice@informa.com; website: https://energy.knect365.com/flame-conference.

Trading oil on international markets, May 8–12, 2017, 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: jwarner@energyinst.org.uk; website: www.energyinst.org.uk.

Oil, gas & mines Africa exhibition & conference, May 9–11, 2017, Nairobi, Kenya. Details: Omanexpo LLC, 1st Floor, SABCO Building, Wattayah Muscat, Sultanate of Oman. Tel: +968 24 66 01 24; fax: +968 24 66 01 25/126; e-mail: info@omanexpo.com; website: www.ogmaexpo.com/ogma.php.

Mexico oil and gas seminar, May 11–12, 2017, Mexico City, Mexico. Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16-18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 000; fax: +44 207 978 0099; e-mail: sshelton@thecwcgroup.com; website: www.iranoilconference.com.

FPSO roundtables, May 12, 2017, Singapore. Details: IQPC Ltd, Anchor House, 15-19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; website: https://fpsoroundtables.iqpc.sg.

6th annual plant shutdown & turnaround, May 15–17, 2017, Al Khobar, Saudi Arabia. Details: Fleming Europe, Mlynské nivy 71, 82105 Bratislava, Slovakia. Tel: +42 1 257 272 100; e-mail: info@flemingeurope.com; website: https://fleming.events/en/events/oil-gas/plant-shutdown-turnaround?utm_source=Gulf%20Oil%20and%20Gas&utm_medium=Listing.

Operational excellence in oil, gas and petrochemicals, May 15–17, 2017, Abu Dhabi, UAE. Details: IQPC Ltd, Anchor House, 15-19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; website: opexinoilandgasemea.iqpc.com.

International downstream technology & strategy conference, May 16–17, 2017, Dubrovnik, Croatia. Details: Euro Petroleum Consultants Ltd, 44 Oxford Drive, Bermondsey Street, London SE1 2FB, UK. Tel: +44 207 357 8394; fax: +44 207 357 8395; e-mail: enquiries@europetro.com; website: https://europetro.com/event/49/0.

International conference on petroleum data integration, information and data management, May 16–18, 2017, Houston, TX, USA. Details: PennWell, 1421 S Sheridan Road, Tulsa, Oklahoma 74112, USA. Tel: +1 918 835 3161; fax: +1 918 831 9497; e-mail: sneighbors@pennwell.com; website: www.pnecconferences.com/index.html.

Oil and gas budgeting, economics & finance for non-financial managers, May 16–18, 2017, 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: jwarner@energyinst.org.uk; website: www.energyinst.org.uk.

Oil market rebalancing set to further enhance petroleum industry

March 2017

The rebalancing of the international oil market, driven by the recent successful 'Declaration of Cooperation' reached by OPEC and a group of non-OPEC producing countries, is likely to further enhance the global oil industry, according to the OPEC Secretariat in Vienna.

In its *Monthly Oil Market Report (MOMR)* for March, it said the 'Declaration', reached in December last year and which came into effect on January 1, 2017, would lead to even more global economic growth and hence higher oil demand growth in 2017.

Under the terms of the decision made on December 10 in the Austrian capital, OPEC and the 11 non-OPEC producing countries have agreed to adjust their crude oil production by a total of around 1.8 million barrels/day for the first six months of 2017.

In a feature article on the assessment of the global economy, the *MOMR* said that improvements in the world economy that had started in the second half of 2016 were likely to continue in 2017.

After estimated growth of three per cent in 2016, global economic growth was expected to pick up in 2017 to reach 3.2 per cent.

The report noted that support was seen coming from the OECD group of countries with growth of 1.9 per cent in 2017, compared to 1.7 per cent in the previous year.

GDP growth in China and India were forecast to slightly decelerate, yet still remain strong.

"The stabilization of oil markets seen since the OPEC/non-OPEC 'Declaration of Cooperation' has helped to support upstream capex spending and improve oil producers' income, adding to global economic growth," the *MOMR* maintained.

It said that higher-than-anticipated economic growth may come from the United States and the Euro-zone, as well as Japan to some extent.

Upside potential also existed in the emerging economies of China, India, Brazil and Russia.

However, it added that, at the same time, political and economic uncertainties could hamper the global economy from further and faster improvements, including upcoming elections in major European economies, developments regarding Brexit, and fiscal, monetary and trade policies.

The *MOMR* observed that, in the US, labour market improvements had continued to support the economy and significantly lift consumer sentiment.

At the same time, industrial production had started to pick up, while being supported by the recovery in oil prices.

In recent months, US domestic consumption had turned out to be particularly supportive for the economy and the return of investments in the oil industry was expected.

"However, uncertainties regarding both the consequences of new economic programmes, as well as the impact of the normalization of monetary policies remain," the report affirmed.

In this respect, said the *MOMR*, upcoming budgetary discussions, in combination with the expiry of the debt-ceiling suspension in mid-March, would need close monitoring.

In the Euro-zone, the economic recovery continued, supported by domestic improvements, but also by the European Central Bank's extraordinary monetary stimulus.

The *MOMR* said that the ongoing weakness in the banking sector – including continuing sovereign debt-related issues in Greece – may weigh on the region's near-term growth.

Meanwhile, Japan's government-led stimulus had lifted momentum, with most economic indicators pointing to the upside. As a result, the country's GDP was expected to rise marginally in 2017.

The *MOMR* said that, within the emerging and developing countries, growth trends were likely to vary once again in 2017.

Brazil and Russia were expected to recover at different levels from two years of recession, partly due to the lower commodity prices.

"Despite a somewhat slowing momentum, GDP growth in both China and India is holding up well," it stated.

The report added that the rise in commodity prices had provided vital support to the economies of several developing countries.

"Meanwhile, the increase in commodity prices has positively lifted inflation in the advanced economies to healthier levels, providing major central banks some room to normalize their monetary policies.

"Global trade is also likely to benefit from more stable commodity prices in 2017," the *MOMR* maintained.

MOMR ... oil market highlights

March 2017

The **OPEC Reference Basket** rose in February for the third consecutive month, ending up by about two per cent to average $53.37/b. Crude futures traded in a relatively narrow range for the second month in a row. High compliance with supply adjustments by OPEC and some non-OPEC producers supported gains. In the crude futures markets, ICE Brent ended one per cent higher to average $56/b in February, while NYMEX WTI increased by 1.6 per cent to $53.46/b. The Brent-WTI spread narrowed to $2.53/b, which supported arbitrage economics to the US. Speculative activity hit a fresh record high for the third month in a row, providing additional support to oil prices.

Global economic growth expectations remain at 3.0 per cent in 2016 and 3.2 per cent in 2017. OECD growth in 2017 is unchanged at 1.9 per cent, with growth in the United States, Euro-zone and Japan seeing no revisions. China is expected to grow by 6.2 per cent in 2017, unchanged from the previous report. India is now expected to see a slight deceleration, following a marginal downward revision to 7.0 per cent in 2017. Russia's 2017 growth remains at one per cent, while the forecast for Brazil was revised slightly higher to 0.5 per cent.

The **world oil demand** growth estimate for 2016 was revised marginally higher by around 50,000 b/d to now show growth of 1.38 million b/d to average 95.05m b/d. Revisions were driven primarily by higher-than-anticipated fourth-quarter oil demand in OECD Europe and the Asia Pacific, as well as China, which was partially offset by minor downward adjustments in the Middle East. For 2017, oil demand growth is anticipated to be around 1.26m b/d, higher by around 70,000 b/d from previous month projections, to average 96.31m b/d. The upward adjustments were due to more optimistic expectations for oil demand in OECD Europe, as well as the Asia Pacific.

Non-OPEC oil supply growth is estimated to have shown a contraction of 660,000 b/d in 2016, in line with the previous report, to average 57.34m b/d. Higher fourth-quarter growth in Canada and Other OECD Europe was offset by downward revisions in the US, Norway, Australia, Brunei and Azerbaijan. In 2017, non-OPEC oil supply is projected to grow by 400,000 b/d, following an upward revision of 160,000 b/d, to average 57.74m b/d. An improving outlook for Canadian oil sands and US supply were the main contributors to the revision. OPEC NGLs production in 2017 was revised down by around 20,000 b/d to now show growth of 130,000 b/d. In February, OPEC production decreased by 140,000 b/d, according to secondary sources, to average 31.96m b/d.

Product markets exhibited a mixed performance in the Atlantic Basin. Higher export opportunities for gasoline and strong middle distillate demand supported the European market, while margins fell in the US due to the weakening seen at the top and bottom of the barrels. Meanwhile, refinery margins in Asia continued to be healthy ahead of the spring refinery maintenance season, despite a slight fall, due to some bearish signals in the gasoline market.

Dirty tanker spot **freight rates** declined in February, with rates falling for all vessels on all reported routes. Lower freight rates were registered on the back of limited activity, the Chinese New Year holidays in the East and fleet expansions. VLCC, Suezmax and Aframax rates declined by 21 per cent on average from a month before.

OECD commercial oil stocks rose in January to stand at 3,006m b. At this level, OECD commercial oil stocks were 278m b above the five-year average. Crude and products showed a surplus of around 209m b and 69m b, respectively, above the seasonal norm. In terms of days of forward cover, OECD commercial stocks stood at 63.8 days, some 4.9 days higher than the five-year average.

Demand for OPEC crude in 2016 stood at 31.6m b/d, some 1.9 mb/d higher than in the previous year. For 2017, demand for OPEC crude is projected at 32.4m b/d, around 700,000 b/d higher than in the current year.

The feature article and oil market highlights are taken from OPEC's Monthly Oil Market Report (MOMR) for March 2017. 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.

Summer outlook for oil products "remains bullish"

April 2017

Despite some downside risks, general expectations for demand growth for oil products in the coming months remain bullish, according to the OPEC Secretariat in Vienna.

In its *Monthly Oil Market Report (MOMR)* for April, it said that this view was supported by a firm economic performance across the globe and the expected increase in demand for gasoline over the coming driving season, mainly in North America and Asia.

"Higher demand for oil products will encourage refiners to maximize throughputs following the end of the spring maintenance season, amid new capacity coming on line in North America, the Middle East and Asia," a feature article in the publication stated.

"This, in turn, will increase demand for crude oil over the coming months and already has for long-haul crude oil deliveries."

In looking at the summer oil demand outlook, the *MOMR* observed that the return of refineries from seasonal maintenance and healthy demand, together with the high conformity observed in OPEC and non-OPEC production adjustments, should enhance market stability and reduce the volatility seen in recent weeks.

It noted that product markets and refinery margins, particularly in the Atlantic basin, were impacted in 2016 by the high level of inventories worldwide.

Additionally, the increase in crude oil prices and the deceleration in diesel demand growth, mainly in China and the United States, capped refinery margins.

"In general, product crack spreads struggled to recover in the latter part of the year as the colder winter weather failed to boost prices," said the article.

"The US is typically a key driver of product markets in the run-up to the summer driving season. Despite weakness at the beginning of 2017, the US gasoline market has seen some recovery in recent weeks."

The report said that after slowing by around 170,000 b/d year-on-year in January, US gasoline demand had been on the rise, averaging more than 9.3m b/d in March, according to preliminary EIA weekly data.

Another positive factor, it said, had been the continued decline in US gasoline inventories, which had fallen by around 20m b since the end of January.

"Heavy refinery maintenance and higher exports to Latin America have contributed to these draws," the feature article pointed out.

It said middle distillates had also started to show a positive performance in the US. A continued draw had been seen in inventories amid demand reaching more than 4m b/d in March, following growth of around 240,000 b/d y-o-y.

Outside the US, it said, the middle distillates market had experienced some recovery from the slump seen last year in several regions.

"Demand has picked up since the fourth quarter and is expected to continue to recover over the coming months, supported by the improving economic performance, particularly in Asia where manufacturing PMIs have moved higher, not only in India and China, but also in Vietnam and the Philippines."

The *MOMR* said gasoil demand in China was expected to be supported by higher investments in infrastructure and increasing mining activities.

"Healthy economic activities in Asia will have a positive impact on all products in the region – particularly gasoil – in the coming months."

In Europe, said the report, gasoil consumption had also improved, due to the improving economy across large parts of the continent, colder weather during the first quarter of 2017 and the high growth in vehicle sales.

However, this momentum was not expected to continue over the rest of the year. As a result, global gasoline and distillate demand was forecast to grow by around a combined 718,000 b/d in 2017.

MOMR ... oil market highlights

April 2017

The **OPEC Reference Basket** averaged $50.32/b in March, representing a decline of 5.7 per cent from the previous month. Crude futures also declined on concerns about growing oil output and high crude inventories in the US. ICE Brent ended 6.2 per cent lower at $52.54/b, while NYMEX WTI decreased 7.1 per cent to $49.67/b. The Brent-WTI spread widened to $2.86/b, supporting US crude oil exports. Hedge funds liquidated their large net long positions in crude, contributing to the sharp drop in oil prices.

The momentum in global **economic growth** has been improving, resulting in an upward revision in the 2017 forecast to now stand at 3.3 per cent from 3.2 per cent previously, while growth for 2016 remains at 3.0 per cent. OECD growth in 2017 remains at 1.9 per cent, with the US and Euro-zone seeing no revisions. Japan's 2017 growth forecast was revised up to 1.2 per cent from 1.1 per cent previously. China's 2017 growth was also revised higher to 6.3 per cent from 6.2 per cent, while India's forecast remains at 7.0 per cent. Russia's 2017 growth was revised up to 1.2 per cent from 1.0 per cent, while the forecast for Brazil is unchanged at 0.5 per cent.

World oil demand growth in 2016 was kept broadly unchanged at 1.38m b/d, averaging 95.05m b/d. For 2017, oil demand growth is anticipated to be around 1.27m b/d, following an upward revision of around 10,000 b/d to average 96.32m b/d. The 'Other Asia' group – which includes India – is anticipated to lead oil demand growth in 2017, followed by China and OECD Americas. OECD Asia Pacific is the only region anticipated to see a decline in oil demand in 2017.

Non-OPEC oil supply is estimated to have averaged 57.32m b/d in 2016, representing a contraction of 690,000 b/d y-o-y, following a minor downward revision of around 30,000 b/d. In 2017, non-OPEC oil supply is projected to grow by 580,000 b/d, following an upward revision of 176,000 b/d, due to higher-than-expected growth in the US and lesser contractions in Colombia and China, to average 57.89m b/d. The US supply growth forecast was revised up by 200,000 b/d to stand at 540,000 b/d. Output of OPEC NGLs and non-conventional oils is forecast to grow by 130,000 b/d in 2017, following growth of 140,000 b/d in 2016. In March, OPEC production decreased by around 153,000 b/d, according to secondary sources, to average 31.93m b/d.

Product markets exhibited a mixed performance in the Atlantic Basin, as the lack of export opportunities for gasoline amid increasing inflows of middle distillates impacted the European market. Meanwhile, stronger domestic gasoline demand in the US ahead of the transition to summer grades lent strong support to refinery margins. In Asia, the lack of arbitrage amid increasing inflows into the region weighed on the market despite the onset of the spring refinery maintenance season.

The **tanker market** showed a mixed pattern in March. VLCCs exhibited an average decline of 23 per cent m-o-m in spot rates on its various trading routes, as the tonnage availability remained abundant. In contrast, Suezmax and Aframax rates increased m-o-m by 13 per cent and six per cent, respectively, mainly due to transit delays in the Turkish Straits, discharge delays in the east, and occasional tightening in tonnage supply. The market experienced higher monthly freight rates for clean tankers on most reported routes.

Total **OECD commercial oil stocks** fell in February to 2,987m b to stand 268m b above the latest five-year average. Crude and product stocks indicated a surplus of around 227m b and 41m b, respectively. In terms of days of forward cover, OECD commercial stocks stood at 64.2 days, some 4.6 days higher than the latest five-year average.

Demand for OPEC crude in 2016 is now estimated to have stood at 31.7m b/d, which is 1.9m b/d higher than the 2015 level. In 2017, demand for OPEC crude is projected at 32.2m b/d, around 600,000 b/d higher than the 2016 level.

The feature article and oil market highlights are taken from OPEC's Monthly Oil Market Report (MOMR) for April 2017. Published by the Secretariat's Petroleum Studies Department, the publication may be downloaded in PDF format from our Website (www.opec.org), provided OPEC is credited as the source for any usage. The additional graphs and tables on the following pages reflect the latest data on OPEC Reference Basket and crude and oil product prices in general.

Table 1: OPEC Reference Basket spot crude prices

$/b

Crude/Member Country	2016 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2017 Jan	Feb	Mar	Weeks 9–12/2017 (week ending) Mar 3	Mar 10	Mar 17	Mar 24	Mar 31
Arab Light – Saudi Arabia	34.74	38.22	43.48	46.28	43.14	43.47	42.70	48.26	43.32	51.92	52.29	53.63	50.68	54.03	52.36	49.59	48.95	49.79
Basrah Light – Iraq	33.39	36.62	42.05	44.63	41.37	42.01	41.88	46.79	41.97	50.87	51.66	52.66	49.82	53.03	51.48	48.62	48.17	48.99
Bonny Light – Nigeria	38.53	41.51	46.85	48.48	45.30	46.35	47.77	50.83	45.20	53.91	54.98	55.24	51.91	55.03	53.29	50.47	50.37	51.58
Es Sider – Libya	37.51	40.48	45.83	47.28	44.00	44.85	45.69	48.74	43.63	52.12	53.08	53.46	50.00	53.18	51.38	48.56	48.46	49.67
Girassol – Angola	38.42	41.25	46.58	48.30	45.09	46.06	46.66	49.37	44.95	53.41	54.41	55.21	51.89	54.82	53.24	50.56	50.46	51.51
Iran Heavy – IR Iran	33.23	36.65	41.67	44.68	41.59	42.17	41.39	47.30	42.42	51.41	51.90	53.16	50.27	53.57	52.10	49.16	48.63	49.17
Kuwait Export – Kuwait	32.99	36.33	41.60	44.50	41.37	41.88	41.22	47.04	42.14	50.93	51.48	52.85	49.87	53.23	51.62	48.77	48.18	48.87
Marine – Qatar	35.49	38.97	44.13	46.37	43.53	43.44	43.51	48.13	44.25	52.08	53.44	54.14	50.89	54.30	52.75	49.85	49.44	49.59
Merey – Venezuela	25.83	28.84	34.28	38.22	36.71	36.46	37.38	42.36	39.37	45.86	46.81	47.03	44.14	47.80	46.07	43.24	42.38	42.79
Murban – UAE	40.01	42.47	47.12	49.28	46.54	46.25	46.42	51.19	47.25	54.93	55.97	56.31	52.96	56.35	54.84	51.84	51.36	51.88
Oriente – Ecuador	31.45	35.04	41.96	44.03	40.72	40.84	41.22	45.98	41.69	48.67	48.64	50.08	46.83	50.43	47.86	45.68	44.85	46.89
Rabi Light – Gabon*	37.59	40.43	45.48	47.15	44.03	44.90	45.51	48.15	43.92	52.22	53.13	54.04	50.63	53.81	52.01	49.19	49.09	50.30
Saharan Blend – Algeria	39.41	42.33	47.73	48.98	45.30	46.35	47.09	49.79	45.13	53.82	54.84	55.06	51.40	54.66	52.78	49.96	49.86	51.07
OPEC Reference Basket	**34.65**	**37.86**	**43.21**	**45.84**	**42.68**	**43.10**	**42.89**	**47.87**	**43.22**	**51.67**	**52.40**	**53.37**	**50.32**	**53.63**	**52.00**	**49.17**	**48.66**	**49.45**

Table 2: Selected spot crude prices

$/b

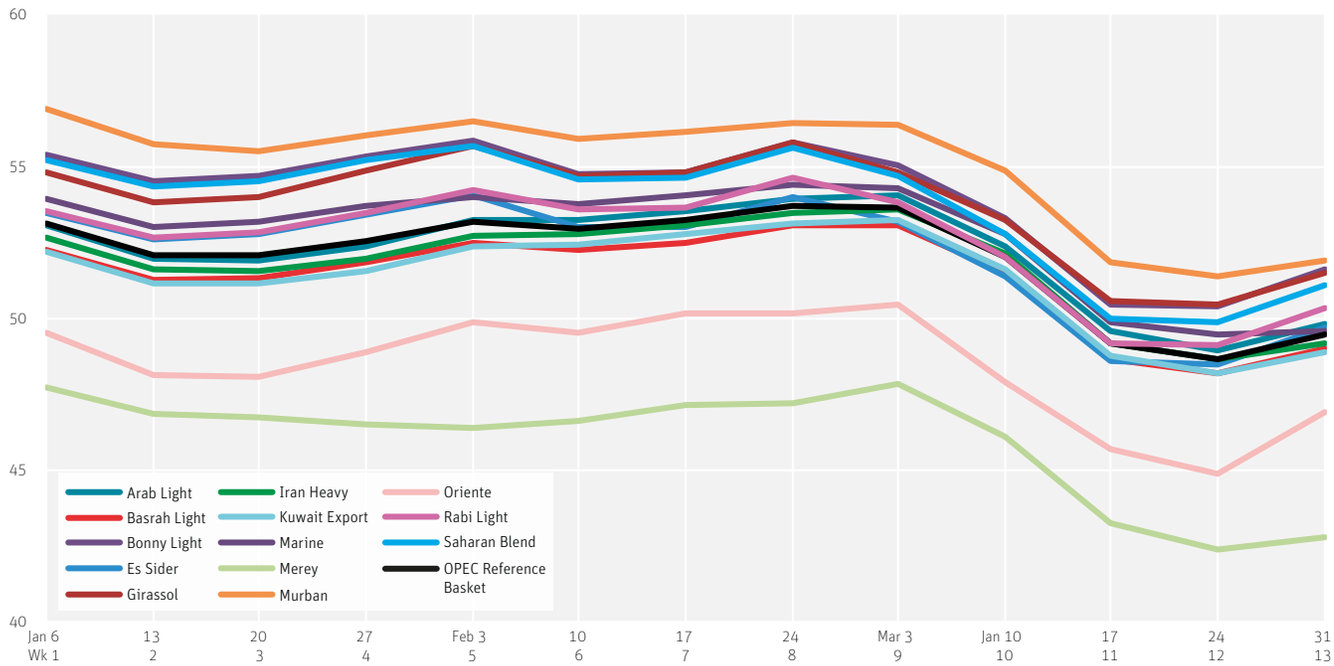
Crude/Member Country	2016 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2017 Jan	Feb	Mar	Weeks 9–12/2017 (week ending) Mar 3	Mar 10	Mar 17	Mar 24	Mar 31
Arab Heavy – Saudi Arabia	32.76	35.92	40.69	43.68	40.40	41.00	40.34	46.26	40.96	49.70	50.56	51.97	48.86	52.27	50.72	47.75	47.23	47.73
Brega – Libya	38.36	41.42	46.83	48.28	44.95	45.87	46.74	49.79	45.18	53.52	54.43	54.86	51.40	54.58	52.78	49.96	49.86	51.07
North Sea Dtd – North Sea	38.51	41.48	46.83	48.28	45.00	45.85	46.69	49.74	45.13	53.57	54.58	55.06	51.60	54.78	52.98	50.16	50.06	51.27
Dubai – UAE	35.15	39.00	44.29	46.25	42.64	43.58	43.67	48.94	43.98	52.08	53.71	54.41	51.21	54.71	53.13	50.22	49.53	49.95
Ekofisk – North Sea	38.86	42.15	47.70	48.54	44.99	45.79	47.10	49.58	44.97	53.67	54.62	55.17	51.50	54.59	52.72	49.87	50.06	51.47
Iran Light – IR Iran	36.08	39.09	44.65	46.38	43.54	43.66	44.23	47.99	43.45	51.85	52.35	52.35	49.13	52.23	50.41	47.94	47.57	48.78
Isthmus – Mexico	35.45	38.14	44.76	47.51	45.07	44.22	44.55	49.91	45.64	53.81	54.98	56.09	52.26	56.14	53.62	51.10	50.12	52.03
Oman – Oman	36.46	39.43	44.37	46.61	43.45	44.02	44.01	49.18	44.54	52.72	54.01	55.12	51.71	55.18	53.51	50.49	50.13	50.70
Suez Mix – Egypt	35.15	38.19	43.31	44.90	42.06	42.20	42.78	46.54	42.13	50.59	51.72	51.97	48.24	51.85	49.88	46.83	46.46	47.67
Minas – Indonesia*	34.62	38.52	48.64	51.56	41.84	41.26	40.28	45.20	40.72	49.68	50.63	51.19	48.35	51.56	50.20	47.27	46.73	47.25
Urals – Russia	36.87	39.89	45.08	46.60	43.76	44.06	44.48	48.24	43.83	52.28	53.42	53.67	49.94	53.55	51.58	48.53	48.16	49.37
WTI – North America	37.77	40.95	46.84	48.74	44.90	44.75	45.16	49.89	45.67	52.02	52.50	53.40	49.58	53.57	50.88	48.50	47.44	49.31

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

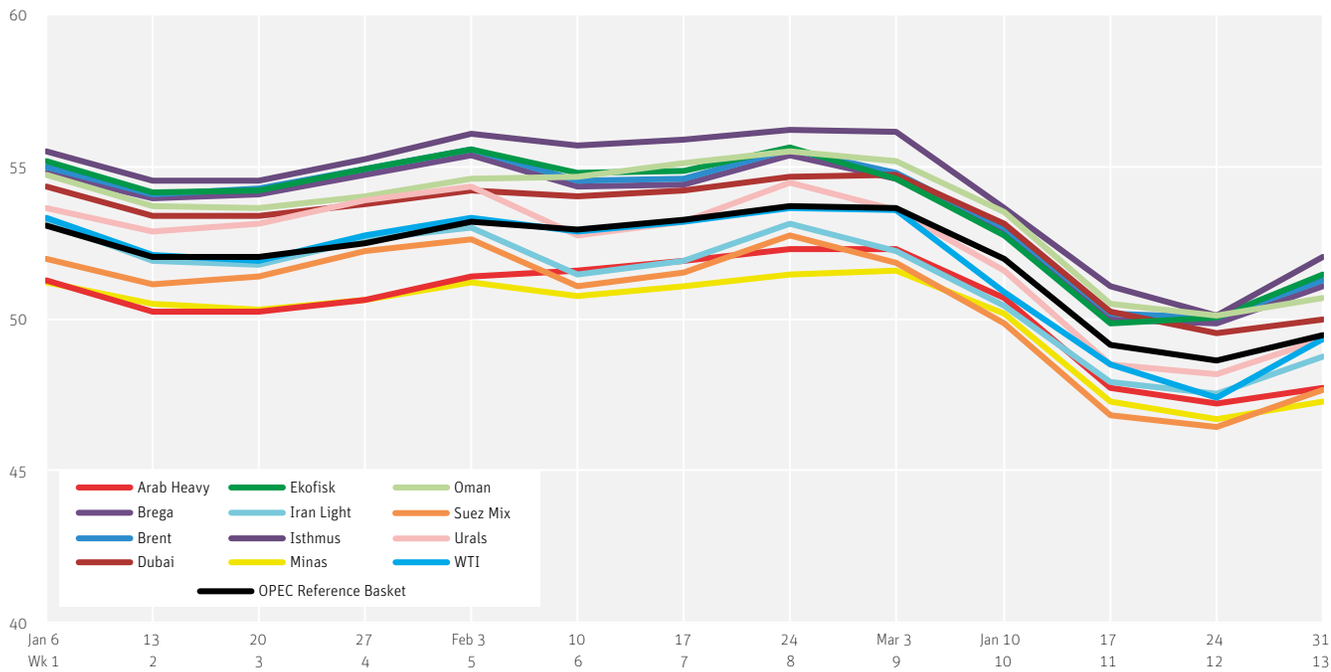
* *Indonesia joined in 1962, suspended its Membership on December 31, 2008, reactivated it again on January 1, 2016, but suspended its Membership again on December 31, 2016. Gabon joined in 1975 and left in 1995; it reactivated its Membership on July 1, 2016.*

Brent 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.

Graph 1: Evolution of the OPEC Reference Basket spot crude prices, 2017 $/b



Graph 2: Evolution of selected spot crude prices, 2017 $/b



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

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

$/b

		naphtha	regular gasoline unleaded	diesel ultra light	jet kero	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2016	March	38.53	54.82	47.43	47.13	24.83	21.32
	April	41.69	66.41	50.30	49.57	27.82	23.66
	May	44.28	69.51	56.15	56.67	32.52	29.28
	June	45.89	70.22	58.80	59.37	37.81	32.24
	July	41.73	62.35	54.48	53.84	37.60	32.21
	August	40.52	64.07	54.91	54.28	36.83	32.87
	September	43.57	66.62	55.92	55.93	39.48	34.97
	October	48.60	70.13	61.50	61.82	43.83	38.10
	November	45.82	64.62	57.36	57.29	40.98	35.71
	December	50.90	71.37	64.50	64.89	46.70	42.28
2017	January	55.06	73.82	65.60	65.05	50.60	43.03
	February	54.82	75.66	66.35	66.13	49.73	43.13
	March	50.70	70.06	62.29	62.21	44.86	39.94

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

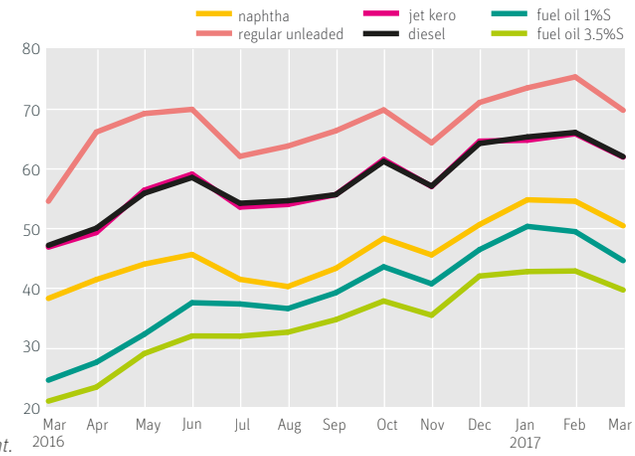


Table and Graph 4: South European market — spot cargoes, fob Italy

$/b

		naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2016	March	37.76	47.68	48.28	24.63	23.44
	April	40.39	58.04	50.56	28.01	26.30
	May	43.51	61.12	57.91	33.72	31.91
	June	45.11	62.71	60.35	36.97	34.59
	July	41.06	54.85	55.04	36.85	34.84
	August	39.93	56.45	55.56	37.35	35.36
	September	43.20	59.38	57.04	40.02	37.45
	October	48.18	62.36	62.83	44.46	40.72
	November	45.09	57.83	57.93	40.71	37.30
	December	49.70	64.86	65.41	48.84	44.01
2017	January	54.21	66.95	66.54	52.19	45.77
	February	54.46	68.26	67.52	50.41	45.75
	March	49.55	62.07	61.98	46.24	42.34

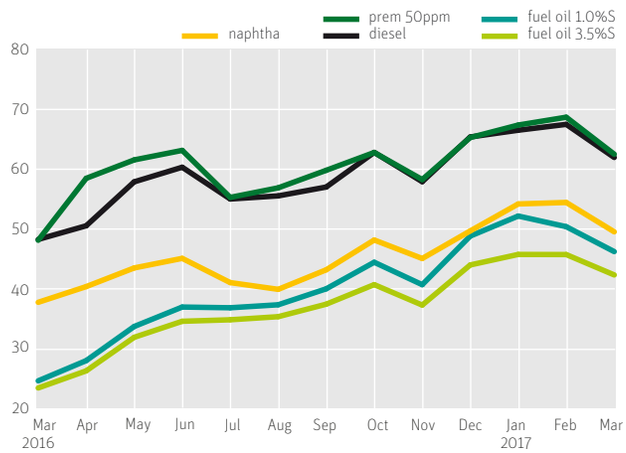
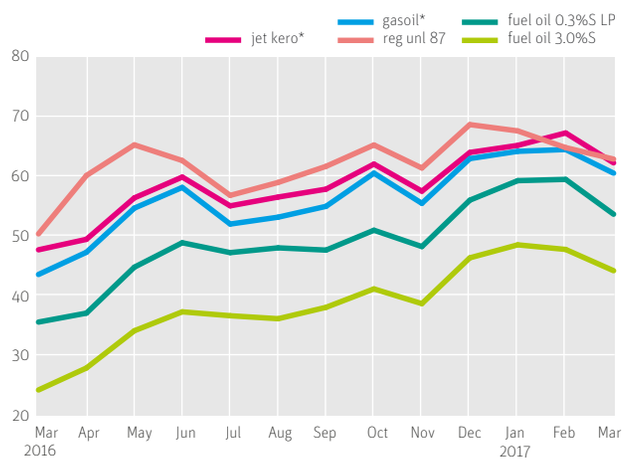


Table and Graph 5: US East Coast market — spot cargoes, New York

$/b, duties and fees included

		regular gasoline unleaded 87	gasoil*	jet kero*	fuel oil 0.3 per cent S	fuel oil 3.0 per cent S
2016	March	50.34	43.56	47.68	35.61	24.27
	April	60.09	47.27	49.43	37.10	27.94
	May	65.21	54.64	56.35	44.78	34.16
	June	62.59	58.10	59.83	48.86	37.32
	July	56.77	51.98	55.02	47.21	36.67
	August	58.93	53.13	56.49	48.01	36.17
	September	61.62	54.94	57.81	47.63	38.07
	October	65.19	60.48	62.00	50.95	41.15
	November	61.34	55.44	57.47	48.22	38.69
	December	68.59	62.91	63.94	55.97	46.34
2017	January	67.54	64.13	65.12	59.23	48.51
	February	64.75	64.43	67.20	59.44	47.74
	March	62.83	60.48	62.20	53.62	44.19



* *FOB barge spot prices.*

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

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

$/b

		naphtha	premium gasoline unl 95	premium gasoline unl 92	gasoil	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
2016	March	39.20	52.68	49.58	45.52	47.40	28.20	27.07
	April	42.52	54.49	51.45	48.08	49.51	31.02	29.17
	May	44.20	59.14	56.00	54.86	55.18	35.80	34.03
	June	45.56	59.05	56.49	58.14	58.27	38.62	36.68
	July	41.74	51.87	49.46	54.27	54.37	38.35	36.47
	August	39.96	54.18	51.52	53.47	53.55	38.67	36.61
	September	42.54	58.00	55.38	54.62	55.07	41.11	38.72
	October	47.70	62.99	60.06	61.23	61.02	45.33	43.06
	November	46.82	58.99	56.51	56.84	56.63	43.90	41.68
	December	51.51	66.68	64.25	62.91	64.10	51.68	49.47
2017	January	55.71	69.47	66.77	65.15	65.17	55.05	50.47
	February	56.58	69.90	67.54	66.76	66.26	54.59	49.07
	March	50.82	64.28	61.94	62.94	61.93	50.74	45.64

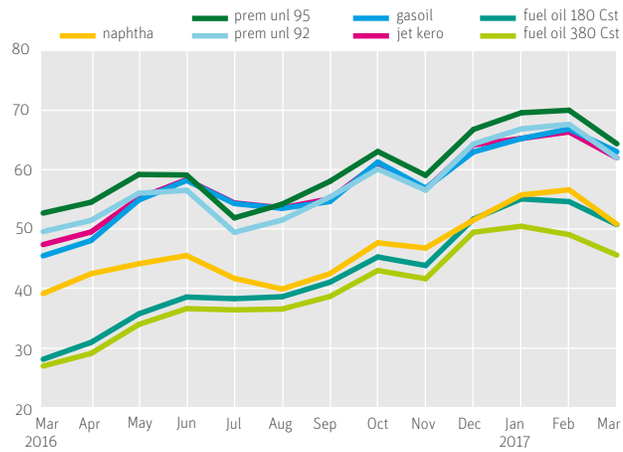
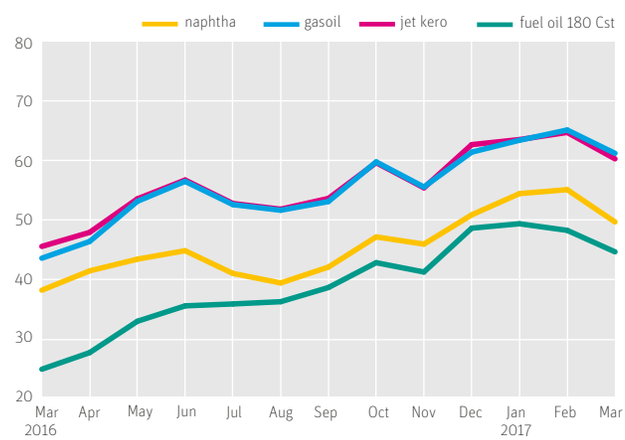


Table and Graph 7: Middle East Gulf market – spot cargoes, fob

$/b

		naphtha	gasoil	jet kero	fuel oil 180 Cst
2016	March	38.18	43.56	45.54	24.90
	April	41.43	46.37	47.90	27.69
	May	43.40	53.12	53.54	32.96
	June	44.82	56.47	56.70	35.55
	July	41.00	52.57	52.76	35.87
	August	39.40	51.62	51.80	36.25
	September	42.07	53.08	53.61	38.63
	October	47.14	59.75	59.62	42.81
	November	45.93	55.53	55.39	41.24
	December	50.85	61.39	62.65	48.61
2017	January	54.42	63.38	63.50	49.35
	February	55.08	65.11	64.70	48.24
	March	49.65	61.19	60.26	44.63



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

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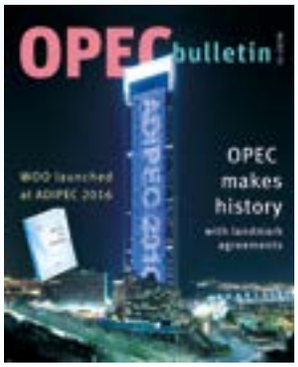

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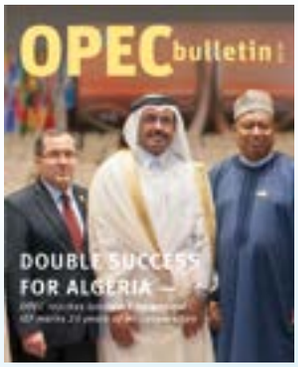

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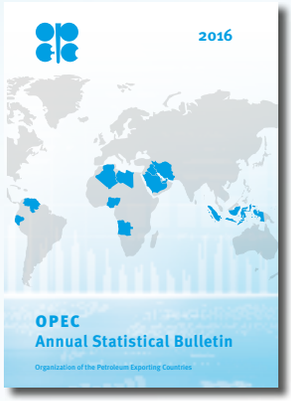

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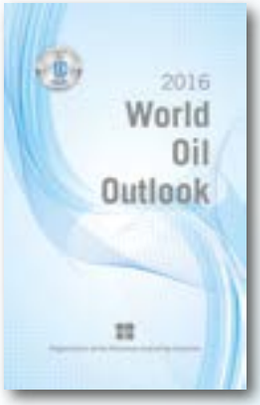

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