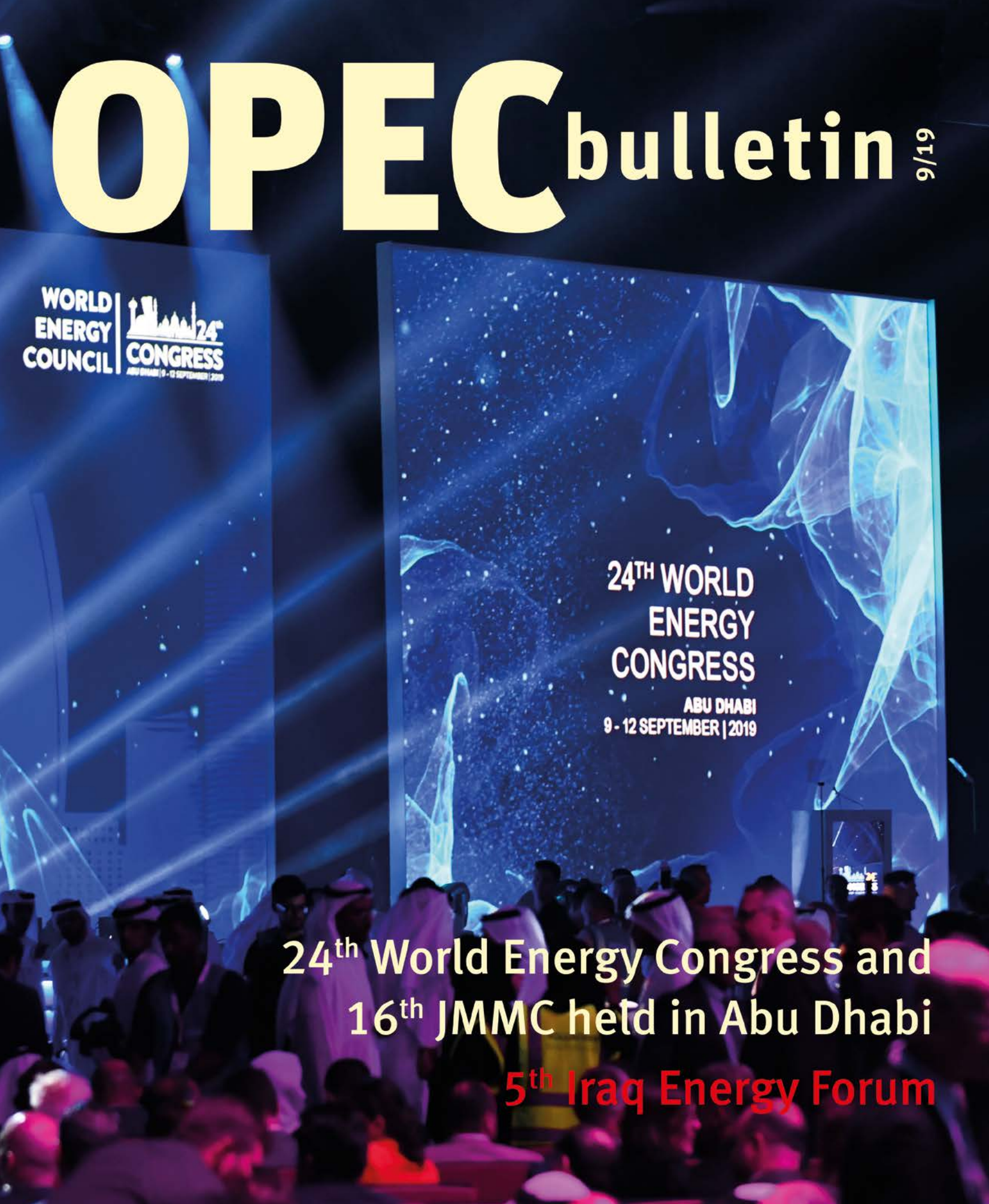
OPEC bulletin

9/19



24th World Energy Congress and 16th JMMC held in Abu Dhabi

5th Iraq Energy Forum

Under the Patronage of
His Highness Sheikh Jaber Al-Mubarak Al-Hamad Al-Sabah
Prime Minister of the State of Kuwait

Society of Petroleum Engineers

KOGS

Kuwait Oil & Gas Show and Conference

CONFERENCE:
13 – 16 October 2019

EXHIBITION:
14 – 16 October 2019

KUWAIT INTERNATIONAL FAIR, MISHREF, KUWAIT

CONFERENCE THEME:
New Energy Transition: Delivering Value Through Collaboration and Capability

REGISTER ONLINE AT:
KOGS-Expo.com

HOSTED BY

Kuwait Petroleum Corporation and subsidiaries | مؤسسة البترول الكويتية وشركاتها

SUPPORTED BY

EXHIBITION ORGANISERS

informa markets

CONFERENCE ORGANISERS

SPE International
Society of Petroleum Engineers

Consistency and continuity are key

After a summer lull, the autumn energy meeting and events calendar ramped up into full swing during September. Two of the focal points were the World Energy Congress (WEC) and the 16th Meeting of the OPEC-non-OPEC Joint Ministerial Monitoring Committee (JMMC), both of which were held in Abu Dhabi during the week of September 9–13. Then on September 14, the 5th Iraq Energy Forum was held in Baghdad.

The OPEC Secretary General, Mohammad Sanusi Barkindo, was one of the busiest men in town that week, delivering major speeches, participating in high-level panel discussions, speaking to the international media and holding countless bilateral meetings with OPEC and non-OPEC leaders and officials.

The week started with a jolt, as the Secretary General, upon his arrival in Abu Dhabi, received the news of Saudi Arabia appointing HRH Prince Abdul Aziz Bin Salman as the new Minister of Energy. The Minister was appointed in time to attend the WEC and serve as Chairman of the JMMC Meeting.

Through his remarks and in personal meetings, the Secretary General welcomed the new Saudi Minister with open arms, while praising the lasting legacy of his predecessor Khalid A Al-Falih.

In addressing the JMMC, Barkindo said of HRH Prince Abdul Aziz: "This is the first time we convene under the chairmanship of His Royal Highness; a gentleman who for the past 32 years has consistently been the face of the Kingdom of Saudi Arabia at OPEC, representing the country in the best possible light; a consummate diplomat, a skilled negotiator, an inspirational leader, and a true oil industry expert."

In speaking to the press, Prince Abdul Aziz said Saudi Arabia would continue working with its non-OPEC partners for balance and stability in the oil market, adding that this unprecedented international energy cooperation was "staying for the long term."

To the outgoing Minister Al-Falih, Barkindo said: "We are all conscious of the role which he played in making the 'Declaration of Cooperation' process a resounding success. Everyone in the OPEC-plus family owes him a debt of gratitude and the history books will judge him highly and favourably."

In Abu Dhabi, the Secretary General also had the opportunity to welcome the newly appointed Nigerian Minister of State for Petroleum Resources, Timipre Sylva, to the OPEC family. This was Sylva's first time attending a JMMC Meeting as Head of Nigeria's OPEC delegation.

At these and a host of other official and off-the-record bilateral meetings, there seemed to be one common message or theme throughout: the importance of consistency and continuity, and ensuring we do not lose sight of the big picture.

Naturally, change and uncertainty were in the air at the week's events, especially considering the current jittery oil market situation with mounting geopolitical strife, softening demand and lagging trade disputes.

Despite this, however, the consistently reassuring and unified tone and messaging of the OPEC Secretary General, the new Saudi Minister, and, of course, his Russian counterpart in the 'Declaration of Cooperation', Energy Minister Alexander Novak, helped provide the market with a welcome sense of stability.

The official *communiqué* released during the JMMC press conference also heralded the need for steady, consistent and responsible actions to promote a lasting stability in the oil market.

"Despite this challenging backdrop [uncertainty], the 'Declaration of Cooperation' partnership continues to serve as a beacon of dependability and consistency in the global oil market, thereby providing reassurances for producers, consumers and global economy."

As the week drew to a close, the work of the Secretary General was not yet complete. From Abu Dhabi, he boarded a plane to Baghdad for meetings with the Iraqi leadership and a speaking engagement at the 5th Iraq Energy Forum. In his remarks, he once again reinforced the value of maintaining a consistent and methodical approach in addressing current and future challenges.

"With regard to market prospects in the immediate term, market fundamentals remain solid," he explained. "While challenges to global economic growth remain, particularly within the sphere of trade-related tensions, the 'Declaration of Cooperation' partners have repeatedly demonstrated, through words and deeds, their unwavering commitment to taking whatever action necessary in pursuit of sustainable oil market stability."

Contents

OPEC bulletin

Cover
This month's cover shows the 24th World Energy Congress which took place in Abu Dhabi in September (see feature starting on page 4).

Vol L, No 7, September 2019, ISSN 0474–6279

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: Editor-in-Chief, OPEC Bulletin
Fax: +43 1 211 12/5081
E-mail: prid@opec.org
Website: www.opec.org

Website: www.opec.org
Visit the OPEC website for the latest news and information about the Organization, and for back issues of the *OPEC Bulletin,* which are available free of charge in PDF format.

OPEC Membership and aims
OPEC is a permanent, intergovernmental Organization, established in Baghdad, on September 10–14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective — to coordinate and unify petroleum policies among its Member Countries, in order to secure a steady income to the producing countries; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the petroleum industry. Today, the Organization comprises 14 Members: Libya joined in 1962; United Arab Emirates (Abu Dhabi, 1967); Algeria (1969); Nigeria (1971); Angola (2007); Equatorial Guinea (2017). Ecuador joined OPEC in 1973, suspended its Membership in 1992, and rejoined in 2007. Qatar joined in 1961 and left on December 31, 2018. 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. The Republic of the Congo joined the Organization on June 22, 2018.

Secretariat officials
Secretary General
Mohammad Sanusi Barkindo
Director, Research Division
Dr Ayed S Al-Qahtani
Head, Data Services Department
Dr Adedapo Odulaja
Head, PR & Information Department
Hasan Hafidh
Head, Finance & Human Resources Department
Jose Luis Mora
Head, Administration & IT Services Department
Abdullah Alakhawand
Head, Energy Studies Department
Dr Abderrezak Benyoucef
Head, Petroleum Studies Department
Behrooz Baikalizadeh
General Legal Counsel
Leonardo Sempértegui Vallejo
Head, Office of the Secretary General
Shakir Mahmoud A Alrifaiey

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

Editorial policy
The *OPEC Bulletin* is published by the OPEC Secretariat (Public Relations and Information Department). The contents do not necessarily reflect the official views of OPEC or its Member Countries. Names and boundaries on any maps should not be regarded as authoritative. The OPEC Secretariat shall not be held liable for any losses or damages as a result of reliance on and/or use of the information contained in the *OPEC Bulletin*. Editorial material may be freely reproduced (unless copyrighted), crediting the *OPEC Bulletin* as the source. A copy to the Editor would be appreciated.

Editorial staff
Chairman of the Editorial Board
Mohammad Sanusi Barkindo, Secretary General
Editor-in-Chief
Hasan Hafidh, Head, PR & Information Department
Editor
Scott Laury
Associate Editors
James Griffin, Maureen MacNeill,
Mathew Quinn, Timothy Spence
Contributors
Ayman Almusallam
Production
Diana Lavnick
Design and layout
Carola Bayer, Tara Starnegg
Photographs (unless otherwise credited)
Herwig Steiner, Wolfgang Hammer
Distribution
Mahid Al-Saigh

Indexed and abstracted in PAIS International
Printed in Austria

24th World Energy Congress takes place in Abu Dhabi

The World Energy Congress took place in Abu Dhabi between September 9 and 12, 2019, under the patronage of HH Sheikh Khalifa Bin Zayed Al Nahyan, President of the United Arab Emirates. This 24th edition of the mega-event marked the first time it had ever been hosted in an OPEC Member Country. The unique gathering, involving a broad range of stakeholders from across the energy spectrum, provides a global forum on the pressing issues of the day. The OPEC Bulletin *files this report.*

Suhail Mohamed Al Mazrouei, Minister of Energy and Industry, United Arab Emirates, opening the 24th World Energy Congress in Abu Dhabi.

The World Energy Council — 90 years young

With over 150 countries represented, the World Energy Congress is the world's largest energy event covering all aspects of the energy agenda. Since its inception in 1924, the triennial World Energy Congress enables dialogue amongst Ministers, CEOs, policy-makers, analysts, traders and industry practitioners on important energy sector topics. Over the 90-year history of the World Energy Council, the Congress has been hosted in over 20 cities across the world. OPEC had a stand at the congress exhibition showcasing the Organization's publications and activities.

The 8th Asian Ministerial Energy Roundtable

On the margins of the WEC, the United Arab Emirates and India co-hosted the 8th Asian Ministerial Energy Roundtable (AMER8), inviting IEF energy ministers, industry leaders and heads of key international organizations to debate energy security in an age of change with a view to empowering responsible growth in Asia and the world.

The Ministerial dialogue focused on new technologies and long-term energy policy, with the participation of key international organizations. OPEC Secretary General, Mohammad Sanusi Barkindo, shared the floor with Parviz Shahbazov, Minister of Energy,

Azerbaijan; Hala Adel Zawati, Minister of Energy and Mineral Resources, Jordan; Lin Shanqing, Vice Administrator, National Energy Administration, China; E Cheong Seung-il, Vice Minister of Trade, Industry and Energy, Korea; Anton Inyutsyn, Deputy Minister of Energy, Russia; Izuru Kobayashi, Deputy Commissioner for International Affairs, Agency for Natural Resources and Energy, Japan; and Fatih Birol, Executive Director, International Energy Agency (IEA).

In his remarks, the Secretary General emphasized the connection between technological innovation and improving the environmental credentials of oil. He said, "OPEC takes climate change extremely seriously. As responsible citizens of this globe, we too believe there is 'no Planet B.' There are no climate change deniers at OPEC. Our 14 Member Countries have all signed the Paris Agreement and ten have ratified it."

The Secretary General explained that OPEC views it as a positive development that so many people are participating in the climate change discussion. It is important that environmental issues have garnered increasing public attention, especially among young people throughout the world. Dialogue on this matter should be inclusive and broad.

The Secretary General added that OPEC recognizes the complexity of the challenge caused by global warming. Sadly, there are no 'silver bullets' that can solve the problem on their own. Complex problems require comprehensive solutions. The contributions of entire industries should not be dismissed out-of-hand.

"The oil industry should be part of the solution; it possesses critical resources and expertise which can help unlock our carbon-free future," said the Secretary General. "We also must be precise in identifying exactly what the problem is. I often think of the succinct refrain of Bob Dudley, 'this is not a race to renewables, it is a race to reduce carbon emissions across many fronts."

The Secretary General also welcomed and encouraged the venture arms of major companies targeting and investing in companies working in areas such as carbon storage. These initiatives have the potential to develop industry transforming technologies. The Secretary General stated, however, that market conditions must be conducive to making such investment attractive. For this reason, OPEC and its ten non-OPEC partners have actively engaged in the 'Declaration of Cooperation' and 'Charter of Cooperation' processes.

A dazzling opening ceremony got things underway.

HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia, answering questions from the media.

The global energy challenge: a transition, not a switch

The Secretary General also participated in a session moderated by John Defterios, Business Emerging Markets Editor and Anchor, CNN. The panel was part of CNN's new television and digital series, the 'Global Energy Challenge' in which the network convenes leading minds from across the sector together with the World Energy Council's 'Future Energy Leaders' to explore what is a realistic energy transition.

The question they posed was: With oil demand set to cross 100 million barrels/day this year, the cost of solar and wind power dropping to levels that can compete head-to-head with hydrocarbons and citizenry in the developed and developing worlds demanding cleaner air quality, what should be the energy mix to cap global warming?

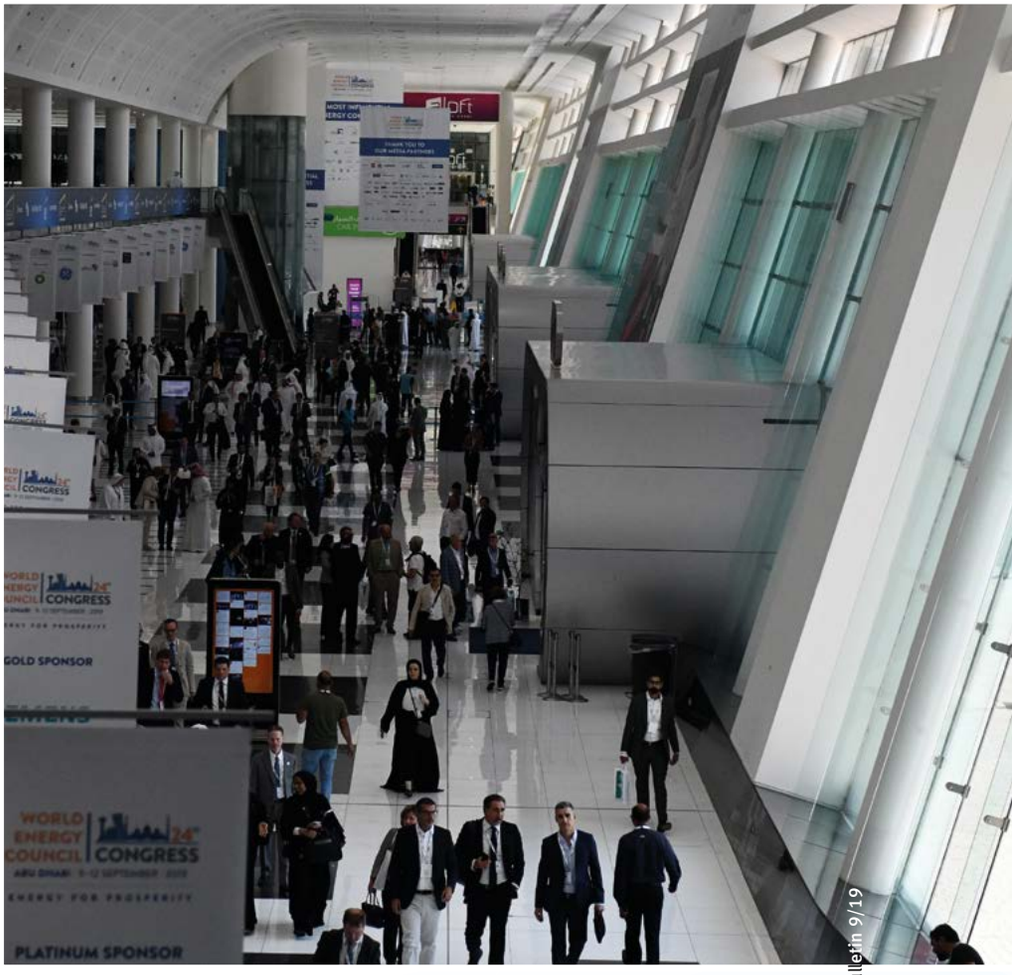
In addition to reiterating the points he had made at the AMER8 roundtable, the Secretary General highlighted the role oil can play in sustainable development, specifically the Sustainable Development Agenda 2030. Barkindo highlighted three particularly relevant SDGs: SDG 7, which seeks to ensure universal access to affordable, reliable and modern energy services; SDG 8, which promotes inclusive and sustainable economic growth, employment and decent work for all; and SDG 9, which seeks to promote sustainable industrialization and foster innovation.

Closing plenary — the business outlook for oil

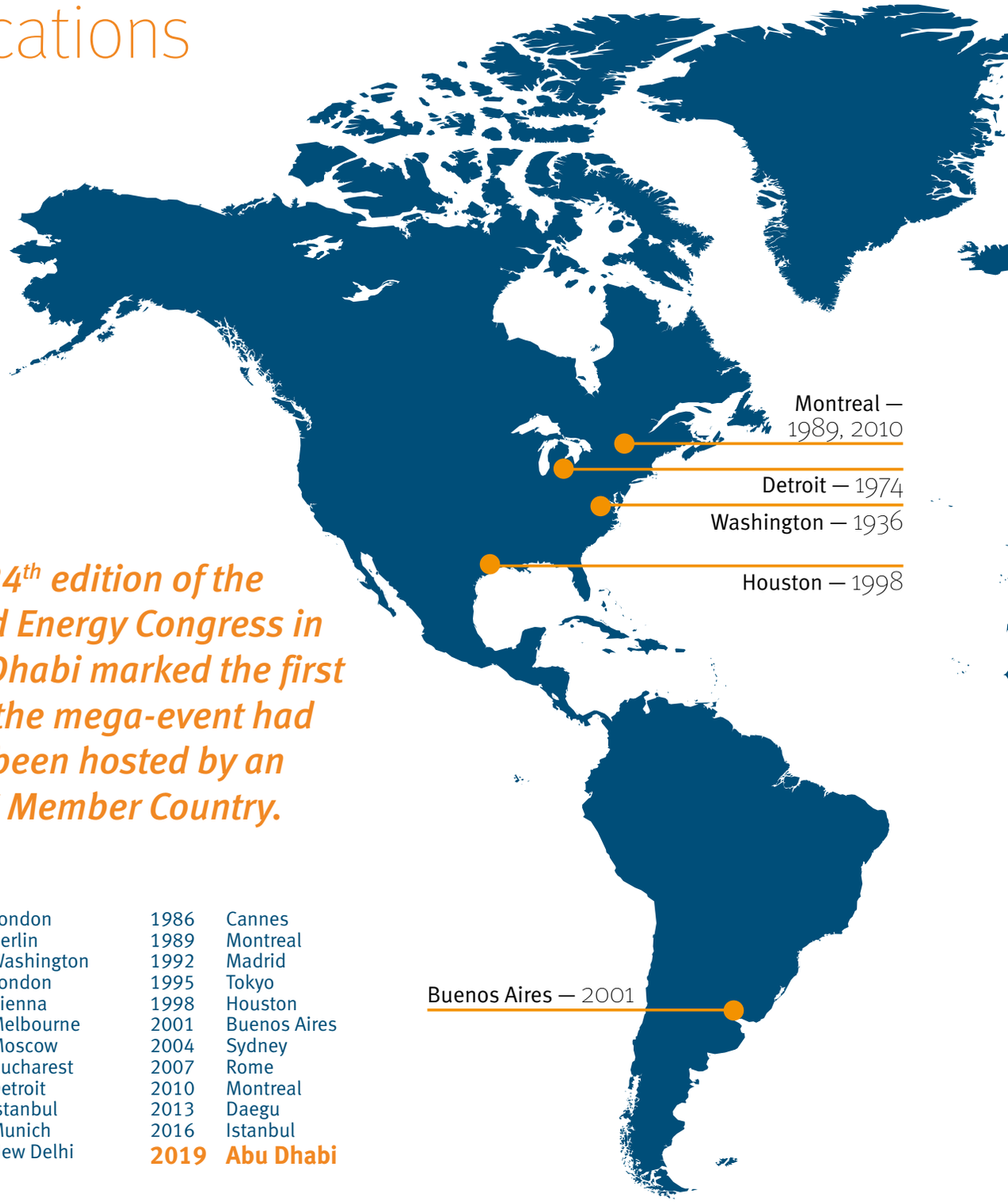
The Secretary General also participated in the closing plenary session, entitled, 'The business outlook for oil'. He was joined by Dr Ahmed Ali Attiga, CEO, APICORP;

Suhail Mohamed Al Mazrouei (l), Minister of Energy and Industry, United Arab Emirates; with Mohammad Sanusi Barkindo, OPEC Secretary General.

Dr Ayed S Al-Qahtani, Director, Research Division, took part in a panel discussion entitled, 'Reshaping the future of mobility'.



World Energy Congress
Locations



The 24th edition of the World Energy Congress in Abu Dhabi marked the first time the mega-event had ever been hosted by an OPEC Member Country.

1924	London	1986	Cannes
1930	Berlin	1989	Montreal
1938	Washington	1992	Madrid
1950	London	1995	Tokyo
1956	Vienna	1998	Houston
1962	Melbourne	2001	Buenos Aires
1968	Moscow	2004	Sydney
1971	Bucharest	2007	Rome
1974	Detroit	2010	Montreal
1977	Istanbul	2013	Daegu
1980	Munich	2016	Istanbul
1983	New Delhi	**2019**	**Abu Dhabi**

Source: World Energy Council.


London — 1924, 1950
Munich — 1980
Berlin — 1968
Vienna — 1956
Daegu, Korea — 2013
Tokyo — 1995
New Delhi— 1983
Abu Dhabi — 2019
Sydney — 2004
Melbourne — 1962
Moscow — 1968
Istanbul — 1977, 2016
Bucharest — 1971
Rome — 2007
Cannes — 1986
Madrid — 1992

HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia.

Suhail Mohamed Al Mazrouei, Minister of Energy and Industry, United Arab Emirates.

Mohammad Sanusi Barkindo (above r and below l), OPEC Secretary General; Helima Croft (above l), Managing Director and Global Head of Commodity Strategy, Global Research, RBC Capital Markets; Dr Ahmed Ali Attiga (below c), CEO, APICORP; and Daniel Yergin (below r), Vice Chairman, IHS Markit; during the closing session entitled: 'The business outlook for oil'.

Mohammad Sanusi Barkindo (r), OPEC Secretary General; with Helima Croft, Managing Director and Global Head of Commodity Strategy, Global Research, RBC Capital Markets

Musabbeh Al Kaabi, CEO, Petroleum and Petrochemicals, Mubadala Investment Company; Daniel Yergin, Vice Chairman, IHS Markit; and William Lin, Chief Operation Officer, Global Upstream Regions, BP.

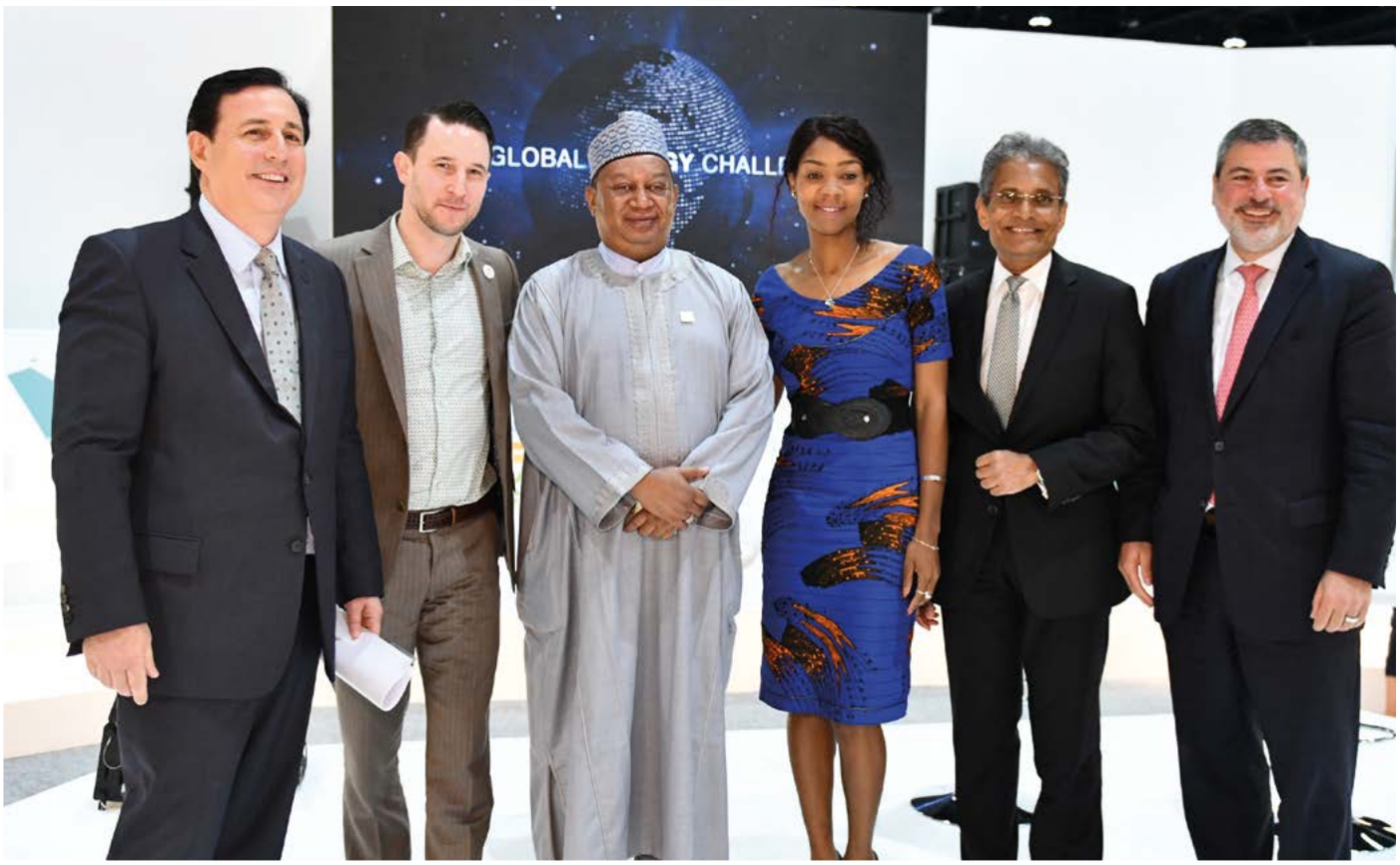
The Secretary General's remarks focused on the 'Charter of Cooperation', which he explained is a permanent platform to facilitate dialogue among the participating countries aiming to promote oil market stability and cooperation on technology and other areas for the benefit of oil producers, consumers, investors and the global economy.

Endorsed at the 6th OPEC and non-OPEC Ministerial Meeting on July 2, 2019, the Secretary General added that "the 'Charter of Cooperation' represents a determined commitment of 24 countries to continue the progress achieved under the historic 'Declaration of Cooperation', signed on the December 10, 2016."

Mohammad Sanusi Barkindo, OPEC Secretary General; Helima Croft, Managing Director and Global Head of Commodity Strategy, Global Research, RBC Capital Markets; Dr Ahmed Ali Attiga, CEO, APICORP; Daniel Yergin, Vice Chairman, IHS Markit; and William Lin, Chief Operation Officer, Global Upstream Regions, BP.

On the margins of the WEC, the United Arab Emirates and India co-hosted the 8th Asian Ministerial Energy Roundtable (AMER8), inviting IEF energy ministers, industry leaders and heads of key international organizations to debate energy security in an age of change with a view to empowering responsible growth in Asia and the world.

Mohammad Sanusi Barkindo (c), OPEC Secretary General; with John Defterios (l), CNN Business Emerging Markets Editor at CNN International.



Mohammad Sanusi Barkindo (third l), OPEC Secretary General; with John Defterios (l); and fellow panelists. Barkindo participated in a panel discussion on 'The global energy challenge: a transition, not a switch'.

He also pointed out that it will provide an opportunity to support energy policies for the long-term use of oil as a key component in the evolving global energy mix, as well as improving the environmental credentials of oil.

During the panel discussions, the importance of cooperation in addressing industry challenges was emphasized.

"We have repeatedly seen that working in silos achieves nothing; whereas cooperation offers more promising avenues for success," the Secretary General stated. "Our 24 participating countries have chosen the path of cooperation; the path of dialogue, the path of transparency and openness. The 'Charter' crystalizes these intentions and provides them with an overall framework."

Going forward, the Secretary General explained that, to carry out the objectives of the 'Charter of Cooperation',

Mohammad Sanusi Barkindo (l), OPEC Secretary General; with Manus Cranny (r), Anchor, Bloomberg TV, during an interview.

current plans call for participating countries to hold one annual Ministerial Meeting and two yearly technical meetings, adding that this is a high-level commitment to be voluntarily implemented by the individual participating countries and does not create any legally binding obligations between or among them.

Explaining that the 'Charter of Cooperation' is open to all producing countries, the Secretary General concluded with a special invitation.

"I would like to extend the hand of friendship to all of the 97 oil producing countries in the world. They are qualified to be members of our 'Charter of Cooperation' and I invite them to join us on our noble mission, as we seek to build a better future for our children and our children's children."

Mohammad Sanusi Barkindo (l), OPEC Secretary General; with John Defterios (r), during a CNN interview.

World Energy Congress — a unique platform

With 15,000 participants, 250 high-level speakers, 70 ministers, 500 CEOs and 600 media representatives, the 24th WEC was a tremendous success. OPEC was able to engage in fruitful dialogue with its industry partners and disseminate its messages of market stabilization and the important role of the oil industry in addressing climate challenge.

JMMC

16th JMMC garners huge interest in Abu Dhabi

The excitement in advance of the 16th JMMC was positively palpable as Ministers converged on Abu Dhabi on September 12, 2019. The* OPEC Bulletin *files this exclusive report from this extremely significant meeting.

L–r: Suhail Mohamed Al Mazrouei, Minister of Energy and Industry, United Arab Emirates; Mohammad Sanusi Barkindo, OPEC Secretary General; HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia; Alexander Novak, Minister of Energy of The Russian Federation; Manuel Salvador Quevedo Fernandez (c), People's Minister of Petroleum, Venezuela, and President of the OPEC Conference.

In Abu Dhabi, one truly feels at home

The Asian Football Confederation Cup 2019; the 2019 Abu Dhabi Grand Prix Formula One race; the first ever visit of a Pope, His Holiness Pope Francis, to the Arabian peninsula; the 24th World Energy Congress; the 18th Session of UNIDO's General Conference; ADIPEC 2019; the 16th Meeting of the JMMC and 33rd Meeting of the JTC. What links these historic events? They have or will take place in 2019 in the United Arab Emirates.

And that is not even the full list of monumental events scheduled in this incredible nation this year. This tells you all you need to know about the generous hospitality, the vibrancy and the vitality of this remarkable country. This is also indicative of the steadfast support the UAE has given the 'Declaration of Cooperation' since its inception. The legendary Emirati hospitality was crucial in facilitating a productive meeting with a multitude of significant outcomes.

New JMMC Chairman

All present welcomed the new Chairman of the JMMC and Minister of Energy of Saudi Arabia, His Royal Highness Prince Abdul Aziz Bin Salman. As the Secretary General, Mohammad Sanusi Barkindo, stated in his opening remarks: "This is the first time we convene under the chairmanship of His Royal Highness; a gentleman who for the past 32 years has consistently been the face of the Kingdom of Saudi Arabia at OPEC, representing the country in the best possible light; a consummate diplomat, a skilled negotiator, an inspirational leader, and a true oil industry expert."

The Secretary General emphasized HRH's long

HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia, and Chairman of the JMMC; with Manuel Salvador Quevedo Fernandez, People's Minister of Petroleum of Venezuela, and President of the OPEC Conference.

experience: "His Royal Highness has been instrumental in steering negotiations for the adoption of several landmark OPEC Declarations, acting as Chairman of the Committee that drafted the Solemn Declaration at the Second OPEC Summit which took place in Caracas, Venezuela on the September 27 and 28, 2000. He did such an outstanding job in this capacity that he also served as Chairman of the Committee that drafted the Riyadh Declaration at the Third OPEC Summit, which took place in Riyadh, Saudi Arabia, on November 17 and 18, 2007. When OPEC decided to develop a Long-Term Strategy and needed a committee to midwife its birth, we, inevitably, turned to the ever-dependable Prince Abdul Aziz. He is currently one of the three longest serving delegates to OPEC."

The Secretary General also outlined the Prince's role in promoting producer-consumer dialogues. "We

HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia, and Chairman of the JMMC.

also recall back in the 1980s, when dialogue between producers and consumers seemed like a pipe-dream, Prince Abdul Aziz was one of its pioneers and champions. Small wonder then that this true visionary midwifed the International Energy Forum."

Furthermore, Prince Abdul Aziz has played a critical role in the 'Declaration of Cooperation' process. The Secretary Genergy described this, saying: "In 2015, when the oil market was in the depths of one of the worst downturns in its history, His Royal Highness passionately advocated for joint action between OPEC and the Russian Federation. The seed which the Prince planted gestated into the Algiers Accord of September 28, 2016, which he co-authored; metamorphosing into the Vienna Agreement of November 30, 2016, and the historic 'Declaration of Cooperation' of December 10, 2016; and has now blossomed into the 'Charter of Cooperation,' endorsed by 24 countries on July 2, 2019."

Indeed, in many ways, Prince Abdul Aziz has evolved into an OPEC institution in his own right, as the Secretary General explained. "These Declarations, decisions and events are integral to our Organization's *raison d'être*

Manuel Salvador Quevedo Fernandez, People's Minister of Petroleum of Venezuela, and President of the OPEC Conference.

Alexander Novak, Minister of Energy of The Russian Federation and Co-Chairman of the JMMC.

and a cherished part of our heritage. Therefore, one can truly say that Prince Abdul Aziz Bin Salman is also part of our heritage, and he will play an indispensable role in our bright future. His appointment came as no surprise to those familiar with his own remarkable journey and was greeted with universal acclaim from all stakeholders, as well as eliciting a positive reaction in the market."

Tribute to Khalid A Al-Falih

All the speakers thanked former Minister of Energy, Industry and Mineral Resources, Khalid A Al-Falih, for his immense contributions to the 'Declaration of Cooperation' process. As the Secretary General stated, "I would also like to pay tribute and give credit to whom they are due, Khalid Al-Falih. We are all conscious of the role which he played in making the 'DoC' process a resounding success. Everyone in the OPEC-plus family owes him a debt of gratitude and the history books will judge him highly and favourably."

Al-Falih's tenure coincided with extraordinary events in the oil industry and was replete with

Suhail Mohamed Al Mazrouei, Minister of Energy and Industry, United Arab Emirates.

L–r: Suhail Mohamed Al Mazrouei, Minister of Energy and Industry, United Arab Emirates; HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia; Timipre Sylva, the newly appointed Minister of State for Petroleum Resources of Nigeria; Manuel Salvador Quevedo Fernandez, People's Minister of Petroleum of Venezuela, and President of the OPEC Conference; and Mohammad Sanusi Barkindo, OPEC Secretary General.

accomplishment: from arresting the free fall in market fundamentals in 2016, to the Algiers Accord, the Vienna Agreement, the 'Declaration of Cooperation' and, of course, the 'Charter of Cooperation'. The Secretary General highlighted his Presidency of the OPEC Conference in the critically important year of 2017. Such was the strength of his performance that he was recognized with the *'International Oil Diplomacy Person of the Year 2017'* Award at the Energy Institute's International Petroleum (IP) Week.

Navigating the first year of implementing the production adjustments was an arduous challenge, but it was one which Al-Falih rose to admirably. The ultimate testament to his skills, diplomatic tact and

Manuel Salvador Quevedo Fernandez (r), People's Minister of Petroleum of Venezuela, and President of the OPEC Conference; and the newly appointed Minister of State for Petroleum Resources of Nigeria, Timipre Sylva.

HRH Prince Abdul Aziz Bin Salman (r), Minister of Energy of Saudi Arabia; and Mohammad Sanusi Barkindo, OPEC Secretary General.

Delegates to the JMMC gather for a group photograph.

commitment is the fact that monthly conformity levels with the voluntary adjustments in production averaged an astonishing 107 per cent throughout 2017, a level unprecedented in the history of our Organization. He applied the same vigour, rigour and commitment following his appointment as Chairman of the JMMC from January 2018.

As the Secretary General outlined: "Throughout this momentous journey, Khalid Al-Falih demonstrated a mastery of the oil market; astute diplomatic skill and the art of statecraft. His focus on our common goal, namely the urgent restoration of market stability, was unwavering. He demonstrated Saudi Arabia's firm commitment by ensuring that its high conformity with our voluntary production adjustments remained sacrosanct. As traders would say, "his word is his bond." He was persistent, yet flexible and adaptable."

Cooperation and collective responsibility

Cooperation was the watchword of the rest of the meeting. As the JMMC press release stated: "Conformity with the voluntary production adjustments remains high, 136 per cent in the month of August. However,

Mohamed Arkab, Minister of Energy, Algeria.

Thamir Abbas Al Ghadhban, Deputy Prime Minister for Energy Affairs and Minister of Oil, Iraq.

the JMMC reemphasized the core principles underpinning the 'Declaration of Cooperation', namely, equity, fairness and transparency, and urged all participating countries to intensify their efforts in pursuit of full and timely conformity with their voluntary production adjustments. All participating countries present, particularly those who are yet to reach full conformity with their adjustments, were unequivocal in providing steadfast assurances of their determination to achieve at least 100 per cent conformity for the remainder of the year. Those countries who have over-conformed also reiterated their voluntary contribution. Resultantly, overall conformity will be brought to record levels."

The Committee was meticulous in examining the range of recent developments in the oil market. The JMMC observed the recent decline in OECD commercial stock levels, particularly in the US, although they

Esam Alkhalifa, Saudi Arabia's National Representative to OPEC.

Eng Ahmed Mohamed Alkaabi, United Arab Emirates' Governor for OPEC.

Dr Khaled Ali Al-Fadhel (c), Kuwaiti Minister of Oil, Minister of Electricity and Water, Chairman of the Board of the Kuwait Petroleum Corporation (KPC).

Timipre Sylva, Nigeria's Minister of State for Petroleum Resources.

remain above the five-year average. It was also noted that all major benchmarks are now in backwardation. Furthermore, the Committee analyzed the range of critical uncertainties facing the global economy in 2019 and 2020, including trade-related tensions, monetary policies and other macroeconomic factors. The JMMC urged continued vigilance in monitoring oil market conditions ahead of the Ministerial Meetings in early December.

The Committee also noted the extra impetus that the 'Charter of Cooperation' had given to participating countries' collective endeavours. As the press release stated: "Despite this challenging backdrop, the 'DoC' partnership continues to serve as a beacon of dependability and consistency in the global oil market, thereby providing reassurances for producers, consumers and global economy. In light of these macroeconomic uncertainties, the JMMC agreed that

Eng Angel Gonzalez Saltron, Venezuela's Governor for OPEC.

Murat Zhurebekov, Vice Minister of Energy, Kazakhstan.

Dr Mohammed Bin Hamad Al-Rumhy, Minister of Oil and Gas, Sultanate of Oman.

Dmitry Kapnik, Assistant to the Minister, The Russian Federation.

enhanced cooperation and dialogue are more important than ever. For this reason, it underscored its commitment to the historic Charter of Cooperation, which was signed at the 6th OPEC and non-OPEC Ministerial Meeting on July 2, 2019. This unique initiative offers a platform to facilitate dialogue among the participating countries, aimed at promoting oil market stability, cooperation in technology and other areas, for the benefit of oil producers, consumers, investors and the global economy."

Successful meeting

The 16th Meeting of the JMMC saw participating countries reaffirm their commitments to oil market stability. Conformity with voluntary production adjustments is expected to increase in the coming months, and this will allow the Committee to take a further look at conditions in the market in advance of the 177th OPEC Conference and 7th OPEC and non-OPEC Ministerial Meeting, scheduled to take place on December 5 and 6, 2019, respectively.

L–r: Thamir Abbas Al Ghadhban, Deputy Prime Minister for Energy Affairs and Minister of Oil, Iraq; Suhail Mohamed Al Mazrouei, Minister of Energy and Industry, United Arab Emirates; Mohammad Sanusi Barkindo, OPEC Secretary General; HRH Prince Abdul Aziz Bin Salman, Minister of Energy of Saudi Arabia; Alexander Novak, Minister of Energy of The Russian Federation; Manuel Salvador Quevedo Fernandez (c), People's Minister of Petroleuma, Venezuela, and President of the OPEC Conference; Timipre Sylva, Nigeria's Minister of State for Petroleum Resources; and Hasan Hafidh, Head of OPEC's PRID, during the JMMC press conference.

33rd Meeting of the Joint Technical Committee

Abu Dhabi, UAE, September 11, 2019

Delegates to the 33rd Meeting of the Joint Technical Committee (JTC) which convened in Abu Dhabi on September 11, 2019, take time out for a group photograph.

The 33rd Meeting of the JTC in session.

OPEC Secretary General addresses 5th Iraq Energy Forum

On the heels of a busy week of meetings and speaking engagements in the United Arab Emirates for the World Energy Congress and the 16th Meeting of the Joint Ministerial Monitoring Committee, ***Mohammad Sanusi Barkindo*** *(pictured), OPEC Secretary General, visited Iraq for the 5th Iraq Energy Forum in Baghdad. The Secretary General delivered a keynote address at the Forum, which was followed by a panel discussion entitled 'Energy, regional economics and geopolitics'.*

In his remarks, the Secretary General, began by thanking Deputy Prime Minister and Minister of Oil, Thamir Abbas Al-Ghadban, as well as the Chairman of the Board of the Iraq Energy Institute, Professor Ali Sayigh, for the invitation to address the forum, which he added has risen in stature to become an essential event on the international energy calendar.

The Secretary General also expressed his respect for Iraq's ancient history, highlighting some of the innovations it had bestowed upon the world over the centuries.

Cradle of civilization

"This is a nation of firsts: the place where the concept of the wheel first took hold; where the first agriculture appeared; where the first system of irrigation was developed; an area where the oldest surviving form of writing hails from; where the first cities were settled," he said. "The enormity of these innovations are mind-boggling in that they fundamentally shaped our subsequent human existence but are also the testimony to the enduring genius of the people who lived here, the people of Iraq."

He went on to speak of the country's historical role within OPEC, noting that the Founder's values of unity and cooperation remain the same today as in 1960 when the Organization was founded.

"The Organization's Founder Members each arrived

Mohammad Sanusi Barkindo, OPEC Secretary General, delivering his keynote address at the Forum.

in Baghdad with different objectives, expectations and priorities. Yet, the founders recognized that common interests outweighed any differences they may have had; that working together will always yield greater results than going alone and unity is a source of strength," he stated. "These ideals are as relevant in 2019 as they were in 1960; they are truly timeless and have served as a stable lynchpin throughout our history. The founding of our Organization is an outcome of cooperation, dialogue and compromise; and this has been clearly apparent in every success we have enjoyed in the subsequent 59 years."

The Secretary General then lauded Iraq's ongoing efforts as a proactive and effective partner in the Declaration of Cooperation as well as the Charter of Cooperation.

"Not only did Iraq play an important role in brokering consensus among the 24 partners, it has also backed words with actions. This year, Iraq, ably represented by Al-Ghadhban, became a member of the Joint Ministerial Monitoring Committee and has made a critical contribution to the vital monitoring mission of this body," he explained.

"We just returned from Abu Dhabi together with Al-Ghadhban, where we attended the 16th Meeting of

the Joint Ministerial Monitoring Committee under the new chairmanship of HRH Prince Abdulaziz Bin-Salman of Saudi Arabia. The meeting was very productive, and all participating countries were unequivocal in providing steadfast assurances of their determination to achieve at least full conformity with their voluntary productions adjustments."

Rising oil demand

Addressing the subject of future demand anxieties held by some sectors of the industry, the Secretary General urged delegates to have a balanced view regarding the future outlook.

"Pick up a newspaper today or read an article online and one of the most common refrains is that demand for oil is about to plateau or decline. Such thinking has been heavily influenced by advocates of renewable energy and the electric-car lobby, who champion the idea that hydrocarbons are on the verge of being replaced by renewable forms of energy," he noted. "I wish to make an appeal: do not let your views on the oil industry be determined by the loudest voices; the overreactions or the excessively bullish or bearish. Instead, look at the facts; focus on the fundamentals. And when looking at the fundamentals, in both the short-term and long-term, it is clear that the future of this industry is bright."

This, he added, is supported by research outlined in the OPEC's *World Oil Outlook* with long-term world oil demand forecast to rise to almost 112 million barrels/day by 2040, mostly coming from developing countries.

As far as prospects related to electric vehicles go, he pointed out that there will more of them on the road, but conventional vehicles will continue to remain in the majority.

"While the long-term share of electric vehicles in the total fleet is projected to expand and reach a level of around 13 per cent by 2040, conventional vehicles will constitute the majority of growth of the total vehicle fleet," he said.

OPEC Secretary General (third l) took part in a panel discussion entitled: 'Energy, regional economics and geopolitics'. Fellow panelists were Thamir Abbas Al-Ghadhban (second l), Iraq's Deputy Prime Minister and Minister of Oil; Joe Kaeser (third r), President and CEO of Siemens (r); Muhammad Abunayyan (second r); Hussain J Al Nowais (r); and moderator, Ziad Daoud (l).

He also highlighted the crucial role technology will play in addressing future concerns regarding the environment.

"Many link the fate of future of demand with concern regarding the environmental credentials of oil," he said. "Technological innovation, particularly energy efficiency improvements, fuel efficiency standards and carbon capture and storage offer promising avenues to reconciling the conflicting components of the energy trilemma."

Energy poverty was also underlined as a major issue of concern that should not be overshadowed by the energy transition.

"Unfortunately, energy poverty remains a scourge of our time. The total number of people with access to electricity is just below one billion. Three billion people still lack access to clean fuels for cooking," he stated.

"An energy transition should not forget these realities and we should strive for a more inclusive world — where every person has access to energy."

OPEC 60th Anniversary event

Finally, in closing, the Secretary General expressed his appreciation to Iraq for its ongoing contributions, including its pivotal role as host of next year's 60th Anniversary event to be held in Baghdad.

"We would like to thank the people and Government of Iraq for their gracious invitation to commemorate the 60 year anniversary of OPEC's founding next year, here in Baghdad. This will allow all Member Countries to return to the Organization's roots and undertake several important tasks," he proclaimed. "The 60 year anniversary commemorative celebrations will allow us to take a holistic stock of the tumultuous journey our Organization has been on and

Delegates during the opening ceremony.

travel down memory lane. From the moment of its conception, many did not think OPEC had a chance of survival. Yet over the last six decades, OPEC's relevance has only increased with each passing year."

Panel discussion

At the conclusion of his address, the Secretary General took part in a panel discussion entitled: 'Energy, regional economics and geopolitics'. Fellow panelists were Thamir Abbas Al- Ghadhban, Iraq's Deputy Prime Minister and Minister of Oil; Joe Kaeser, President and CEO of Siemens; Muhammad Abunayyan; and moderator, Ziad Daoud.

During the discussions, the Secretary General highlighted Iraq's strong support for the 'Declaration of Cooperation' process, and its continued commitment and demonstration through its steadfast support of the 'Charter of Cooperation', facilitating dialogue among stakeholders in the interest of producers, consumers and the global economy. He also pointed out the benefits this unprecedented cooperation had brought in terms of balance, stability and improved sentiment in the global oil market.

Successful event

This fifth iteration of the Iraq Energy Forum rose to new heights, convening high-level international policy makers, government officials, experts, and investors to deliberate the key issues of the day facing the industry. The event took place at the Royal Tulip Al-Rasheed Hotel in Baghdad.

With the theme 'Economic cooperation for Middle East peace and prosperity', sessions covered topics ranging from Iraq's re-emergence after the war on ISIS and its position as a unifying regional force; the energy industry's ability to address uncertainties in market, as well as the role of OPEC and its non-OPEC partners in the DoC and CoC; the energy sector's linkages with other parts of the economy; youth entrepreneurship and facilitating access to funding; the role of research, technology and innovation; and the important contribution of women to the economy.

All photographs courtesy Iraq Energy Forum.

OPEC Secretary General (second r) visits OPEC stand.

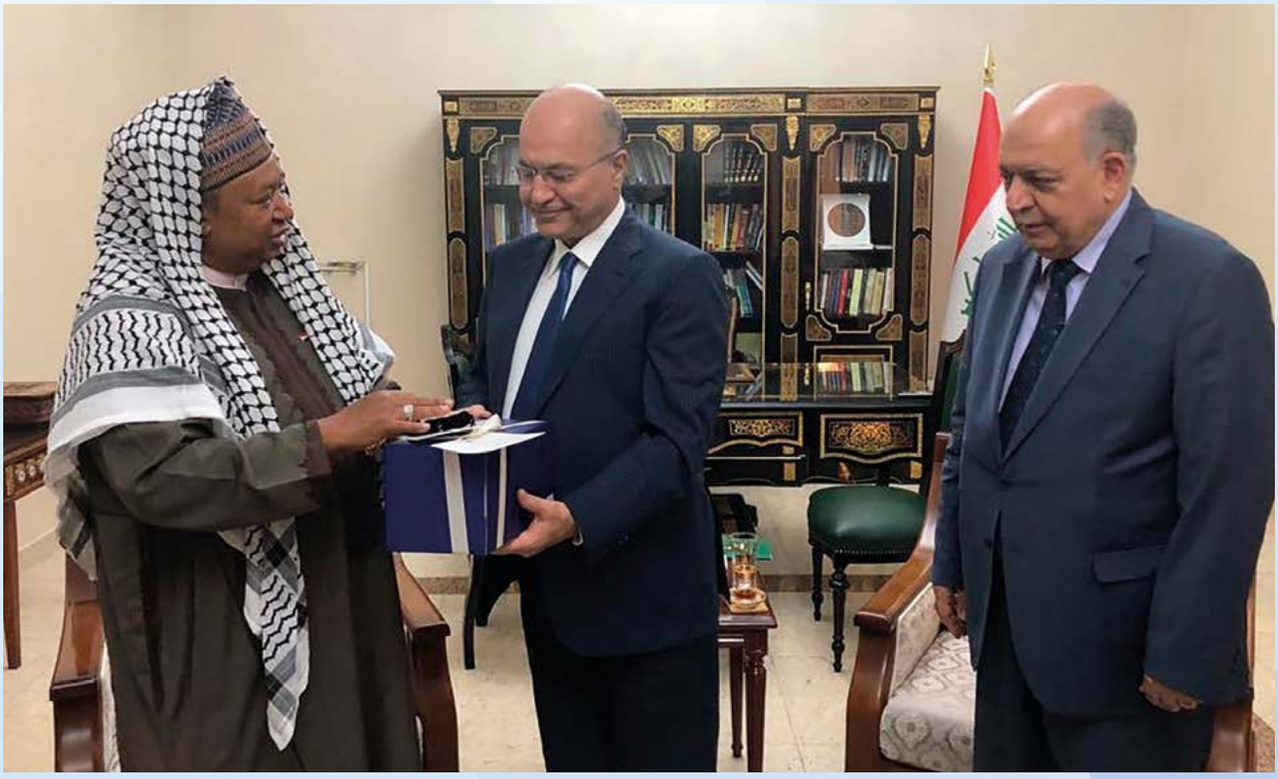
Iraq Energy Forum 2020

During this year's 5th Iraq Energy Forum, the OPEC Secretary General and Iraq Energy Institute (IEI) Vice Chairman, Adnan Al-Janabi, announced that next year's Forum would be held alongside the 60th Anniversary Commemoration in Baghdad in September of 2020.

The special event will be organized by the Iraqi government in cooperation with IEI and OPEC.

OPEC Secretary General meets with Iraqi leadership

During his trip to Baghdad for the 5th Iraq Energy Forum, Mohammad Sanusi Barkindo, OPEC Secretary General, had the opportunity to meet with Iraq's top leadership. In addition to discussions on the latest oil market developments, high on the agenda at the meetings were the preparations being made in the lead-up to next year's 60th Anniversary Commemoration of OPEC's founding to be held in Baghdad.



Iraq's President Barham Salih received the Secretary General and accompanying OPEC Secretariat delegation together with Iraq's Deputy Prime Minister and Minister of Oil, Thamir Abbas Al-Ghadhban.

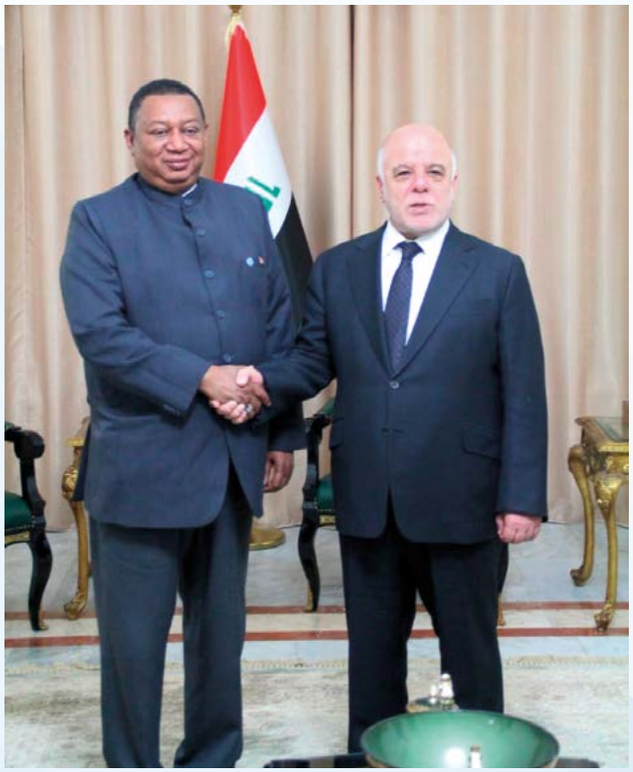
The President commended the Secretary General on his role at OPEC. He assured the Secretary General that Iraq will continue to play a vital role in the Organization, in the 'Declaration of Cooperation', as well as the 'Charter of Cooperation'. Barkindo briefed the President on the preparations being made for the 60th OPEC Anniversary Commemoration and lauded Iraq's leading and historical role in OPEC, the DoC and the CoC.

Iraq Prime Minister, Adel Abdulmahdi, received the Secretary General and accompanying OPEC Secretariat delegation together with Iraq's Deputy Prime Minister and Minister of Oil, Thamir Abbas Al-Ghadhban. The Prime Minister reaffirmed Iraq's continuous support for OPEC, the DoC and the CoC.

Mohammad Sanusi Barkindo (l), with Iraq's President, Barham Salih.

The Secretary General also paid a courtesy visit to former President, Faud Masoum, at his residence in Baghdad. Masoum lauded the key role of the Secretary General in fostering support for the DoC, as well as the CoC.

Masoum was an influential supporter of Iraq's role in the establishment of both the DoC and CoC. Barkindo briefed the former President on the latest developments of the DoC and CoC processes and their impacts on balancing the global oil market. Preparations for the 60th OPEC Anniversary Commemoration were also discussed.



Barkindo met with former Prime Minister, Haider Al-Abadi, thanking him for his pivotal role in the DoC process. Al-Abadi highlighted the importance of the DoC in balancing the oil market for the benefit of both producers and consumers.

The Secretary General met with Iraq's Deputy Prime Minister and Minister of Oil, Thamir Abbas Al-Ghadhban. Barkindo thanked the Minister for the invitation to hold the 60th OPEC Anniversary event in Baghdad next year. Al-Ghadhban briefed the Secretary General on the preparations being made in Iraq for this special event, including the renovation of the Al Shaab Hall in Baghdad where OPEC was founded.

The Secretary General and accompanying OPEC Secretariat delegation met with the Speaker of Iraq's National Assembly, Mohammed Al Halbousi, in Baghdad. Barkindo lauded Iraq's historic role in OPEC, and briefed Al Halbousi on the DoC and CoC, as well as on the details related to next year's 60th OPEC Anniversary Commemoration. Al Halbousi thanked the Secretary General and the accompanying delegation for visiting Iraq.

The Secretary General met with former Speaker of the Iraqi National Assembly, Salim Al Jibouri, in Baghdad. The Secretary General thanked Al Jibouri and Iraq for supporting OPEC, the DoC and the CoC.

Al Jibouri commended the Secretary General for the accomplishments he has made since assuming his role as Secretary General of OPEC. Barkindo thanked the Iraqi leadership for their loyal support and for hosting next year's 60th OPEC Anniversary celebrations in Baghdad.

The Secretary General met with Senior Deputy Minister of Oil, Fayadh Hassan Nima. Discussions centred on the latest developments in the global oil market and the achievements of the DoC and CoC.

The Secretary General met with Jabbar Ali Hussein Al-Luiebi, former Minister of Oil.

HRH Prince Abdul Aziz Bin Salman and OPEC — a long history

HRH Prince Abdul Aziz Bin Salman.

Already known as one of the most prominent oil diplomats in OPEC's history, ***HRH Prince Abdul Aziz Bin Salman****, was appointed the Kingdom of Saudi Arabia's new Minister of Energy at the start of September 2019. The* OPEC Bulletin *looks back at his already impressive career, and the skills he will bring to his new role in helping guide the Organization as it plots a pathway for the 'Declaration of Cooperation' and the recently endorsed 'Charter of Cooperation'.*

Prince Abdul Aziz assumed his new position as the Kingdom of Saudi Arabia's new Minister of Energy at a critically important juncture for the global oil market, as the participants in the 'Declaration of Cooperation' look to sustain balance and stability in the market in the interests of both producers and consumers. This was clearly on display at the 16th Meeting of the Joint Ministerial Monitoring Committee in Abu Dhabi, UAE, on September 12.

In looking ahead, it is clear that the new minister's

decades of industry experience, his wise counsel, his undoubted leadership and his dedication to always do what is best for his country and for OPEC, will be extremely beneficial as the Organization looks to navigate a path forward. It gives the Organization great succour to know that the new minister has already played a pivotal role in helping ink and advance the landmark decisions of the last few years and evolve the positive relationship between OPEC and non-OPEC producers.

Respected OPEC figure

At OPEC, the new minister always been a great advocate for the Organization; his mixture of quick wit, charm, impressive communication and negotiation skills, dedication and a positive outlook have proven invaluable for the Organization on many occasions. He is respected far and wide, as a man who has brought light, when there had seemed no light at the end of the tunnel; and a man who was able to broker solutions, when disagreements had seemed immovable.

To recall just a few occasions, Prince Abdul Aziz was instrumental in steering negotiations for the adoption of several landmark OPEC Declarations, acting as Chairman of the High-Level Officials of drafting the Caracas Declaration, Chairman of the High-Level Officials of drafting the Riyadh Declaration and Chairman of the Long-Term Strategy.

These documents have proven central to supporting OPEC's Statute in helping meet the challenges and opportunities the Organization has and continues to face while providing all Member Countries with a sense of unity and common purpose.

He has already made his own unique contribution to the betterment of OPEC's aims and objectives, as well as enriching dialogue between OPEC and other stakeholders in the international energy community. He has been influential in bringing producers and consumers closer together through the establishment of the International Energy Forum (IEF), based in Riyadh, and through the work undertaken by the OPEC Secretariat and the International Energy Agency (IEA).

This includes his chairing of the High-Level Steering Group that developed the 'Cancun Declaration' at the 12th IEF Ministerial Meeting in Cancun in March 2010, which helped better align the work of the IEF, the IEA and OPEC. In the final *communiqué*, he stated: "The Declaration is an embodiment of the shared views of producers and consumers and a recognition of the need for stronger, broader and more effective cooperation."

This quote remains extremely apt today as the Organization looks to build on what has already been achieved through the 'Declaration of Cooperation', including in the longer term through the 'Charter of Cooperation'.

HRH Prince Abdul Aziz Bin Salman.

OPEC history

Prince Abdul Aziz has always had a keen sense of OPEC's history; a man who respects and understands the Organization's past, and who also has an eye on its longer term future. He has borne witness over many decades to the Kingdom of Saudi Arabia facilitating the enhancement of OPEC's reputation, dedicating itself to working towards market stability in the interests of producers, consumers and the global economy.

He appreciates that the country has earned its reputation as a guide and an inspiration for the entire OPEC family, and he will no doubt carry this forward in his new role.

Mohammad Sanusi Barkindo, OPEC Secretary General, said about Prince Abdul Aziz: "It has been a great honour to share many platforms and fora with you, learning from your wisdom, expert judgment and honesty. It was the former US President, Dwight D Eisenhower, who once said about leadership: "The supreme quality for leadership is unquestionably integrity. Without it, no real success is possible."

"It is a quote that succinctly sums up your leadership qualities; ones I have no doubt the Organization will greatly benefit from as we navigate a pathway through an ever-evolving oil and energy market landscape."

Khalid A Al-Falih: three years of outstanding leadership

Following his appointment as the Kingdom of Saudi Arabia's Minister of Energy, Industry and Mineral Resources, in May 2016, ***Khalid A Al-Falih*** *helped OPEC bring on board a number of non-OPEC producers and embark on a historic journey through the 'Declaration of Cooperation'. The* OPEC Bulletin *recalls some of the highlights and underscores the exceptional contribution he made to the Organization's recent successes.*

Khalid A Al-Falih.

The commencement of Al-Falih's term as Saudi Arabia's Minister of Energy, Industry and Mineral Resources in May 2016 coincided with a period of intense diplomacy as industry stakeholders grappled with the unprecedented previous two-year downturn that impacted every sinew of the global oil industry. It was clear 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.

In the second half of 2016 there were numerous bilateral and multilateral meetings and consultations concerning the challenges OPEC and the industry faced, with many OPEC Ministers, non-OPEC Ministers, as well as some Heads of State and Government engaging in the process of rebalancing the oil market, and expressing their views on the need to see sustainable stability return.

Al-Falih provided a pivotal role in this shuttle diplomacy, in bringing all the key parties together. From OPEC's perspective, this led to the decision taken in Algiers by all OPEC Member Countries at the 170th (Extraordinary) Meeting of the OPEC Conference on September 28, 2016. The decision reaffirmed OPEC's continued commitment to stable markets, in the interests of both producers and consumers.

As Al-Falih mentioned following this landmark decision, this was only the beginning, not the end; it was vital to establish a platform from where both OPEC and non-OPEC producers could take pro-active measures that would ensure a balanced oil market on a sustainable basis. Turning the decision into a lasting and viable solution for oil market stability took a great deal of hard work, commitment, courage and compromise from every OPEC Member Country and many non-OPEC producers too.

The efforts Al-Falih undertook, alongside others, were realized at the 171st Meeting of the OPEC Conference on November 30, 2016, and the First OPEC and non-OPEC Ministerial Meeting on December 10, 2016, with the formation of the historic 'Declaration of Cooperation'.

Conference President in 2017

In 2017, Al-Falih assumed the Conference Presidency at a key moment as the implementation of the 2016 landmark decisions got underway with the oversight of the Joint Ministerial Monitoring Committee (JMMC) and the Joint Technical Committee (JTC), supported by the OPEC Secretariat. Moreover, in 2018, and again in 2019, he assumed the position of Co-Chair of the JMMC.

His exceptional judgment and leadership have enabled these bodies to establish themselves as the cornerstones of the 'Declaration of Cooperation'. He always made himself available to provide direction, and the Organization was always extremely grateful for his attendance at the first 15 meetings of the JMMC.

His diplomatic skills, both within OPEC and with participating non-OPEC producers, have been a central pillar on which the 'Declaration of Cooperation' has been built. This was evident in the strong and mutually supportive relationship that evolved between Al-Falih and Alexander Novak, Minister of Energy of the Russian Federation.

This was perfectly underlined at the press conference following the successful outcome of the 3rd OPEC and non-OPEC Ministerial Meeting, where the two ministers were co-Chairs, when Al-Falih said of the relationship: "You cannot find light between us; we have been united shoulder to shoulder."

Al-Falih has been a pillar of stability and a rock of dependability for the 'Declaration of Cooperation'. His devotedness to the cause never wavered, which can be viewed in the continual shuttling he undertook between countries; his positive support and recognition of the achievements the 'Declaration' has made along the way; and his consistent and coherent narrative of the importance that every country reaches their individual 100 per cent conformity level. To put it simply: he was always steadfast and unswerving in his reminders that each and every participant must stay the course.

This includes his part in the decisions taken to extend the voluntary production adjustments at the Ministerial meetings in May and December 2017; to be agile and flexible to modify course in June 2018, when participants to the 'Declaration' saw conformity levels with the voluntary production adjustments overshoot; to renew and realign the adjustments in December 2018; and to extend the timeline for these further in July 2019.

Saudi Arabia's leadership

The leadership of Al-Falih's country, the Kingdom of Saudi Arabia, in the implementation of the 'Declaration of Cooperation' should also be highly acclaimed. Following the decision taken between OPEC and non-OPEC countries on December 10, 2016, the Kingdom of Saudi Arabia was the first country to notify its customers of the impact of the agreed production adjustments. It was also the first to realign its export volumes to bring them in line with the adjustments, in the spirit of the 'Declaration of Cooperation', and has led the way in terms of conformity efforts over the past three years.


Khalid A Al-Falih.

There is no doubt that future OPEC historians, as well as those from the industry, will write many chapters about Al-Falih's term in office and the role he played in the 'Declaration of Cooperation'. The 'Declaration' is unparalleled in the history of the oil industry. It has had a transformational impact and has received the backing of other producers, as well as consumers. It has broken long standing barriers and turned a new glorious page in the history of oil.

OPEC now looks forward to working with his successor, HRH Prince Abdulaziz bin Salman Bin Abdulaziz Al-Saud. His wise counsel, many decades of experience in OPEC circles and the determination to do what is best for his country and OPEC, make him ideally suited to further build on the platforms that Al-Falih has helped lay.

Personal reflection

On a personal note, OPEC Secretary General, Mohammad Sanusi Barkindo, said: "Over the past three years I have found working with you a thoroughly rewarding and enriching experience. I feel very fortunate and blessed to count you as a dear friend and I have many treasured memories of us working together.

"Let me to take this opportunity to wish you and your family every success, health and happiness in your future endeavours. I have no doubt that the next chapter of your career will be as fruitful as the journey until now. You will always be a Member of the OPEC family and the doors of the Secretariat are always open to welcome you when you visit Vienna in the future."

OPEC Secretary General addresses APPEC 2019

*In a video-taped message to the 2019 Asia Pacific Petroleum Conference held in Singapore, OPEC Secretary General, **Mohammad Sanusi Barkindo**, assured Asian delegates that OPEC would continue to be a loyal supplier of oil and gas to help support the continent's future economic expansion.*

Mohammad Sanusi Barkindo, OPEC Secretary General.

Crucial to achieving this, he said, would be the ongoing efforts of OPEC and its Non-OPEC partners of the 'Declaration of Cooperation' (DoC) to foster a sustainable stability in the global oil markets.

"The unprecedented and highly successful OPEC and non-OPEC 'Declaration of Cooperation' is the result of the historic production adjustment decisions that were taken by OPEC and participating non-OPEC producing nations in December 2016," he said. "This courageous act rescued the global oil market from one of its worst crises in history. The overwhelming support for this decision sent a clear message to the global oil market that these 24 participating nations are fully dedicated to achieving a lasting stability in the global oil market."

It was also pointed out that, as one of the world's largest energy consumers, Asia stands to benefit greatly from the ongoing efforts of the DoC.

"Let me be clear, this proactive stance is not just in the interest of producers, but will clearly benefit consumers – the largest of which are located on this continent. In addition, these efforts continue to provide valuable support to the world economy," he stated.

Since the DoC's inception, the Secretary General noted, there have been noticeable improvements in the oil market conditions, with a renewed confidence and a steady recovery in investments.

The recent onset of economic uncertainty, however, due predominantly to global trade disputes, geopolitical tensions and some slowdown in demand, have presented some downside pressure to the market. With this in mind, the participating countries of the DoC decided to take further steps to ensure an enduring stability in the oil market.

"These factors contributed to the resolute decision of the OPEC and non-OPEC countries of the 'Declaration of Cooperation' to continue working together for the benefit of this industry. In fact, it reinforced and perhaps accelerated plans to institutionalize this cooperation on a permanent basis for the very objective of sustainable market

stability," Barkindo said. "In this regard, a new Charter of Cooperation was endorsed at the 6th OPEC-non-OPEC Ministerial Meeting. This Charter is a high-level voluntary commitment that will provide a forum for continuous, pro-active dialogue between countries in the Declaration of Cooperation at both ministerial and technical levels. It will also be an effective platform for the promotion of a sustainable stability in the oil market."

Engine for future growth

It was noted that with the continent's rapid population growth, expanding economies, a rising middle class and the trend towards urbanization and industrialization, Asia will make up the lion's share of future world oil demand.

"We expect global oil demand to grow by around 12 million barrels a day until 2040 — at which time it could reach a level of approximately 111 million barrels/day," the Secretary General explained.

"A large part of the incremental oil demand will come from emerging and developing economies in Asia. In fact, these countries will see almost 14m b/d of additional oil demand, which is more than the global incremental demand rate, due mainly to the decline of demand in the OECD region."

These developments will naturally result in impressive economic expansion rates on the continent, with GDP growth in India and China estimated to average 6.3 per cent and 4.6 per cent per year, respectively, to the year 2040. Additionally, India and China's combined global share of real GDP is set to rise from 26 per cent in 2018 to nearly 40 per cent in 2040.

Refinery capacity, he added, is also set to rise, thus further boosting the requirements for crude oil. The Middle East will continue to be Asia's main provider in the long term, with crude exports to the Asia Pacific region expected to increase by more than 5m b/d between 2018 and 2040, and then rising to 20m b/d by 2040.

Stability and investment are crucial

It was cited that, in addition to a stable oil market, steady, robust long-term investment would be required to see this massive Asian growth outlook come to fruition.

"I must stress here, though, that these impressive growth scenarios are dependent on an oil market that is balanced and stable, which is the only basis for restoring confidence and incentivizing long-term investment in the industry," Barkindo said. "And this is no small task, when you consider that the estimated amount of investment required to fuel this industry is more than $10 trillion over the period to 2040."

Although there has been a pick-up in investment over the last two years, it was pointed out that much more will be required to ensure that long-term projects will be adequately funded to avoid any potential supply gaps in the future.

"OPEC Member Countries remain committed to investments across the value chain, including investments with partners in the major consuming countries in Asia," he stated.

"However, to make lasting headway, we must see all stakeholders in the industry rally to combat volatility and help ensure that long-term investments reach the required levels again. No one producer or group of producers can shoulder this heavy burden. It is a shared responsibility for the good of all."

Importance of dialogue

The many efforts of OPEC to dialogue with stakeholders across the value chain have proven to be highly valuable and are set to increase in importance in the years ahead.

"OPEC has a rich history of outreach and dialogue with industry partners across the world, including Asia. China and India have joined the series of well-established high-level energy dialogues held each year with the European Union and the Russian Federation," Barkindo pointed out.

"This is a clear reflection of the importance of Asia to OPEC's Member Countries. These initiatives provide a valuable forum for engaging discussions and information exchange on crucial issues of mutual interest. Our hope is that these efforts will evolve into long-term partnerships that will bring benefits to all involved stakeholders."

In this spirit, the Secretary General closed with a special invitation to the Asian energy sector.

"I invite our industry partners from across the Asian continent to join us in these vital efforts," he said. "Together, we will endeavor to support Asia's future economic growth through a steady and secure supply of oil and gas, helping to ensure prosperity for future generations."

Ban Ki-moon (l), former UN Secretary General, was accompanied during his visit to the OPEC Secretariat by his wife, Yoo Soon-taek.

Ban Ki-moon visits OPEC Secretariat

The former Secretary General of the United Nations lauds OPEC's history of multilateralism, close ties with the UN and its commitment to cooperation.

Former UN Secretary General Ban Ki-moon praised OPEC's history of support for UN initiatives and multilateral engagement, noting that the Organization was founded in the spirit of intergovernmental cooperation nearly 60 years ago.

During a visit to the OPEC Secretariat on August 28, 2019, Ban commended OPEC on its international role and the leadership and contributions of OPEC Secretary General, Mohammad Sanusi Barkindo, to intergovernmental initiatives.

"OPEC has always sought to undertake its activities in strict conformity with the UN's principles and purposes. Indeed, the OPEC Secretariat has been a regular participant in meetings of various institutions and agencies of the UN," he said.

"Over the years, OPEC has actively participated in UN-sponsored climate change negotiations, particularly through its observer status at the Conference of the Parties to the UN Framework Convention on Climate Change.

Ban Ki-moon (r), former UN Secretary General, with Mohammad Sanusi Barkindo, OPEC Secretary General.

"I know Barkindo has been a veteran of these negotiations," he added.

Ban headed the United Nations from 2007–16, deploying his diplomatic and personal skills to oversee implementation of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) while championing the UN climate framework and the Sustainable Energy for All initiative.

Ban was accompanied during his visit to the OPEC Secretariat by his wife, Yoo Soon-taek. In his remarks, Ban described OPEC as "an intergovernmental organization which takes the principles of multilateralism seriously. And this has been seen in the 'Declaration of Cooperation' and 'Charter of Cooperation' that you have agreed with ten non-OPEC oil producing countries. Under this initiative, 24 countries have come together to work for sustainable oil market stability in the interests of producers, consumers and the global economy."

"We live in a world where the concept of multilateralism is under attack," said Ban. "However, the long experience of the UN and OPEC has shown that

Ban Ki-moon (third r), former UN Secretary General; and Mohammad Sanusi Barkindo (c), OPEC Secretary General; with their respective teams. Ban's wife, Yoo Soon-taek, is at his left.

the peoples of the world stand to gain more by working together, respecting all nations, under a rules-based order."

'Extraordinary man'

In welcoming the former UN leader to OPEC, Barkindo recalled that their paths crossed regularly at the annual UN Framework Convention on Climate Change (UNFCCC) meetings, "of which Ban never missed one during his ten-year tenure as UN Secretary General."

"Ban is an extraordinary man whose dedication to the UN's mission of preventing conflict, peace-making, improving human welfare and fostering sustainable development will be long remembered throughout the international community," Barkindo said.

Barkindo continued, "His tireless work to advance cooperation among nations during his two terms as

Secretary General, from 2007–16, overlap our own goals at OPEC as demonstrated most clearly through our enduring efforts to support sustainable development by helping to ensure oil market stability."

Throughout his career as a South Korean diplomat, foreign minister and later UN Secretary General, Ban was often in Vienna. After leaving the UN's top post in 2016, he established the Ban Ki-moon Centre for Global Citizens in the Austrian capital, an organization co-chaired by Austria's former President, Heinz Fischer. The Centre works within the SDG framework to empower women and young people so they can thrive as global citizens and leaders.

"We welcome this initiative and look forward to a long and collaborative relationship with you here in Vienna and around the world," Barkindo said in welcoming the Ban Centre as a new neighbour in Vienna.

Shared vision

Both Ban and Barkindo stressed the importance of the SDGs and the UN climate change framework in addressing global challenges.

Barkindo noted that Ban launched the Sustainable Energy for All initiative as a multi-stakeholder approach to end energy poverty as outlined in SDG 7. OPEC embraced the inclusion of energy poverty in the SDGs and champions the use of a mix of energy resources to alleviate this blight on socioeconomic development.

The OPEC Secretary General also highlighted the shared commitment to the Paris Agreement, which entered into force on November 4, 2016, and builds on the UNFCCC, saying it offers "the opportunity to address climate challenge in a fair and meaningful way, and affirms the value of international dialogue and cooperation."

Ban Ki-moon, former UN Secretary General, after addressing the OPEC Secretariat staff.

The OPEC Secretariat holds inaugural technology workshops

The OPEC Secretariat held two workshops on September 17–18, 2019, one on energy technology and the other on information technology. This is the first time these workshops have been offered in this comprehensive format and with this breadth of content.

Industry experts were invited to provide their input on these very important topics, which proved to be a successful formula. There were fruitful interactions among the experts, resource persons and Member Country delegates.

While reiterating the importance of the critical role of technology in the oil industry, it was particularly emphasized how quickly technology is changing and the need to be on the ground level of this transformation.

The Secretary General, in addressing delegates at the outset of the two-day deep-dive into technology, he commended the workshops as a crucial platform for exploring the key issues and exchanging ideas.

"This platform allows us to exchange information and ideas, to network and discuss, in order to provide clarity on upcoming developments and thus help us plan for the future as oil producers," he explained. "The changes coming up are taking place on a grand scale, and market stability is going to remain an essential key to energy security."

Day 1: Energy technology

In his opening remarks at the Energy Technology Workshop, held on September 17, OPEC Secretary General, Mohammad Sanusi Barkindo, said that the oil industry has to keep very close tabs on technology, as it has a very direct impact on the oil market.

He quoted Microsoft founder Bill Gates, who stated: "Technology is unlocking the innate compassion we have for our fellow human beings," adding that it is indeed technology that is going to solve some of the most difficult problems the world is facing today and improve life for all on the planet, as it has done historically.

After drawing comparisons to how much the automobile has changed in the past 100 years, advancing so far in such a short time, the Secretary General asked, "What is coming in the future?"

In the first session on *road transportation technology,* the experts looked at the future of the internal combustion engine, current and future developments in electric vehicles, charging infrastructure challenges for urban power grids and technological advances for commercial vehicles and buses.

The second session examined *marine transport,* which is one of the most ancient and widely used transportation methods.

"Seaborne trade has quadrupled in the past half century and continues to grow at a rate of more than four per cent per year. Since more than 90 per cent of world trade is moved by the maritime commercial shipping industry, this is a very important area for us to examine." said the Secretary General, adding "we have come a long way since Christopher Columbus!"

The session examined current trends in marine transportation, including marine engines and emissions, advances in ship building as well as issues and challenges relevant to shippers.

A final session was held on national conglomerates and economic diversification. During his remarks, the Secretary General reflected on a previous visit he made to MAPNA, an Iranian conglomerate involved in the development and execution of thermal and renewable power plants, oil and gas, railway transportation and equipment manufacturing.

"Included in today's discussion is MAPNA from IR Iran, which I had the great pleasure to visit a few months ago. This company showed me how innovative and creative a conglomerate can be," he said.

He added: "I want to reiterate that OPEC fully embraces technology. From carbon capture and storage to transportation technology, it is the only way forward to both reach the goal of the Paris Agreement while supporting sustainable development and putting an end to the scourge of energy poverty."

He concluded by stating that oil is going to continue to be the main leader in filling energy requirements for the foreseeable future. "We need to ensure that this vital global resource continues to fuel the world, in a secure, reliable and ever-cleaner manner."

Day two: Information technology

Day two featured the Workshop on Information Technology. During his opening remarks, Barkindo stated that technology can bring great benefits to the oil industry, the climate and mankind in general, adding that information technology is advancing at head-spinning speed.

"The 21st century has witnessed an explosion of energy-related data and 90 per cent of this has been generated over the last two years. Data production will be 44 times greater in 2020 than it was in 2009, he pointed out."

Barkindo added that digitalization and automation in the oil industry has the potential to lead to great gains, bringing benefits to companies in day-to-day operations, as well as cost reductions. "An increase of just 1 per cent in the average oil recovery ratio — which is at around 35 per cent today — would reflect an equivalent of a few years of production."

Digitalization allows operators to reduce production disruptions and improve maintenance. Collected data across the whole value chain identifies potentially

high-cost issues ahead of time. And there are great benefits for health, safety, security and environmental performance, he stated.

He quoted Charles Darwin, known for his science of evolution theories, who insightfully said in the 1800s, "It's not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change."

To shed some light on these challenges the first session looked at the *Digital transformation in the oil industry: drivers, challenges and opportunities; Artificial intelligence in the oil and gas industries; Digitalization breakthroughs and operational gains; and Optimizing operations and maintenance using robotics*.

The second and third sessions examined blockchain technology, its inception, how it works and finally blockchain in the energy and financial sectors, including: Tracking Energy Data Using Blockchain: Platts Experience in Fujairah; Blockchain in Oil and Gas Trading; and Leveraging on Blockchain for Efficient Trading Ecosystems.

In reference to the advances in blockchain technology, the Secretary General pointed out that it will be crucial for transparent and efficient communication and the fluid exchange of data and information.

"Today more than ever, cooperation is key to the success of our endeavours," he said. "This technology provides a way to create trust among different parties in supporting timeliness, transparency and integrity in transactions, such as data exchange technology for several energy ecosystems. It promises to truly be a game changer."

The Secretary General also emphasized the fact that new and exciting technologies are exciting and offer myriad opportunities, yet they also present challenges. Mastering the technology of the future, he added, would be a matter of survival.

"I am sure that you are all as excited about what the future holds for our industry as I am", he stated. "As we have seen before, any new technology brings with it its own set of challenges. Cybersecurity, technology transfer, human capacity building and change management are among those we face today. For all of us, it will be essential to our survival in a competitive world and industry to learn about these new technologies and what they can offer our businesses."

After a successful conclusion of the two-day event, the Secretary General closed by thanking the guest speakers and the Member Country representatives for their valuable contributions, adding, "You have given us a stepping stone to the future, and we will alight on that path."

OPEC

Monthly Oil Market Report

Download
the OPEC MOMR App free of charge!

- **Essential information on the oil market**
- **100+ interactive articles and tables detailing crude price movements, oil futures, prices and much more**
- **Analysis of the world economy, world oil supply and demand**
- **Compare data interactively and maximize information extraction**

RAG AUSTRIA AG

Markus Mitteregger, CEO of RAG Austria AG.

RAG

'Well prepared for the future'

Austria's oldest continuously operating oil company employs pioneering technology to extend the life of its fields and is developing cross-cutting technologies to ensure sustainable energy supplies. ***Markus Mitteregger****, the CEO of RAG Austria AG, explains the importance of innovation in an interview with the* OPEC Bulletin.

RAG Austria AG is a Vienna-based energy company focused on natural gas storage and supply, as well as petroleum exploration and discovery. The company is Austria's largest gas storage operator — and hence energy storage provider — and one of Europe's leading storage facility operators.

RAG is also an innovator, working with a consortium of research and energy partners on the Underground Sun Conversion venture. This pioneering project taps into surplus solar and wind energy to produce hydrogen that is then stored in depleted natural gas reservoirs. The hydrogen itself can then be converted into renewable gas to help balance energy demand, especially during peak periods such as Austria's winter heating season. The project's research phase is expected to be completed in the next two years at a RAG facility in the town of Unterpilsbach, 240 km west of Vienna.

Although a small oil producer, the company has also pioneered extraction technologies to prolong the life of fields.

In the following interview, the company's CEO Markus Mitteregger discusses the industry's traditional and future production potential.


RAG

Question: RAG is the oldest continuously operating oil company in Austria, dating to 1935. Where does Austria fit amongst oil producing nations?

Answer: Compared to other countries, Austria has a small percentage of indigenous oil production. But nevertheless this forms a crucial part of the raw material demand of the Austrian industry.

You have been producing oil at the Gaiselberg field in Zistersdorf, Lower Austria, for 80 years, and have managed to successfully develop new oil fields that other producers might have abandoned long ago. What is your secret to success?

Due to mature fields with high water cuts, sand production, waxing, corrosion and high environmental standards, RAG was forced to develop new technologies. With our spin-off company RAGSOL, we offer a novel approach for oil field digitization. The objective is to organize a shift in smart technology — data generation, transmission, analysis and visualization — to state-of-the-art conditions in mature brownfields. As a result, we can see production optimization within a short period: reduction of unit operational costs between 25 and 40 per cent, an average runtime of seven years for a sucker rod pump system, annual cost savings and increased production thanks to longer life spans and reduced operational costs. Improved efficiency reduces failures and the need for workovers.

Speaking of innovation, you began working on the Underground Sun Conversion project in 2015. What is the status of this project?

The aim of this R&D project is to convert excess renewable energy into hydrogen. This hydrogen together with CO_2 is injected into a sandstone reservoir. In the presence

The Underground Sun Conversion venture; the project's research phase is expected to be completed in the next two years at a RAG facility in the town of Unterpilsbach, 240 km west of Vienna.

of naturally existing microbes, the hydrogen and the CO_2 should be biologically converted back into methane — natural gas. We discovered this natural process during our previous research project, which we called 'underground sun storage'.

We have conducted intensive laboratory tests and also the first field tests to prove this concept. The next step is to establish a circular mode, using one well for injection of a hydrogen/CO_2 mix and to hopefully withdraw from a newly drilled second well new and green methane-gas produced by the microbes in the reservoir. If this 'carbon cycle' shows the continuous production of this 'green' gas, we will then plan sun conversion projects on an industrial scale.

What commercial potential does the Underground Sun Conversion project have for other production and storage companies?

The potential in the global future of energy is huge. As Europe's fourth-largest natural gas storage operator, we are crucial to energy supply security, not just in Austria, but also in neighbouring countries, as our facilities are also linked to their gas grids. Cleaner and more efficient than other fossil fuels, natural gas will be an important source of stored energy for decades to come, not least because it can easily be used to balance fluctuations in solar and wind production levels to provide a stable energy supply to customers.

However, a major research focus for RAG is energy storage beyond the fossil gas era. We wanted to know if we could reuse our existing natural gas reservoirs, with a capacity of about six billion cubic metres, for the long-term, large-scale storage of hydrogen made from solar energy.

In this major trial, we demonstrated that naturally formed underground reservoirs and associated pipelines

could be the perfect solution to the challenge of hydrogen storage and distribution.

We estimate that ten per cent of gas reservoirs worldwide could be suitable for the microbiological conversion of renewable energy to synthetic natural gas. Once the concept is fully proven, which we hope will be by the end of 2019, we will approach potential partners with a view to initiating similar sun storage and sun conversion projects in other countries.

Gas guarantees secure, sustainable and affordable energy, and RAG wants to prove that it can also be green on a large scale.

According to* OPEC's World Oil Outlook (WOO), *oil and natural gas are projected to remain the leading sources of energy through at least 2040, accounting for more than half of energy demand. Despite this, there is increasing pressure on investors to either divest from the petroleum industry or cap their investments. What impact does that have on a smaller company like RAG Austria AG and — more broadly — the industry itself?

For our company, local oil production is already marginal but important as raw material for the industry. RAG has converted around half of all its natural gas reservoirs into

storage facilities over the past 20 years. The working gas capacity of more than 6bn cu m at storage facilities operated by RAG is used by domestic and foreign customers.

The energy transformation can only succeed if security of supply is guaranteed. The existing gas infrastructure, including storage facilities, means that sufficient energy is always on tap when it is needed. Austria's unique geological structures and its location in the heart of Europe put it in a position to underpin security of supply by acting as an energy storage leader — by storing natural und green gas. In a situation of climbing global energy consumption, intensive research and major technological breakthroughs are essential if today's climate change targets are to be met. Recent studies show that although extensive decarbonization represents a considerable challenge, rapid technological progress makes it feasible, and it has a chance of being economically viable. These structural changes in the energy sector present an enormous opportunity for innovative technologies, services and ideas.

For some time now, RAG has been working on promising solutions that respond to the changed situation with regard to energy policy and the energy sector. We feel well prepared for the future.

Sustainability:
Lights, camera, action!

RAG Austria AG's Underground Sun Conversion project in the state of Upper Austria is not only the site of ground-breaking energy research, it also recently became the setting for an artistic film focusing on sustainability.

The Austrian artist Johannes Deutsch is producing a video essay about sustainability filmed at seven sites in Austria, featuring art displayed in some of the country's most scenic natural settings, as well as urban and industrial locations. The photos featured here were taken in August during filming at RAG's Underground Sun Conversion project location and reflect the close link between creativity and technology as a means to inspire sustainability.

Deutsch plans to show the film next year in cooperation with Austria's ORF public broadcaster. Among those featured in the film is RAG Austria AG CEO Markus Mitteregger, a supporter of the art project.

"RAG was contacted two years ago by the Austrian artist Johannes Deutsch. He presented his very interesting project 'The Abduction of Proserpina', which focuses on the mythology between the upper world and the underworld. Since we as a mining company deal with the 'Underworld', the idea arose from the discussions to shoot one of the scenes of the film at our facility, where the research project Underground Sun Conversion is currently being carried out. Personally this art project appealed to me very much, because I learned the old languages Latin and Greek and the mythological stories during my school time."

— Markus Mitteregger, CEO, RAG.

Photographs provided by Johannes Deutsch.

Shutterstock

ADNOC: UAE's energy giant reaches new heights

The United Arab Emirates (UAE) is a key producer and net exporter of crude oil. In 1958, oil was discovered for the first time in the country. Rapid growth in the size and importance of the industry led to the establishment of the Abu Dhabi National Oil Company (ADNOC) in 1971.

The OPEC Bulletin's Ayman Almusallam files this report on ADNOC's rise to success and its ambitious future plans as outlined in its Strategy 2030.

Crude oil was first discovered in the UAE in 1958 following a nearly 30-year period of exploration. These persistent efforts paid off when the country developed the Murban-3 oil well, which began producing more than 3,000 barrels/day.

The Emirati success story continued with the development of a series of oil fields — Bu Hasa, West of Bab, the Bida Al Qemzan, Asab, Shah and Sahil — which were completed in a short period of time. In 1971, the late, great leader and founder of the UAE, Sheikh Zayed bin Sultan Al Nahyan, established ADNOC to help manage these increasing oil and gas assets in support of his vision for a growing and prosperous nation.

Ever since, the company has played an integral role in supporting the UAE's economy and social development. Millions of Emiratis have benefited from these significant efforts as the quality of life has risen steadily over the years.

ADNOC headquarters in Abu Dhabi.

ADNOC describes its current strength and importance on its official website: "Today, while we manage and oversee production of around 3 million b/d of oil, which places us among the largest oil producers in the world, our portfolio has also expanded to include sophisticated refining and petrochemicals businesses; an extensive network of gas and petrol service stations, and a modern transportation fleet that includes LNG and LPG carriers, oil and chemical tankers, bulk carriers and container vessels."

One company, multiple sectors

ADNOC's core areas of operation include exploration and production, refining, marketing and distribution of crude oil, natural gas and petroleum products.

The company also owns a number of subsidiaries specializing in various areas of the value chain. ADNOC Onshore and ADNOC Offshore are two separate upstream affiliates that focus on exploration and production.

As part of its efforts to deliver comprehensive services, ADNOC also established ADNOC Drilling, which owns and operates a large number of drilling rigs.

ADNOC Sour Gas was created to carry out exploration and development of sour gas fields. The firm is also a global producer of sulphur, with its current production rate at one billion standard cubic feet of gas per day.

In an effort to expand its portfolio, ADNOC has also recently embarked on several significant joint ventures with reputable international partners. The China National Petroleum Corporation (CNPC) teamed up with ADNOC to create the Al Yasat Petroleum joint venture in 2014 to further its onshore and offshore E&P efforts in Abu Dhabi.

Al Dhafra Petroleum is an emerging upstream joint venture between majority owner ADNOC (60 per cent) and minority shareholders Korea National Oil Corporation (KNOC) and GS Energy, who together hold 40 per cent. The company is focused on identifying and unlocking the potential of undeveloped oil and gas fields in the UAE.

High-level support

Sultan Ahmed Al Jaber, ADNOC's Chief Executive Officer and Minister of State, attributes much of the company's success to the loyal support of the country's leadership.

"With the guidance and unwavering support of our wise leadership, HH Sheikh Khalifa Bin Zayed Al-Nahyan, President of the UAE and Ruler of Abu Dhabi, and HH Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE's Armed Forces, ADNOC has always been an important cornerstone of the UAE's success as a nation and will continue to play a pivotal role in its future progress," Al Jaber stated in an address published on the company's website.

Al Jaber has also stressed the importance of enhancing the value of the UAE's hydrocarbon reserves to remain a reliable, consistent energy supplier on a global scale.

"We will do this by focusing on four strategic areas: enhancing the company's performance, increasing profitability, optimizing efficiency and investing in our people," he stated. "ADNOC strives to be the energy that powers the nation and drives the engines of prosperity by unlocking the full potential of our natural and human resources."

2030 strategy

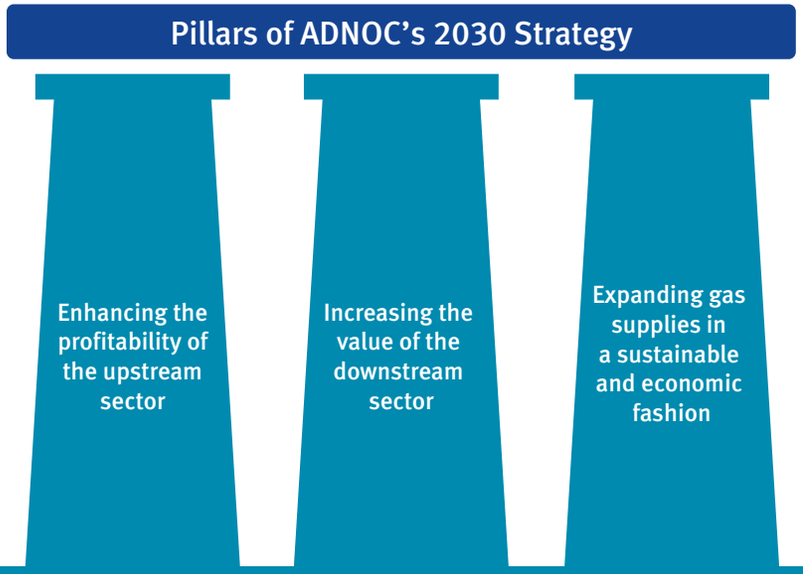
These lofty goals are outlined in ADNOC's *2030 Strategy*, which sets out an ambitious game plan for the company's long-term success.

In the strategy's foreword, Al Jaber comments on the importance of having a clear vision and plan for achieving the company's long-term objectives.

"For over 45 years, ADNOC has been entrusted with Abu Dhabi's oil and gas resources. And while we rightly celebrate our past successes, we must also keep our eye firmly on the future," he commented.

The strategy is built on three pillars: enhancing the profitability of the upstream sector; increasing the value of the downstream sector; and expanding gas supplies in a sustainable and economic fashion.

Through the enhanced development of the firm's upstream sector, the company aims to boost production



capacity to 3.5m b/d while maintaining cost efficiencies, discovering new resources, reviving mature fields and protecting its market share.

The second pillar strives to expand the company's portfolio to encompass a more robust petrochemical sector. This will enable it to grow its refining capacity in order to meet rising demand for value-added products.

In addition to its impressive oil reserves, the UAE enjoys tremendous gas reserves, amounting to 6,090 billion standard cubic metres, according to OPEC's *Annual Statistical Bulletin (ASB)*. It produces natural gas at a rate of 47.62bn standard cu m.

The importance of natural gas to the UAE economy is reflected in it being the third pillar of the 2030 strategy, in which it outlines a comprehensive plan to manage its gas supplies in a more sustainable and efficient manner.

The plan also focuses on a number of other aspects, including enhancing operational efficiency, boosting sour gas production and using CO_2 in enhanced oil recovery (EOR) processes to meet domestic requirements for power.

To successfully achieve these long-term goals, ADNOC has identified four key elements, what it calls "enablers", which it deems to be essential: partnerships, technology, human capital and active engagement with stakeholders.

Major agreements

In support of its 2030 Strategy, ADNOC has signed a number of important agreements with various regional and international partners for joint ventures that will enhance its corporate footprint and broaden its portfolio of products.

ADNOC in numbers

12th largest oil producer in the world

3 million barrels per day

151 oil transportation and support **vessels**

4th largest refiner in the world with a capacity of **920,000 b/d**

Source: www.adnoc.ae

European market

Italy's Eni, Austria's OMV and ADNOC have set up a new joint venture to begin physical and derivatives trading, which is expected to commence in 2020.

The project is expected to concentrate on selling refined products to consumers in Asia and other emerging markets. Eni and OMV have a combined 35 per cent stake in the venture, which is valued at around $5.8bn.

ADNOC signed another strategic agreement with both companies focusing on the refining sector, through which OMV and Eni own 15 and 20 per cent of ADNOC Refining, respectively.

The refining capacity of ADNOC exceeds 920,000 b/d through its Ruwais East and West refineries, as well as a refinery unit located in Abu Dhabi, making the Emirate one of the largest refiners in the world.

Pertamina, Indonesia's energy major

In July 2019, Sheikh Mohammed bin Zayed Al Nahyan, Abu Dhabi's Crown Prince and Deputy Supreme Commander of the UAE's Armed Forces, visited Indonesia, at the invitation of its President, Joko Widodo.

During the high-level visit, a number of business partnerships were finalized between the two countries with an estimated value of $9.7 billion.

On the margins of the visit, ADNOC also inked a deal with Pertamina, Indonesia's state-owned energy company, worth $2.5bn, to begin a new chapter of oil and gas cooperation between the two nations.

The deal encompasses projects in the UAE's upstream oil and gas sector, as well as refining, petrochemicals, LNG, LPG, aviation fuel and fuel retail opportunities in Indonesia.

Additionally, the two countries discussed possibilities for further cooperation in the areas of trade, transportation and storage.

Cooperation with China

ADNOC has also finalized a partnership with the China National Offshore Oil Company (CNOOC) focusing on exploration, field development, refining and LNG trade.

The official signing ceremony took place during a three-day visit of Sheikh Mohammed bin Zayed Al Nahyan to China.

Offshore Oil Engineering Company Ltd and China Oilfield Services Ltd — the engineering arms of CNOOC — will provide design, procurement, construction and oil field services.

Both firms have expressed their intentions to also explore possible avenues for collaboration in developing Abu Dhabi's offshore oil and gas fields.

Shutterstock

An ADNOC gas station.

In another agreement, ADNOC plans to work with China's Wanhua Chemical Group on downstream projects valued at around $12bn.

Finally, ADNOC and CNOOC have established an LNG shipping joint venture with the signing of a ten-year LPG supply agreement in November 2018. The venture will include the operation of two VLGCs.

Expansion in the lubricants market

In light of ADNOC's 2030 strategy to broaden its product offering, ADNOC and the Indian Oil Corporation (IndianOil) signed a long-term partnership for the sale of premium base oil — ADbase.

In addition to being one of the largest firms worldwide, IndianOil is the largest supplier of lubricants in India, with a production volume of around 450,000 tonnes/year.

Acting Senior Vice President of Refined Product Sales in ADNOC's Marketing, Supply and Trading Directorate, Ahmad Bin Thalith, commended the efforts invested to reach this major milestone.

"The signing of this important sales agreement with another major base oil consumer in a large and growing market is testament to the quality and reliability of ADNOC's Group III base oil, ADbase," he said in a comment to UAE's Gulf News. "We look forward to working with IndianOil and to increasing the supply of ADbase to the Indian market, which continues to see strong demand for high quality base oil and finished lubricants."

Enhancing trading and storing capacities

Through its purchase of ten per cent of VTTI, a global energy storage firm supported by Vitol, ADNOC aims to boost its trading and storage capabilities in important markets. The number of storage facilities owned by VTTI is estimated at 15, with a total storage capacity of around 60 million barrels. The terminals are scattered across 14 countries. This acquisition will also raise ADNOC's profile in the Emirate of Fujairah, which hosts important bunkering and storage facilities.

"VTTI's diverse portfolio of storage assets across key target markets such as Asia, Africa and Europe, provides us with direct access to our customers around the world, a key building block to accelerating ADNOC's transformation into a more integrated and commercially minded global energy player," ADNOC CEO Al Jaber told *Energy Intelligence*.

Bright prospects

Since its establishment, ADNOC has played a vital role in supporting the national economy and promoting social development in the UAE. The impact of these efforts has helped raise the everyday quality of life for Emiratis young and old.

With the implementation of its ambitious 2030 strategy, the company is on a trajectory to reach new levels of growth and prosperity, ensuring a bright future for the Emirates in the decades to come.

Saudi Arabia appoints new Minister of Energy

In a royal decree issued on September 8, 2019, by the Custodian of the two Holy Mosques, King Salman Bin Abdulaziz Al-Saud, His Royal Highness Prince Abdul Aziz Bin Salman was appointed as the Kingdom's new Minister of Energy. The industry veteran and dignitary, whose career spans more than 30 years, is a known face and prominent figure among international energy circles, as well as at OPEC.

The distinguished career of Prince Abdul Aziz began in 1985 when he headed the Directorate of Economic and Industrial Studies at the Research Centre of King Fahd University of Petroleum and Minerals in Dhahran, Saudi Arabia.

In 1987, he moved to the Ministry of Petroleum and Mineral Resources (now the Ministry of Energy) to become an Advisor to the Minister, then Hisham M Nazer, and enrich the Ministry with his wealth of knowledge and experience.

In 1995, Prince Abdul Aziz was promoted to become the Undersecretary for Petroleum Affairs at the Ministry of Petroleum and Mineral Resources, a position he held until 2004.

He then became the Assistant to the Kingdom's Minister of Petroleum and Mineral Resources in 2004, where he served until 2015, when he was appointed Vice Minister in the Ministry of Petroleum and Mineral Resources.

In 2017, the Custodian of the two Holy Mosques, King Salman Bin Abdulaziz Al-Saud, appointed him as Minister of State for Energy Affairs and as Member of the nation's Council of Ministers.

Prince Abdul Aziz Bin Salman also headed the joint taskforce, which was comprised of members of the Ministry of Petroleum and Mineral Resources and Saudi Aramco, the country's national oil company, to delineate a comprehensive strategy for petroleum.

The eminent personality is also well-known and respected at OPEC, where he has played a pivotal role in advancing the affairs of the Organization.

In 2005, Prince Abdul Aziz chaired a high-level committee composed of Undersecretaries from OPEC Member Countries, which was mandated to develop OPEC's first long-term strategy.

He also chaired the Founding Committee that was set up to establish the International Energy Forum in Riyadh in 2005. In this context, he also presided over various committees that aimed to develop the framework and practices of the Forum, such as the high-level committee in charge of drafting the IEF's statute.

Prince Abdul Aziz is a member of several bodies and agencies, including the Supreme Council for the Affairs of Hydrocarbon Resources, the Board of Directors of King Abdulaziz City for Science and Technology, the Board of Directors of King Abdullah City for Atomic and Renewable Energy, the Board of Governors of the Oxford Institute for Energy Studies and the International Association for Energy Economics.

He received his Bachelor's degree in industrial management in 1982 and completed his Master's studies in business administration in 1985, both at King Fahd University of Petroleum and Minerals.

OPEC Secretary General congratulates Saudi Arabia's new Minister of Energy

On the sidelines of the 24th World Energy Congress (WEC) in Abu Dhabi, OPEC Secretary General, Mohammad Sanusi Barkindo, extended his heartfelt congratulations to HRH Prince Abdul Aziz Bin Salman, following his recent appointment as the Kingdom's new Minister of Energy.

The Secretary General commended the pivotal role undertaken by Prince Abdul Aziz, particularly during the consultation and implementation phases of the landmark 'Declaration of Cooperation' and 'Charter of Cooperation'.

The WEC brought together industry leaders, dignitaries and policy makers from around the world, and coincided with the convening of the 16th Meeting of the Joint Ministerial Monitoring Committee (JMMC) and the 33rd Meeting of the Joint Technical Committee (JTC) in the Emirati capital.

Nigeria names new Minister of State for Petroleum Resources

Timipre Sylva, a former governor of oil-rich Bayelsa state, has a distinguished career in the public and private sectors.

Timipre Sylva, Nigeria's new Minister of State for Petroleum Resources, presided over one of the Niger Delta's main oil-producing regions during his tenure as governor Bayelsa state.

OPEC Secretary General, Mohammad Sanusi Barkindo, congratulated the new Minister of State after he was sworn in to his new role in Abuja.

"I am excited by the prospect of working closely with you as a new chapter is written in the success story which is Nigeria's contribution to OPEC," Barkindo said, adding:

"You join the OPEC family at a critical time in our history. The historic 'Declaration of Cooperation', signed on December 10, 2016, has succeeded in rescuing the oil industry from the most severe downturn in its history.

Twenty-four oil producing countries have come together to work towards the noble objective of oil market stability in the interests of producers, consumers and the global economy. With the endorsement of the 'Charter of Cooperation' on July 2, 2019, at the 6th OPEC and non-OPEC Ministerial Meeting, the partners have developed a platform to facilitate dialogue among the participating countries, based on the principles of equity, transparency and fairness.

"We are now entering the critical phase of operationalizing the 'Charter of Cooperation.' Therefore your contributions based on your rich experience as a veteran of the oil industry will be invaluable. Nigeria is also a member of the Joint Ministerial Monitoring Committee and I have no doubt that you will be a tremendous asset to that particular forum."

Barkindo noted that there have been several recent expressions of support from critical stakeholders in Nigeria for the country's unwavering commitment to the 'Declaration of Cooperation' process. In the letter to Sylva, he said: "Given your immense gravitas and stature, as well as the respect and esteem which you command, your personal engagement will elevate this commitment to even greater heights."

Sylva was among the 43 cabinet ministers sworn in by President Muhammadu Buhari on August 20. His predecessor, Dr Emmanuel Ibe Kachikwu, was Minister of State of Petroleum Resources from 2015 to earlier this year and President of the OPEC Conference in 2015.

Visit to NNPC

After the swearing in, Sylva visited the Nigerian National Petroleum Corporation (NNPC) Towers in Abuja where he was welcomed by Mallam Mele Kyari, Group Managing Director of NNPC; Dr Bello Aliyu Gusau, Executive Secretary of the Petroleum Training Development Fund (PTDF); and Alhaji Ahmed Bobboi, Executive Secretary of the Petroleum Equalization Fund (PEF), according to an NNPC press release.

In his remarks at NNPC, Sylva pledged to "chart a way forward for the Nigerian petroleum sector," according to the release.

Sylva has a distinguished career spanning both the public and private sectors. Besides serving as governor of Bayelsa from 2007–12, a state that also holds major gas reserves, he also worked as an advisor to the Minister of Petroleum Resources and earlier in his career was a member of the House of Assembly in what was then known as Rivers State.

A member of OPEC since 1971, Nigeria continues to play a prominent and growing role as a global energy provider. In addition to being Africa's largest country with a population of 183 million, it exports more than 1.8 million barrels/day, making it the continent's largest crude oil exporter.

Congo celebrates its first onshore discovery

Jean-Marc Thystere Tchicaya, Congo's Minister of Hydrocarbons.

The Republic of the Congo recently announced its first onshore oil findings in the northern region of the African nation. The new discovery could add an estimated 983,000 b/d to the country's current crude oil production of 350,000 b/d.

Jean-Marc Thystere Tchicaya, Minister of Hydrocarbons, lauded the new achievement and expressed his hope that the new discovery will spur on further investment in the country's hydrocarbons sector.

"This is our first onshore discovery and it gives us a lot of hope that we shall make more discoveries, especially now that we are to award more blocks for oil exploration in the ongoing oil licensing round," he said in an interview with S&P Global Platts.

The new finding is expected to expand the country's oil reserves by 359 million barrels and could bring in revenue upwards of $10 billion/year, potentially doubling the nation's GDP. With the boost from this discovery, Congo's aggregate production levels could approach those of fellow OPEC producers Angola and Nigeria, which produce 1.4 million b/d and 1.6m b/d, respectively.

Ecuador offers oil port and refinery tenders to private firms

A refurbished oil refinery in Esmeraldas, Ecuador.

Private firms in Ecuador were invited to submit their bids for developing a port and for the construction of a new refinery to replace the country's ageing Esmeraldas facility.

Ecuador's Presidential Advisor, Santiago Cuesta, highlighted the necessity of building a new refinery to address current and future environmental challenges.

"The Esmeraldas refinery has to close because of pollution," he said. "A new one that is less polluting, under Euro 5 [emissions] norms, incomparable to what we have now, will be offered in concession."

The new refinery will process heavier grades of crude oil and produce more environmentally friendly products. The offered tenders are expected to generate an impressive amount of capital, amounting to as much as $6 billion, and create around 1,000 new jobs. The 42-year-old PetroEcuador refinery reached a production rate of 110,000 barrels/day.

The OPEC Member will also offer up Esmeraldas's oil terminal as a long-term concession, which will be awarded next year.

Cuesta noted that 50 per cent of the generated revenue will be given to the city of Esmeraldas to compensate for any contamination caused by the refinery.

The remaining 50 per cent will be allocated to the government for the first five years, after which it will be diverted to the city. He also noted that the process would not result in the dismissal of staff members.

Equatorial Guinea expands its natural gas portfolio

In a concrete effort to enhance its LNG sector, Equatorial Guinea inaugurated its first LNG storage and regasification plant on the West African coast. The new project is set to diversify the African nation's portfolio to include the lucrative gas industry.

Built at the Port of Akonikien, the storage capacity is estimated at 14,000 cubic metres, spread over 12 tanks. The project will also provide the OPEC Member with an opportunity to transport gas on the mainland, and will feature a truck-loading station as well as 12 kilometres of gas and diesel pipeline.

Equatorial Guinea's Minister of Industry, Mines and Energy, Gabriel Mbaga Obiang Lima, lauded the new project and the constructive, long-term cooperation between his country and the LNG2AFRICA initiative.

"LNG2AFRICA has a clear objective of developing small-scale LNG projects to supply gas to countries and regions with limited infrastructure," Obiang Lima said in a press statement.

"At a time when Africa's large-scale LNG projects are making headlines, let's remind ourselves that smaller-scale projects addressing the needs of energy-deficient regions provide opportunities to monetize our gas for our economies, and to mobilize our local companies around key infrastructure projects for the region," he added.

The project serves as a prime example of energy solutions that are focused on efficiency and clean energy, illustrating Equatorial Guinea's strategy of expanding its portfolio from crude oil production and exports to becoming a leading player in the African gas and LNG industries.

Equatorial Guinea's Minister of Industry, Mines and Energy, Gabriel Mbaga Obiang Lima.

Iraq continues to sign new growth projects

According to *Reuters,* Iraq has announced plans to build a giant island to help it boost exports. The project, which is considered to be the largest man-made island in the Gulf, will have a production capacity of two million barrels/day and a storage potential totalling 6m b of oil.

Ihsan Ismaeel Al-Saade, Director General, Basrah Oil Company, Iraq, emphasized the importance of the project to Iraq's economy and oil industry.

"This will largely boost Iraq's oil industry and achieve the crude export targets in the long term," he said.

He added that the oil firm is planning to sign a consultancy agreement with a Dutch company to further develop the project. The contract will include logistics, technical services, as well as engineering plans.

In another important development, *Energy Intelligence* reports that Chevron has awarded the contract for the construction of a 20,000 b/d central processing facility at its Sarta field in Iraqi Kurdistan to Oilserv, a UAE-based contractor, who will work alongside minority partner Genel Energy. Production is scheduled to start up in mid-2020.

The first phase of development entails a low-cost pilot project designed to recover proved and probable gross reserves of 34m b, Genel said. Subsequent expansion will depend on production behaviour and the outcome of several subsequent well appraisals. According to Genel's estimates, the main reservoir of the Sarta field could contain significant resources of up to 150m b, which would give it a similar size to Iraq's Peshkabir field.

A founding Member of OPEC, Iraq exported 4.4m b/d of crude oil in 2018, and possesses tremendous proven reserves amounting to 145.02 billion barrels, according to OPEC's *Annual Statistical Bulletin*.

Ihsan Ismaeel Al-Saade, Director General, Basrah Oil Company, Iraq.

Bill Gates tells FT divestment from fossil fuels is not the answer

In an interview published in the *Financial Times* on September 17, Microsoft co-founder and prominent philanthropist, Bill Gates, says divestment from fossil fuels is not the solution to combatting climate change. Instead, he points to what he calls disruptive technologies and cutting-edge private sector energy companies as the most effective methods for reducing carbon emissions.

"Divestment, to date, probably has reduced about zero tonnes of emissions. It's not like you've capital-starved [the] people making steel and gasoline," he said.

"I don't know the mechanism of action where divestment [keeps] emissions [from] going up every year. I'm just too damn numeric."

Innovation and technology

Instead, Gates urges investors to explore innovative, high-tech businesses and the latest energy technology to achieve better results.

"When I'm taking billions of dollars and creating breakthrough energy ventures and funding only companies who, if they are successful, reduce greenhouse gases by 0.5 per cent, then I actually do see a cause and effect type thing," he said.

The *Financial Times* article also made reference to the September 17 release of the Bill and Melinda Gates Foundation's annual 'Goalkeepers' report, which tracks global progress towards reaching the UN Sustainable Development Goals.

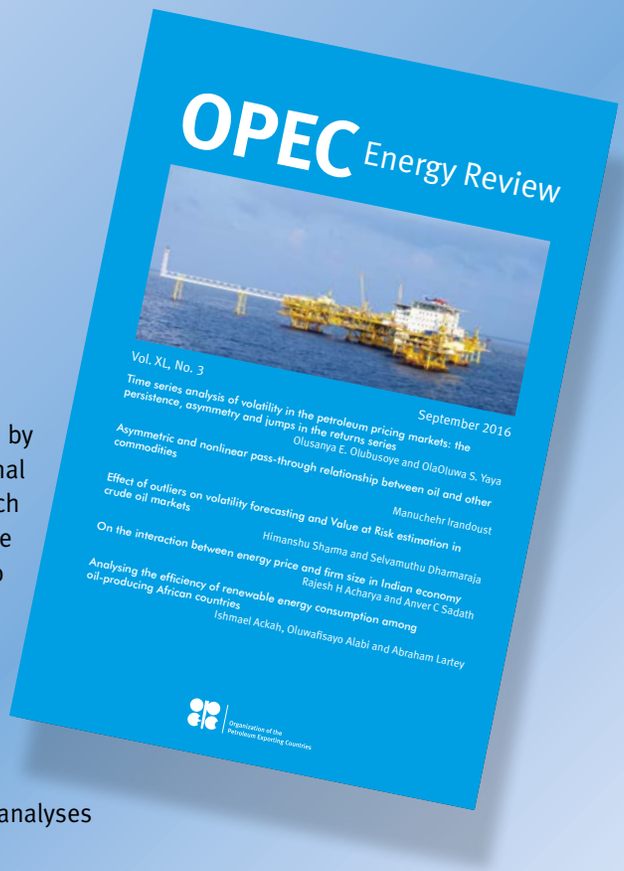
Sustainable development

Next week, the UN General Assembly is scheduled to convene in New York with world leaders reaffirming their support for achieving these ambitious goals, but Gates says there is still much work to be done.

"We are nowhere near improving fast enough to reach those goals," he said. "It is a terrible injustice that the people who suffer the most are the poorest farmers in the world. They did not do anything to cause climate change, but because they rely on rain for their livelihoods, they are at the front lines of coping with it."

Bill Gates, Microsoft co-founder and prominent philanthropist.

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.

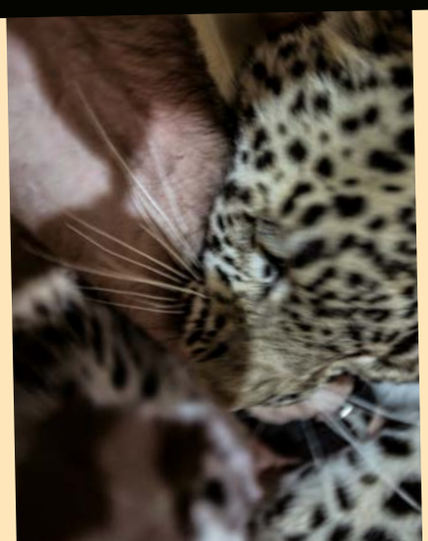
Recognizing the diversity of topics related to energy in general and petroleum in particular which might be of interest to the journal's readership, articles will be considered covering relevant economics, policies and laws, supply and demand, modelling, technology and environmental matters.

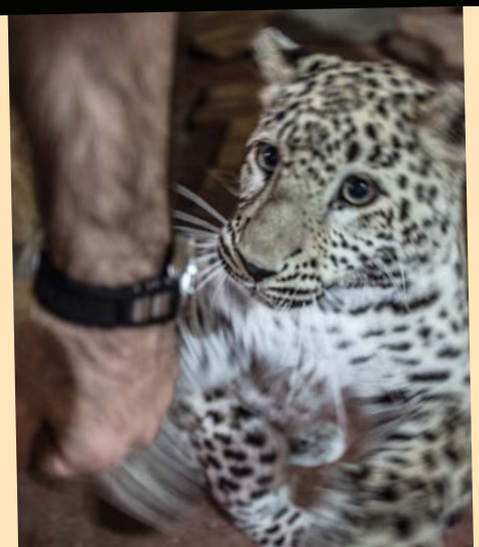
The OPEC Energy Review welcomes submissions from academics and other energy experts.
Submissions should be made via Scholar One at: https://mc.manuscriptcentral.com/opec (registration required).
A PDF of "Author Guidelines" may be downloaded at Wiley's OPEC Energy Review page at:
http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1753-0237/homepage/ForAuthors.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

The Persian leopard: Widening the preservation net

As reported in an article entitled 'Saving the Persian cheetah', published in the April 2019 issue of the OPEC Bulletin, *August 31 was named the 'National Persian Cheetah Day' for the protection, conservation and awareness of the condition of the endangered cheetah. The insightful article, contributed by Iranian photographer and animal preservationist* ***Reza Goudarzi****, highlighted initiatives being undertaken to save and preserve this precious species. In this edition of the* OPEC Bulletin, *Goudarzi shares similar stories on how IR Iran is also endeavouring to ensure that the Persian leopard receives similar protections.*





Shaya seen in 2019, around one year old, in her new home at Barajin Tabiat Park in Qazvin Province, IR Iran. Shaya is trying to bite the left hand of Reza, the photographer, while he is taking the photos with his right hand.

Since the extinction of the Persian lion and tiger, the *Panthera Paradus Saxicolor,* known more familiarly as the Persian leopard, is the largest cat in IR Iran and the biggest of the leopard subspecies.

Due to its larger population compared with the cheetah, the Persian leopard is in better condition, and additionally has more defensive power, which helps keep it safer.

Nevertheless, it is still in danger of extinction. For this reason, and in order not to see the species' numbers drop to less than 50, as is the case with the Persian cheetah, animal preservations in IR Iran believe it is important to act now to rally support for and raise awareness about the Persian leopard and its current condition.

Some of the awareness raising initiatives include proving a wide range of information on the leopard's appearance and behavioural characteristics, their prey, as well as the identification of roads potentially passing in the vicinity of their habitat, which could put the animals at risk of collision. Communication channels can range from brochures, posters, books, articles in local newspapers and magazines, as well as information distributed in schools and communities close to the habitat.

Additionally, a proposal has been made to place a day on the wildlife calendar of the country as the 'National Persian Leopard Day'. If approved, every year, on this day, special events and awareness campaigns would be undertaken to inform and attract public attention to the importance of this valuable species, helping to ensure it is protected in the years ahead.

For more information, see: www.persiancheetah.ir
All pictures courtesy of Reza Goudarzi.

'Varkan' was found in Golestan Province about four to five years ago when he was three months old.

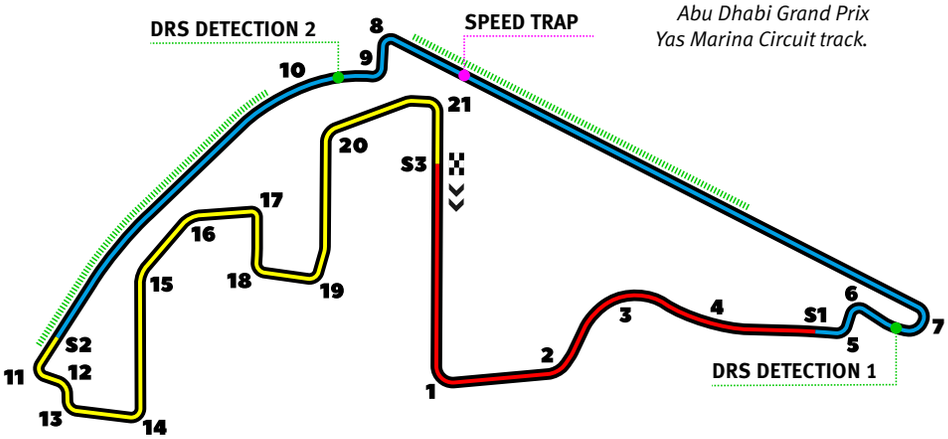
Customized stamp issued in IR Iran.

The baby leopard now named 'Shaya' who was rescued a year ago from poachers and brought to Tehran.

Abu Dhabi: Gateway to the racing world

The United Arab Emirates (UAE) is known for being one of the world's leading oil exporters, the host of the recent World Energy Congress and the annual Abu Dhabi International Exhibition and Conference (ADIPEC), as well as a hub for international businesses. It is also the location of prominent global events, from Formula 1 racing and its side events in Abu Dhabi to Expo 2020 in Dubai.

The Yas Marina Formula 1 Grand Prix circuit in Abu Dhabi. This year's race will be held on December 1, 2019, and will be the 11th race there.



Abu Dhabi Grand Prix Yas Marina Circuit track.

Racing fans will soon turn their attention to the UAE for the Formula 1 Etihad Airways Abu Dhabi Grand Prix 2019, the sixth consecutive year that it will host the finale of one of the world's premier single-seat auto racing events.

The Abu Dhabi National Oil Company (ADNOC) is an official partner of the Grand Prix. Three days of practice races will take place before the qualifying race on November 30 and the season finale on December 1 at the Yas Marina Circuit on Abu Dhabi's Yas Island.

The racecourse was completed in 2009 as part of a major development of the island into a tourist, entertainment and activity destination in the Gulf. The 5.6-km waterfront course was designed by Hermann Tilke, whose German firm has also worked on the new Kuwait Motortown and many other leading race venues and vehicle testing facilities.

"Located on the spectacular Yas Island, the track is the perfect example of modern Formula 1 circuit design. Boasting top speeds of 325 km/h and average speeds of 190 km/h, it features nine right turns and 12 left turns and is one of the few venues on the calendar to run in an anti-clockwise direction," according to a Formula 1 news release. "Overall, its diverse elements come together to create one of F1's longest and most demanding tracks, where close and competitive racing is guaranteed."

Formula 1's Abu Dhabi Grand Prix caps a season dominated by Britain's Lewis Hamilton, who won his fifth Formula 1 world championship at the Yas Marina racecorse last year. The Mercedes star and Ferrari's Sebastian Vettel finished in first and second place, respectively, at the 2017 and 2018 races.

This is the sixth consecutive year that the Yas Marina Circuit is hosting the season finale. Unusual in Formula 1, the race begins in daylight at 17:10 local time and ends two hours later under spotlights.

Yas Island is also home to commercial centres and theme parks, including Ferrari World, which boasts the world's largest rollercoaster, Water World and Warner Brothers World.

Students face tough race of their own

A week before the Formula 1 event, Yas Island will host the 15th F1 in Schools World Challenge, which is expected to attract 300 students from more than 25 countries — including Kuwait, Saudi Arabia and the UAE — in a competition to use 3D technology to design and test a miniature Formula 1 car. The competition draws on students' knowledge in engineering, technology, mathematics, science, design and management, and the models are assessed by a panel of judges. The finalists in the challenge will attend the Grand Prix.

"Abu Dhabi has always given us a very warm welcome and has been a great venue for our World Finals," Andrew Denford, Founder and Chairman of F1 in Schools who works to advance engineering and manufacturing in education, said in a press release. "We're delighted that Yas Marina Circuit is partnering with us for the event and we look forward to working with them in the run up to the event."

The world beyond Formula 1

A year from now, the UAE will host another prominent international event, the Expo 2020 in Dubai. The 173-day event begins in October 2020 and will feature culture, food and exhibitions from more than 190 countries under the motto 'where creating a better world is in your hands'.

Expo 2020 is also expected to be a major economic boost, potentially adding the equivalent of 1.5 per cent to the United Arab Emirate's gross domestic product.

All pictures courtesy Shutterstock.

Yas Waterworld area on Yas Island.

Aerial view of the Ferrari World park, the largest indoor amusement park in the world.

Wonderful WASH work

OFID's 2019 Annual Award for Development recognizes Vida Duti's remarkable water and sanitation work in Ghana.

"Duti's engagement in this sector is exemplary and is helping to deliver access to safe, reliable and affordable water services to numerous people in Ghana."

OFID Director-General
Dr Abdulhamid Alkhalifa

The 2019 OFID Annual Award for Development has been conferred upon Vida Duti, in recognition of her remarkable work in striving for sustainable water, sanitation and hygiene (WASH) services for the population of Ghana.

Duti, who is Country Director of the IRC International Water and Sanitation Centre in Ghana, will receive $100,000 from OFID in recognition.

Duti leads a team of 12 in Ghana. The team's priority is advocating for greater financial and political support for WASH, while also supporting national government policies, standards and guidelines. Its priority in its partner district, Asutifi North, is to support the roll out of a WASH 'master plan.' This plan aims to provide universal WASH services for the entire population of the Asutifi district by 2030. Currently, only around half of the district's 62,816 people have access to adequate water facilities and just 15 per cent to decent sanitation. The project's coalition includes local government, World Vision, the Conrad N Hilton Foundation, Safe Water Network and non-profit organization Aquaya.

Duti said she was humbled to receive the award and that it would "motivate and strengthen my resolve" to work harder to improve the quality of life of people in the developing world. She attended a presentation ceremony at OFID's headquarters to receive her prize.

OFID Director-General Dr Abdulhamid Alkhalifa said: "OFID recognizes the important role women play in the WASH sector, advancing solutions and encouraging behavioral change. Vida Duti's engagement in this sector is exemplary and is helping to deliver access to safe, reliable and affordable water services to numerous people in Ghana.

"OFID hopes that bestowing this year's Annual Award for Development to Mrs Duti will help accelerate action in sub-Saharan Africa, encourage the many women working in development, and highlight the important issues of safe water and hygiene."

For more information, see
www.ircwash.org/our-work-ghana

Shutterstock

PREVIOUS HONOURS

The OFID Annual Award for Development was introduced in 2006 to highlight the achievements of organizations and individuals in poverty reduction and sustainable development. Past winners include: Bangladesh-based BRAC, for its support of Rohingya refugees in Bangladesh; the Foundation for Integral Development in Guatemala; Syrian refugee Doaa Al Zamel; the Children's Cancer Hospital in Egypt; Kenya's Kakenya Center for Excellence; Malala Yousafzai of Pakistan; Dr Mazen Al-Hajri, renowned ENT surgeon and philanthropist; Professor Muhammad Yunus; and Bartolina Sisa National Confederation of Peasant Indigenous Native Women of Bolivia.

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

May 9 Students from the Europäische Akademie Bayern (European Academy Bavaria), Munich, Germany.

May 14 Students from the Karl-Arnold-Stiftung, Cologne, Germany.

May 20 Students from the University of South Carolina, Columbia, South Carolina, US.

May 24 Students from the University of Illinois, Urbana-Champaign, Illinois, US.

May 27 Students from the Peter-Henlein-Realschule, Nuremberg, Germany.

May 28 Students from the University of Oradea, Romania.

May 28 Students from the Masaryk University, Brno, Czech Republic.

June 3 Students from the Lycée Français de Vienne, Vienna, Austria.

June 7 Officials from the Association of War Academy Trained Officers (AWATO), Oslo, Norway.

June 7 Officials from the ÖH (national union of students) of the Vienna University of Economics and Business, Vienna, Austria.

June 7 Students from the Institut für Politikwissenschaft der Johannes Gutenberg-Universität Mainz (Department of Political Science, Faculty of Social Sciences, Media, and Sports of Johannes Gutenberg University), Mainz, Germany.

Forthcoming events

Climate change 2019, October 7–8, 2019, London, UK. Details: Chatham House, 10 St James's Square, London SW1Y 4LE, UK. Tel: +44 207 957 5700; fax: +44 207 957 5710: e-mail: contact@chathamhouse.org; website: www.chathamhouse.org/conferences/climate-change-2019.

Oil and money conference, October 8–9, 2019, London, UK. Details: Energy Intelligence Group (UK) Ltd, 7 Down Street, 3rd Floor, London W1J 7AJ, UK. Tel: +44 207 51 82 200; fax: +44 207 51 82 201; website: www.oilandmoney.com.

Asia-tech 2019, October 8–10, 2019, Bali, Indonesia. 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/week/asia-tech2019.

LNGgc, October 8–10, 2019, London, UK. Details: IBC Global Conferences, The Bookings Department, Informa UK Ltd, PO Box 406, West Byfleet, KT14 6WL, UK. Tel: +44 207 017 55 18; fax: +44 207 017 47 15; e-mail: energycustserv@informa.com; website: https://energy.knect365.com/lnggc-london.

Oil and gas Thailand 2019, October 9–11, 2019, Bangkok, Thailand. Details: Fireworks Media (Thailand) Co, Ltd, Promphan 2 Office and Residence, 8th Floor (Office Zone, Room 807), 1 Soi Lat Phrao 3, Lat Phrao Road, Jompol, Chatuchak, Bangkok 10900 Thailand. Tel: +66 25 13 14 18; fax: +66 25 13 14 19; e-mail: thai@asiafireworks.com; website: http://oilgasthai.com.

3rd Africa oil and gas local content sustainability summit, October 10–11, 2019, Accra, Ghana. Details: AME Trade Ltd, Africa and Middle East Trade Ltd, Unit 408, United House, 39–41 North Rd, London N7 9DP, UK. Tel: +44 207 70 04 949; fax: +44 207 68 13 120; e-mail: trade@ametrade.org; web-site: http://ametrade.org/alc.

Argus Russia and CIS oil products, October 10–11, 2019, Moscow, Russia. Details: Argus Media, Lacon House, 84 Theobald's Road, London WC1X 8NL, UK. Tel: +44 20 77 80 42 00; email: london@argusmedia.com; website: www.argusmedia.com/en/conferences-events-listing/russia-oil-products.

Energy trading operations and technology, October 10–11, 2019, London, UK. Details: International Research Networks, 10–18 Vestry Street, Hoxton, London N1 7RE, UK. Tel: +44 207 11 11 615; fax: +44 207 18 37 945; e-mail: info@irn-international.com; website: www.etotsummit.com.

Kuwait oil and gas show and conference, October 13–16, 2019, Kuwait City, Kuwait. Details: Society of Petroleum Engineers, Dubai Knowledge Village, Block 17, Offices S07-S09, PO Box 502217, Dubai, UAE. Tel: +971 4 4575800; fax: +971 4 366 4648; e-mail: spedub@spe.org; website: https://kogs-expo.com.

Oil movement, storage and troubleshooting, October 13–17, 2019, Dubai, UAE. Details: EuroMaTech, #3701, Business Central Towers, Media City Dubai, UAE. Tel: +971 4 457 18 00; fax: +971 4 457 18 01; website: www.euromatech.com/seminars/oil-movement-storage-and-troubleshooting.

Global crude, October 14–16, 2019, Geneva, Switzerland. Details: Argus Media, Lacon House, 84 Theobald's Road, London WC1X 8NL, UK. Tel: +44 20 77 80 42 00; e-mail: london@argusmedia.com; website: www.argusmedia.com/en/conferences-events-listing/global-crude-geneva.

Africa energy series, October 16, 2019, London, UK. Details: Global Event Partners Ltd, London Office, 20–22 Bedford Row, London WC1R 4JS, UK. Tel: +44 203 488 11 91; e-mail: enquiries@gep-events.com; website: www.gep-events.com/event/africa-energy-series-.

London gas and LNG forum, October 16–17, 2019, London, UK. Details: US Energy Stream, Inc, 13115 Whittington Drive #9205, Houston, TX 77077, USA. Tel: +1 202 717 31 00; e-mail: peggy.livanios@usenergystream.com; website: www.usenergystream.com/forums/forums-seminars/6th-london-gas-lng-forum-2019.aspx.

Annual Caspian technical conference, October 16–18, 2019, Baku, Azerbaijan. Details: Society of Petroleum Engineers, Part Third Floor East, Portland House, 4 Great Portland Street, London W1W 8QJ, UK. Tel: +44 207 299 3300; fax: +44 207 299 3309; e-mail: spelon@spe.org; website: www.spe.org/events/en/2019/conference/19ctce/spe-annual-caspian-technical-conference.html.

Fuel oil summit, October 20–22, 2019, Miami, FL, USA. Details: Argus Media, Lacon House, 84 Theobald's Road, London WC1X 8NL, UK. Tel: +44 20 77 80 42 00; email: london@argusmedia.com; website: www.argusmedia.com/en/conferences-events-listing/fuel-oil.

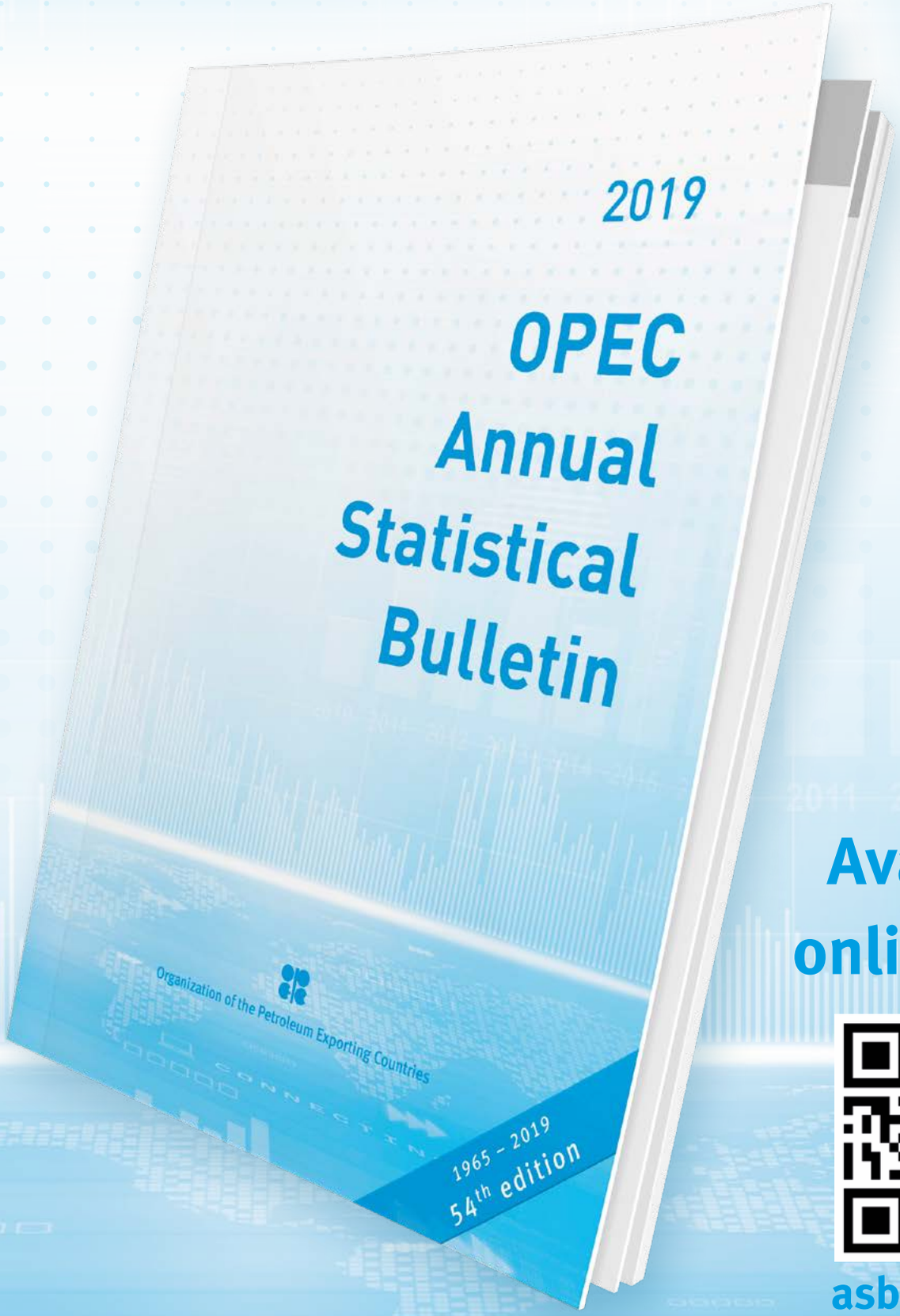
Gas and oil technology showcase and conference, October 21–23, 2019, Dubai, UAE. Details: Society of Petroleum Engineers, Part Third Floor East, Portland House, 4 Great Portland Street, London W1W 8QJ, UK. Tel: +44 207 299 3300; fax: +44 207 299 3309; e-mail: spelon@spe.org; website: www.gotech2019.com.

Russian petroleum technology conference, October 22–24, 2019, Moscow, Russia. Details: Society of Petroleum Engineers, Part Third Floor East, Portland House, 4 Great Portland Street, London W1W 8QJ, UK. Tel: +44 207 299 3300; fax: +44 207 299 3309; e-mail: spelon@spe.org; website: www.spe.org/events/en/2019/conference/19rptc/spe-russian-petroleum-technology-conference-moscow.html.

Oil and gas Ukraine, October 22–24, 2019, Kiev, Ukraine. Details: ACCO International Ltd, 40-B, Peremohy Avenue, Kiev 03057, Ukraine. Tel: +38 044 456 3804; e-mail: olga@acco.kiev.ua; website: http://oilgas-expo.com/en.

OTL Africa downstream expo, October 27–31, 2019, Lagos, Nigeria. Details: OTL Africa Downstream Dev Africa Ltd/Gte, 15B Olajide George Street, Lekki-Scheme 1 Lekki Peninsula, Lagos, Nigeria. Tel: +234 14 53 59 41; e-mail: info@otlafrica.com; website: www.otlafrica.com.

Upstream finance and investments conference, October 29, 2019, London, UK. Details: Society of Petroleum Engineers, Part Third Floor East, Portland House, 4 Great Portland Street, London W1W 8QJ, UK. Tel: +44 207 299 3300; fax: +44 207 299 3309; e-mail: spelon@spe.org; website: www.spe.org/events/en/2019/conference/19lond/spe-upstream-finance-and-investments.html.

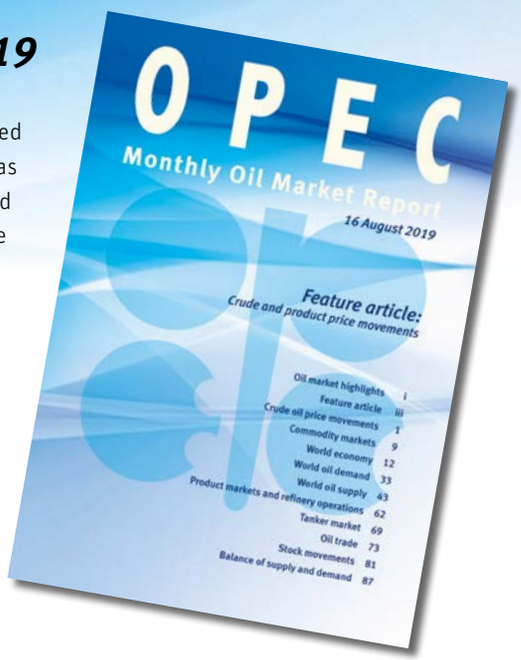


Visit our website

www.opec.org

Crude and product price movements

August 2019



Crude oil prices recovered in the first four months of 2019 from the low levels registered at the end of the previous year, boosted by positive market sentiment and a more balanced global oil market outlook. Despite bearish global oil demand, the unplanned oil supply outages and disruptions, amid geopolitical tensions in key oil-producing regions, gave further support to oil prices. Between January and May, ICE Brent and NYMEX WTI rose by $10.06 and $9.31, averaging $70.30/b and $60.87/b, respectively.

However, this upward trend reversed course in late May. Oil prices declined in June on bearish market sentiment fuelled by concerns about weakening global economic and oil demand growth amid an escalating trade dispute between the US and China. Moreover, rising OECD commercial oil stocks in April and May by 40 million barrels added to concerns about market balance. In terms of market structure, Brent prices flipped to backwardation in the beginning of March, mirroring the tight regional physical crude market, with prompt prices also supported by geopolitical tensions and concerns about supply disruptions, although the M1/M3 Brent spread narrowed again in July. Meanwhile, the WTI market structure remained broadly in contango since the beginning of the year, on the ongoing rise in US oil supply and crude oil stocks remaining above the latest five-year average. Following a slight recovery in July, crude oil prices dropped again in the first days of August, amid a flare-up in US-China trade tensions, to levels not seen since the beginning of the year.

Product prices in 2018 also ended the year lower on average in global terms, caused by the seasonal winter slowdown in gasoline consumption as well as substantial product oversupply in Asia.

In 1Q19, product prices partially recovered in response to improving product market fundamentals. Unplanned refinery outages in the US led to further cuts in US product output and helped to erode the gasoline surplus, with inventories falling by more than 30m b between January and April 2019. The resulting bullish sentiment pushed gasoline prices up by $30/b on the US Gulf Coast (USGC), which opened up arbitrage opportunities for gasoline flows from Europe and led to a surge in gasoline cracks in all main trading hubs. However, in 2Q19, product prices reversed the rising trend as refineries returned from maintenance and product output rose in Europe and the US. Despite prevailing ample offline capacity in Asia, the ramping up of two new refineries in China – with a combined capacity of 800,000 b/d – contributed to further concerns about product oversupply, exacerbating the bearishness in product markets globally.

Looking ahead, global transport fuel consumption is expected to remain healthy, supporting overall oil demand in the second half of the year. Road transportation fuel consumption, and jet fuel demand from the aviation sector, are forecast to remain at the currently healthy levels. Regarding the upcoming IMO 2020 regulation, the impending changes in bunker fuel specifications will most likely continue to support low sulphur fuel oil (LSFO) markets as bunkers experiment with the marine fuel shift ahead of January 1, 2020. Meanwhile, high sulphur fuel oil (HSFO) supplies are expected to tighten as refineries increasingly expand or adapt their secondary processes to convert or de-sulphurise residual fuel in the next autumn peak maintenance season. Moreover, seasonal output cuts during autumn peak turnarounds in 3Q19 are expected to provide some support. However, a surge in overall product output, particularly in Asia, may place product prices under pressure in 2H19.

While the outlook for market fundamentals seems somewhat bearish for the rest of the year, given softening economic growth, ongoing global trade issues and slowing oil demand growth, it remains critical to closely monitor the supply/demand balance and assist market stability in the months ahead.

MOMR ... oil market highlights

August 2019

Crude oil price movements — The OPEC Reference Basket (ORB) averaged higher in July, up by $1.79, or 2.8 per cent, m-o-m reaching $64.71/barrel, supported by a pick-up in Asian crude demand. Crude oil futures prices also rose from their low levels registered a month earlier as escalating geopolitical tensions offset bearish sentiment in global oil demand. In July, ICE Brent was $1.18, or 1.9 per cent, m-o-m higher, averaging $64.21/b, while NYMEX WTI rose m-o-m by $2.84, or 5.2 per cent, averaging $57.55/b. Year-to-date (y-t-d), ICE Brent was $5.85, or 8.2 per cent, y-o-y lower at $65.87/b, while NYMEX WTI declined by $8.74, or 13.2 per cent, to $57.46/b. The backwardation in both Brent and Dubai price structures flattened in July due to higher availability in the Atlantic Basin and softer crude demand in the first half of the month. Meanwhile, the contango structure of WTI flattened somewhat on significant declines in US crude oil stocks. Hedge funds and other money managers slightly raised their bullish positions on crude oil in July, with net long positions ending the month marginally higher compared to the low levels recorded in late June.

World economy — The global GDP growth for 2019 is now forecast at 3.1 per cent, a slight downward revision from the previous month's report, while growth remains forecast at 3.2 per cent for 2020. The US economic growth forecast for 2019 is revised down by 0.2 percentage points (pp) to 2.4 per cent, after significant data revisions by the US statistical office. GDP growth for 2020 remains at 2.0 per cent. The Euro-zone's growth estimate remains at 1.2 per cent for 2019 and is also forecast at 1.2 per cent in 2020. Japan's unchanged low growth of 0.5 per cent in 2019 is forecast to continue at the same level in 2020. China's 2019 growth forecast remains at 6.2 per cent and is expected to slow down to 6.0 per cent in 2020. India's growth forecast remains unchanged at 6.8 per cent for 2019, and is anticipated to pick up in 2020 to 7.0 per cent. Brazil's 2019 growth forecast is unchanged at 0.9 per cent, and is projected to reach 1.7 per cent in 2020. After low 1Q19 growth, Russia's growth forecast for 2019 was revised down by 0.1 pp reaching 1.3 per cent, and remains at 1.4 per cent through 2020. Large uncertainties remain. While the growth forecast currently assumes no further risks until they actually materialize, and, in particular, that trade-related issues do not escalate further, the downside risk to world economic growth is predominant.

World oil demand — In 2019, oil demand is anticipated to grow by 1.10m b/d year-on-year (y-o-y), a downward revision of about 40,000 b/d from the previous month's projection, mainly due to weaker-than-expected oil demand data from OECD Americas, Other Asia and the Middle East in 1H19. Total oil demand for the year is now anticipated to reach 99.92m b/d. For 2020, world oil demand is expected to grow by 1.14m b/d, in line with last month's projection, with total world consumption anticipated to average 101.05m b/d. This forecast is subject to downside risks stemming from uncertainties with regard to global economic development. The OECD region is estimated to be in positive territory in 2020 as OECD Americas is projected to show growth, while OECD Europe and OECD Asia Pacific are projected to decline. However, non-OECD countries are forecast to continue to account for most of the growth at 1.05m b/d. China and Other Asia are anticipated to lead demand growth both in the non-OECD region.

World oil supply — In 2019, non-OPEC oil supply is anticipated to grow by 1.97m b/d y-o-y, a downward revision of 72,000 b/d from the previous month's projection, due to lower-than-expected oil production in the US, Brazil, Thailand and Norway in 1H19, which were partially offset by higher production in Canada in 2Q19. US liquids output in May was up by 53,000 b/d, despite a decline in crude oil production. However, US oil supply growth for 2019 was revised down to 1.87m b/d, on lower revised historical production data. The US, Brazil, China and the UK are the key countries driving y-o-y growth in 2019, with mainly Mexico and Norway showing declines. For 2020, non-OPEC oil supply growth was also revised down by 50,000 b/d from the last month assessment, and is now projected to grow by 2.39m b/d y-o-y for an average 66.78m b/d, mainly due to a downward revision in the oil supply growth forecast for Brazil. The US, Brazil and Norway are forecast to be the main growth drivers, while Mexico, Indonesia and Egypt are expected to see the largest declines. OPEC NGLs production in 2019 and 2020 is expected to grow by 70,000 b/d and 30,000 b/d to average 4.84m b/d and 4.87m b/d, respectively. In July, OPEC crude oil production decreased by 246,000 b/d to average 29.61m b/d, according to secondary sources.

Product markets and refining operations — Product markets globally saw solid gains from the previous month, as a positive performance across the barrel in all main trading hubs lifted refinery margins, particularly in Europe and in Asia, where they jumped by more than $3.00/b. In the US, product markets were supported by continued strong demand from the US East Coast due to refining capacity losses, and firm overall domestic demand amid a slight decline in refinery runs. In Europe, product markets strengthened the most compared to other regions, mainly supported by an extension of the sharp recovery seen last month at the top and middle of the barrels, and strong export opportunities to the US Atlantic Coast. Meanwhile, product markets in Asia received support from reduced refined product outputs, amid several refinery outages and healthy export opportunities to the Middle East.

Tanker market — Average dirty tanker spot freight rates edged lower in July as ample availability remained a hurdle to achieving a sustained recovery in rates, despite refineries returning from seasonal maintenance. In July, dirty tanker freight rates saw mixed movement compared to the previous month, with VLCCs enjoying only a slight two per cent gain, while Aframax and Suezmax rates declined six per cent each, with routes around the Atlantic Basin showing the worst performance. Meanwhile, clean tanker spot freight rates were unchanged in July due to offsetting developments on the East and West of Suez routes. East of Suez clean spot freight rates weakened due to declines on the Middle East-to-East and Singapore-to-East routes, while rates on the West of Suez route showed gains, particularly around the Mediterranean.

Stock movements — Preliminary data for June showed that total OECD commercial oil stocks rose by 31.8m b m-o-m to stand at 2,955m b, which is 140m b higher than the same time one year ago and 67m b above the latest five-year average. Within the components, crude stocks fell by 8.2m b, while product stocks rose by 40.0m b, m-o-m. In terms of days of forward cover, OECD commercial stocks rose by 0.6 days m-o-m in June to stand at 60.9 days, which was 2.6 days above the same period in 2018 and 0.1 days below the latest five-year average.

Balance of supply and demand — Demand for OPEC crude in 2019 was revised up by 100,000 b/d from the previous report to stand at 30.7m b/d, 900,000 b/d lower than the 2018 level. Demand for OPEC crude in 2020 was revised up by 100,000 b/d from the previous report to stand at 29.4m b/d, 1.3m b/d lower than the 2018 level.

The feature article and oil market highlights are taken from OPEC's Monthly Oil Market Report (MOMR) for August 2019. 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.

Review of global economic development

September **2019**

After two years of relatively high growth levels, global GDP growth is forecast to stabilize at 3.0 per cent in 2019 and to rise to 3.1 per cent in 2020. This constitutes sound growth with ongoing solid oil demand, given the many uncertainties that derive mainly from the political arena. The trade dispute between the US and China is ongoing, Brexit and a slow-down in Germany loom large in the EU, the sovereign debt crisis in Argentina is dampening Latin American growth, and ongoing structural challenges in India are leading the economy to significantly lower output. Upside to the current forecast could come from an agreement on trade-related issues between the US and its trading partners considering that trade was a substantial support factor for above-average global growth in the past two years. Furthermore, a soft Brexit, toning down of geopolitical tensions and stabilization in those economies that face fiscal challenges could also lift growth to a higher level. An important support factor so far this year has been the relatively stable oil market, which continues to benefit from the ongoing efforts under the OPEC-non-OPEC 'Declaration of Cooperation' (DoC). This has not only been beneficial to oil producing economies, including major OECD economies such as the US and Canada, but also to consumer nations as it provides better visibility in the oil market.

Within the OECD, the US economy continues to slow down after last year's support from the large fiscal stimulus measures. Consequently, growth is forecast at 2.3 per cent in 2019, followed by growth of 1.9 per cent in 2020. In the Euro-zone, economic challenges in Germany, political uncertainties in selective countries and Brexit are leading to lower growth, which is forecast at 1.2 per cent for 2019 and 1.1 per cent in 2020. Meanwhile, Japan's growth is forecast as holding up relatively well in 2019 at 0.9 per cent. With the government intending to increase the sales tax in 4Q19 and the economy continuing to be constrained by very low unemployment and high utilization rates in the industrial sector, growth is forecast at 0.3 per cent in 2020.

Monetary policies by the G4 central banks have supported growth. The Fed is forecast to lower interest rates at least one more time this year. The ECB may also expand its monetary supply further. Moreover, the BoJ has also indicated ongoing monetary support, while the BoE will likely expand its supply in the case of a worsening Brexit outcome. Importantly, central banks in several emerging and developing markets have lowered interest rates recently in order to support their economies. This ongoing monetary stimulus will still need to be further supported by the right fiscal and general policy mix to foster growth appropriately.

In the emerging economies, India has experienced significantly lower-than-expected growth rates for 1H19, amid ongoing structural challenges. While some pick-up in 2H19 is expected, growth rates are forecast to be lower than in past years at 6.1 per cent for 2019 and 6.7 per cent for 2020. China's GDP growth will continue slowing and will additionally be impacted by the ongoing trade dispute with the US. Growth in 2019 is forecast at 6.2 per cent, followed by 5.9 per cent in 2020. Meanwhile, Brazil's growth forecast stands at 0.8 per cent for 2019 and at 1.4 per cent for 2020. This will depend not only on policy actions by the government and commodity price developments, but also on developments in its close trading partner, Argentina. Russia's growth is forecast at 1.1 per cent for 2019 and 1.2 per cent in 2020, also dependent on external and domestic political developments, as well as energy commodity prices.

Given expectations for global economic growth, world oil demand is forecast at around 1m b/d in 2019 and 2020. Nevertheless, this is expected to be outpaced by the strong growth in non-OPEC supply. This highlights the shared responsibility of all producing countries to support oil market stability to avoid unwanted volatility and a potential relapse into market imbalance.

MOMR ... oil market highlights

September 2019

Crude oil price movements — The OPEC Reference Basket (ORB) declined $5.09, or 7.9 per cent, to average $59.62/b. Crude oil futures prices also declined in August compared to the previous month. ICE Brent fell $4.71, or 7.3 per cent, to average $59.50/b in August, and NYMEX WTI dropped by $2.70, or 4.7 per cent, to average $54.84/b. Year-to-date, ICE Brent was $6.94, or 9.6 per cent, lower compared to the same period last year, averaging $65.05/b, while NYMEX WTI declined by $9.31, or 14.0 per cent, to average $57.12/b over the same period. All crude benchmark structures were in backwardation in August, with Brent and Dubai price structures steepening further. Hedge funds and other money managers slightly raised their net long positions for NYMEX WTI, but cut them for ICE Brent.

World economy — The global economic growth forecast was revised down to 3.0 per cent for 2019 and to 3.1 per cent for 2020, compared to the previous forecast of 3.1 per cent and 3.2 per cent, respectively, in last month's report. This was triggered by the ongoing slowdown in the US and the Euro-zone, lower-than-expected 1H19 growth in India, rising sovereign debt issues in Argentina, and the continuation of the US-China trade dispute, among other factors. US economic growth was revised down to 2.3 per cent for 2019 and 1.9 per cent for 2020. The forecast for Euro-zone growth in 2019 remains at 1.2 per cent, while 2020 was revised down to 1.1 per cent. Japan's 2019 growth was revised up to 0.9 per cent due to a stronger-than-expected 1H19, although there was a downward revision to 0.3 per cent in 2020. China's 2019 growth forecast remains at 6.2 per cent and is expected to slow to 5.9 per cent in 2020. India's growth forecast was revised down to 6.1 per cent for 2019 and 6.7 per cent for 2020. Brazil's 2019 growth forecast was revised down to 0.8 per cent, but is then projected to reach 1.4 per cent in 2020. After low 1Q19 growth, Russia's growth forecast for 2019 was revised down to 1.1 per cent, and is forecast at 1.2 per cent in 2020.

World oil demand — World oil demand in 2019 is expected to grow by 1.02m b/d, which is 80,000 b/d lower than last month's projection. The drop can be attributed to weaker-than-expected data in 1H19 from various global demand centres and slower economic growth projections for the remainder of the year. Both OECD and non-OECD demand growth forecasts were revised lower, by 30,000 b/d and 50,000 b/d, respectively. In 2020, world oil demand is projected to increase by 1.08m b/d. This also represents a downward adjustment of 60,000 b/d from the previous month's assessment, mainly to accommodate changes to the world economic outlook for 2020.

World oil supply — Non-OPEC oil supply growth for 2019 was revised up by 10,000 b/d from last month's projections to 1.99m b/d. Upward revisions to oil production from Russia, Kazakhstan, Australia and Canada outpaced a downward revision to the US oil supply forecast. The main drivers for growth in 2019 are the US with growth of 1.8m b/d, along with Brazil, China, the UK, Australia and Canada. Mexico and Norway are projected to see the largest declines. In contrast, non-OPEC oil supply growth in 2020 was revised down by 136,000 b/d from last month's assessment to 2.25m b/d. This is mainly due to a large downward revision to US oil supply, which is now expected to grow by 1.54m b/d. The forecast for next year remains subject to many uncertainties, mainly relevant to capital spending discipline and a slowdown in drilling and completion activity in the US. OPEC NGLs production in 2019 and 2020 is expected to grow by 70,000 b/d and 30,000 b/d, respectively, to average 4.84m b/d and 4.87m b/d. In August, OPEC crude oil production increased by 136,000 b/d to average 29.74m b/d, according to secondary sources.

Product markets and refining operations — Product markets globally witnessed a notable downturn in the naphtha and fuel oil markets in August, although overall market performance was mixed. In the US, product markets suffered significant losses, as all products across the barrel weakened. The sharpest decline was felt at the top and bottom of the barrel, on the back of higher product output in the region, which, in general, placed product prices under pressure over the month. In Europe, middle distillates continued to perform positively supported by healthy demand amid higher product imports over the month. This offset the weakening at the top and bottom of the barrel and provided a slight improvement in refining margins. Asian product markets lost ground, affected by a deterioration in high sulphur fuel oil (HSFO) markets, and pressured by weaker fundamentals as buying interest from the bunker sector declined in August, weighing on HSFO prices, and ultimately refining margins.

Tanker market — Dirty vessel spot freight rates were broadly flat in August as gains in VLCCs were outweighed by declines in average rates for Aframax and Suezmax. A pick up in tonne-mile demand and reduced newbuilding deliveries supported the VLCC market at the start of the month, before slowing activities allowed availability lists to build, capping rates. In the clean tanker market, spot freight rates remained under pressure with declines West of Suez offsetting some improvement East of Suez.

Stock movements — Preliminary data for July showed that total OECD commercial oil stocks fell by 10.5m b m-o-m to stand at 2,944m b. This was 108m b higher than the same period a year ago, and 36m b above the latest five-year average. Within the components, crude stocks fell by 41.3m b m-o-m to stand at 20m b below the latest five-year average, while product stocks rose by 30.8m b m-o-m to 55m b above the latest five-year average. In terms of days of forward cover, OECD commercial stocks declined by 0.1 days m-o-m to stand at 60.9 days, which was 2.2 days above the same period in 2018, but 0.6 days below the latest five-year average.

Balance of supply and demand — Demand for OPEC crude in 2019 was revised down from the previous report to stand at 30.6m b/d, which is 1.0m b/d lower than the 2018 level. Demand for OPEC crude in 2020 remains unchanged from the previous report, to stand at 29.4m b/d, around 1.2m b/d lower than the 2019 level.

The feature article and oil market highlights are taken from OPEC's Monthly Oil Market Report (MOMR) for September 2019. 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	2018 Aug	Sep	Oct	Nov	Dec	2019 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Weeks 31-35/2019 (week ending) Aug 2	Aug 9	Aug 16	Aug 23	Aug 30
Arab Light – Saudi Arabia	73.38	78.16	80.02	66.36	58.24	59.63	64.85	67.40	71.88	70.78	63.45	65.61	60.84	64.86	60.01	60.41	61.28	60.61
Basrah Light – Iraq	71.10	76.18	78.26	64.12	56.12	58.20	63.25	66.05	70.45	69.77	62.74	64.39	59.20	63.33	58.21	58.73	59.70	59.09
Bonny Light – Nigeria	73.29	79.45	82.09	65.90	57.82	60.51	65.19	67.71	72.81	72.24	65.59	65.95	60.46	64.27	58.89	59.76	61.05	61.02
Djeno – Congo*	69.66	76.18	78.52	62.06	54.36	56.77	61.40	63.48	68.55	68.25	61.43	61.31	56.23	59.79	54.66	55.53	56.82	56.79
Es Sider – Libya	70.74	77.10	79.62	63.11	55.66	58.27	63.15	65.38	70.45	70.25	63.58	63.36	58.38	61.88	56.81	57.68	58.97	58.94
Girassol – Angola	73.20	79.48	82.24	65.66	57.52	59.98	65.30	67.16	72.88	72.95	65.69	65.98	61.64	65.19	60.06	60.93	62.22	62.22
Iran Heavy – IR Iran	70.46	75.28	77.04	62.83	54.84	56.29	61.39	64.17	68.52	67.86	60.88	62.65	57.77	61.91	56.89	57.08	58.23	57.77
Kuwait Export – Kuwait	71.82	76.82	78.56	65.15	57.10	58.65	63.93	66.78	71.20	70.07	62.58	64.90	60.35	64.29	59.52	59.83	60.85	60.13
Merey – Venezuela	67.38	69.31	75.25	65.87	49.89	50.90	55.85	57.75	58.95	59.15	53.98	61.84	49.17	60.38	47.96	44.91	47.30	53.57
Murban – UAE	74.91	78.75	81.28	68.05	59.33	60.81	65.64	68.01	71.51	69.70	62.75	64.86	60.19	64.14	59.16	59.31	60.69	60.48
Oriente – Ecuador	69.39	74.12	75.48	59.76	51.26	55.10	60.42	63.66	67.61	65.60	58.57	61.46	56.09	60.43	55.97	56.79	55.82	54.44
Rabi Light – Gabon	71.86	78.04	80.37	63.91	56.21	58.62	63.25	65.33	70.40	70.10	63.28	63.16	58.08	61.64	56.51	57.38	58.67	58.64
Saharan Blend – Algeria	72.64	79.55	81.12	64.96	56.41	59.27	64.30	66.38	71.15	71.20	64.83	63.92	58.23	62.16	56.66	57.53	58.82	58.79
Zafiro – Equatorial Guinea	72.74	79.10	81.82	65.36	57.66	60.09	64.92	67.15	72.65	72.10	65.48	65.58	60.81	64.59	59.40	60.03	61.32	61.29
OPEC Reference Basket	**72.26**	**77.18**	**79.39**	**65.33**	**56.94**	**58.74**	**63.83**	**66.37**	**70.78**	**69.97**	**62.92**	**64.71**	**59.62**	**63.77**	**58.59**	**58.97**	**60.05**	**59.73**

Table 2: Selected spot crude prices

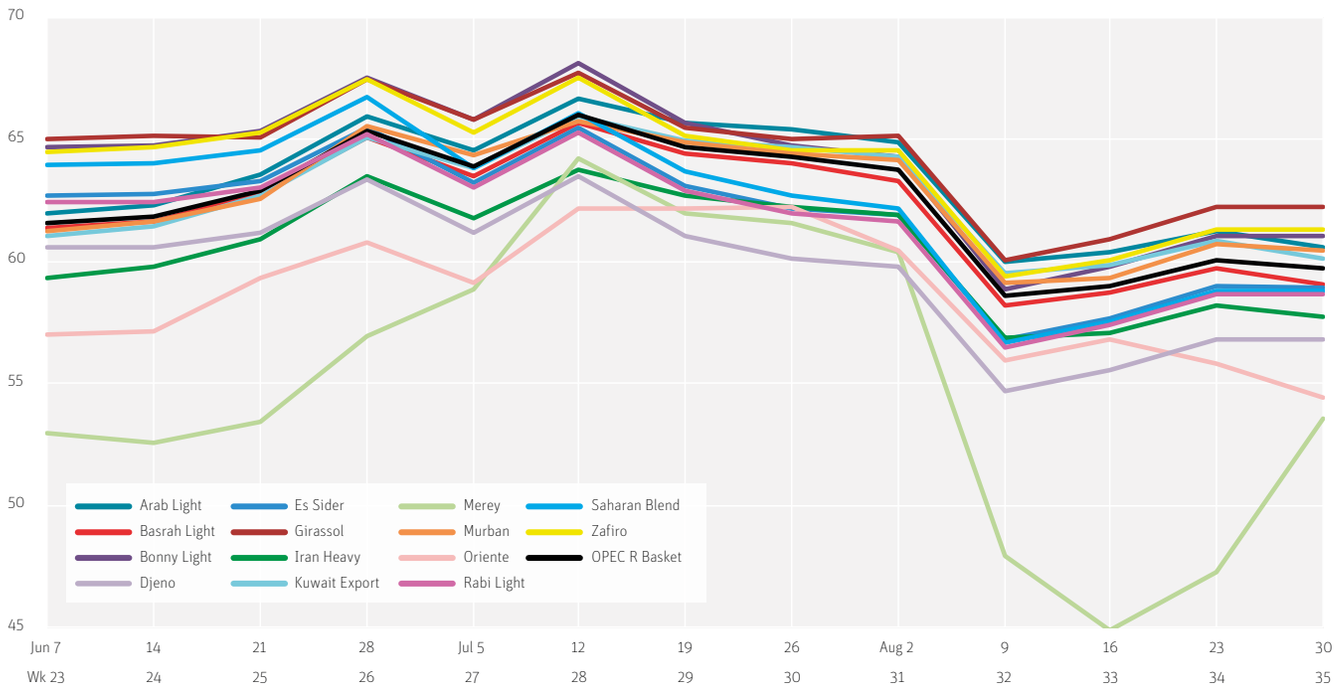
$/b

Crude/country	2018 Aug	Sep	Oct	Nov	Dec	2019 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Weeks 31-35/2019 (week ending) Aug 2	Aug 9	Aug 16	Aug 23	Aug 30
Arab Heavy – Saudi Arabia	72.35	77.14	78.47	65.40	57.24	58.58	63.57	66.31	70.60	69.59	61.81	64.29	60.19	63.92	59.33	59.46	60.74	60.08
Brega – Libya	71.94	78.00	80.42	63.91	56.16	58.72	63.49	65.63	70.60	70.35	63.68	63.31	58.23	61.79	56.66	57.53	58.82	58.79
Brent Dtd – North Sea	72.64	78.80	81.12	64.66	56.96	59.37	64.00	66.08	71.15	70.85	64.03	63.91	58.83	62.39	57.26	58.13	59.42	59.39
Dubai – UAE	72.47	77.22	79.40	65.79	57.29	59.07	64.42	66.91	70.93	69.64	61.59	63.21	58.88	62.68	57.94	58.10	59.39	58.97
Ekofisk – North Sea	72.84	79.30	82.13	65.04	57.83	60.23	64.93	66.73	72.06	72.09	65.48	64.41	59.16	62.44	57.31	58.42	59.97	60.12
Iran Light – IR Iran	70.34	76.40	78.08	62.79	55.96	58.69	62.53	64.64	70.34	70.19	60.90	62.16	58.39	62.01	57.04	57.86	58.88	58.67
Isthmus – Mexico	67.05	74.44	80.03	65.43	55.58	58.13	63.81	66.53	70.34	69.04	62.95	63.58	58.71	61.64	57.38	59.35	58.98	58.92
Oman – Oman	72.72	78.75	80.23	66.31	57.69	59.39	64.62	67.01	71.17	70.04	61.72	63.87	59.79	63.58	59.01	59.12	60.37	59.48
Suez Mix – Egypt	69.81	76.80	78.46	62.71	55.83	58.56	62.40	64.51	70.21	70.06	60.77	62.03	58.26	61.88	56.91	57.73	58.75	58.54
Minas – Indonesia*	66.90	72.02	73.66	59.17	50.28	51.72	56.94	59.63	67.64	67.52	59.83	61.56	57.40	61.00	56.24	56.70	57.79	57.73
Urals – Russia	71.62	78.50	80.16	64.41	57.18	60.26	64.10	66.21	71.90	71.68	62.47	63.73	59.95	63.58	58.61	59.43	60.45	60.14
WTI – North America	67.99	70.20	70.75	56.75	49.52	51.63	54.98	58.16	63.87	60.73	54.68	57.51	54.84	56.62	53.29	55.32	55.52	55.23

Notes:
Brent for dated cargoes; Urals cif Mediterranean. All others fob loading port.
* *The Republic of the Congo joined on June 22, 2018.*
Sources: Argus; Secretariat's assessments.

Graph 1: Evolution of the OPEC Reference Basket spot crude prices, 2019

$/b



Graph 2: Evolution of selected spot crude prices, 2019

$/b

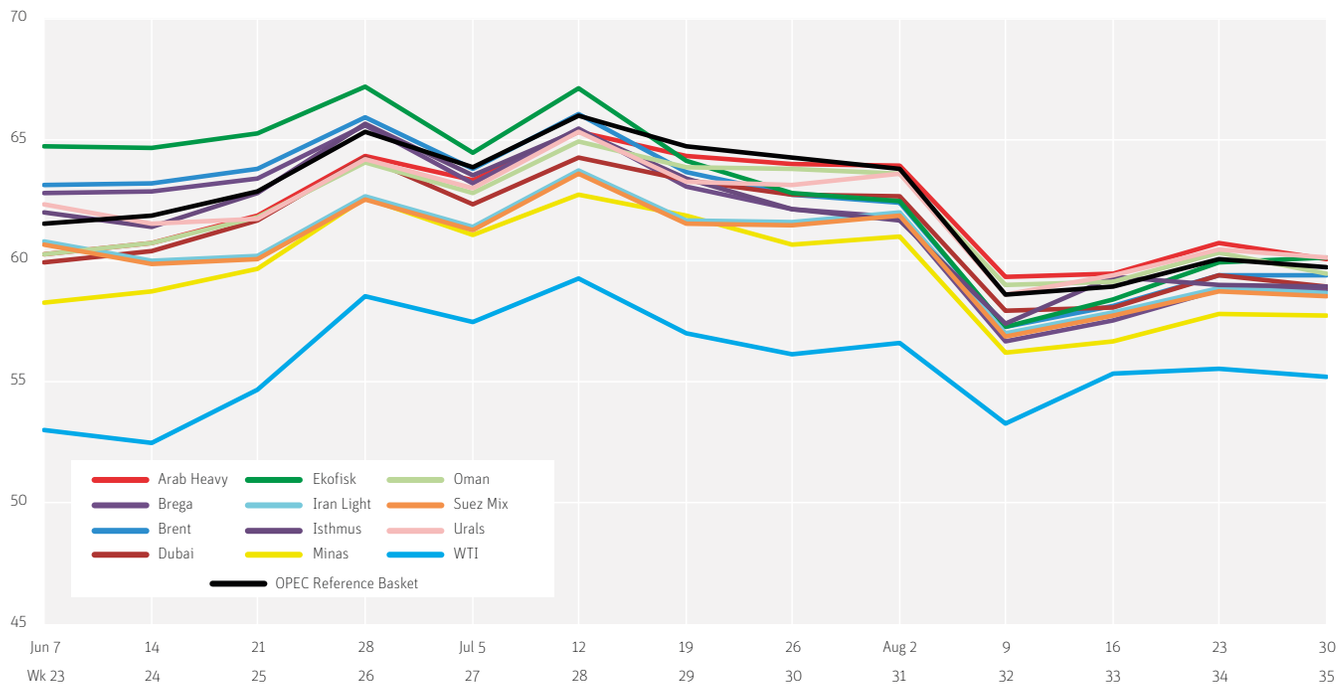


Table and Graph 3: North European market — spot barges, fob Rotterdam

$/b

		naphtha	regular gasoline unleaded	diesel ultra light	jet kero	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2018	August	70.82	95.01	88.49	87.96	65.73	62.59
	September	74.71	95.03	92.86	92.51	67.75	64.72
	October	73.15	91.20	97.18	97.45	73.08	69.67
	November	55.86	76.78	86.35	85.10	62.61	58.71
	December	50.95	67.58	74.59	74.80	53.08	48.88
2019	January	50.52	68.23	75.24	76.07	54.90	50.38
	February	55.14	74.43	80.75	80.16	61.41	56.66
	March	58.80	81.08	81.82	81.57	62.98	59.73
	April	62.12	92.99	84.47	83.87	64.94	61.99
	May	60.11	90.26	84.87	84.35	61.69	58.79
	June	52.08	78.29	76.13	77.65	56.94	54.03
	July	55.48	82.33	78.54	81.10	59.18	56.19
	August	49.20	77.64	75.44	77.06	55.69	43.42

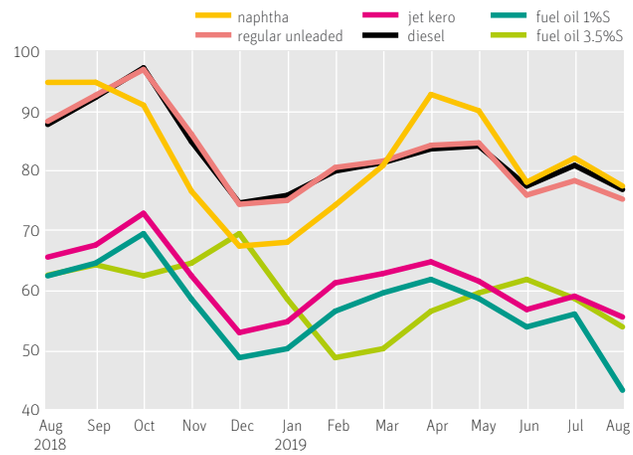


Table and Graph 4: South European market — spot cargoes, fob Italy

$/b

		naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2018	August	70.61	88.59	89.63	66.43	63.97
	September	74.54	88.22	93.93	68.74	66.11
	October	72.58	83.56	97.91	74.26	70.81
	November	54.99	68.63	86.34	64.22	60.01
	December	49.32	59.95	74.92	54.65	49.67
2019	January	49.09	60.56	76.38	57.80	51.91
	February	53.98	65.62	82.24	64.13	58.69
	March	57.61	73.78	83.12	64.50	61.11
	April	60.84	83.23	85.03	65.71	63.04
	May	59.16	81.30	85.43	65.23	59.72
	June	51.15	71.63	76.83	62.53	54.99
	July	54.42	76.62	79.41	64.77	57.84
	August	48.74	70.42	76.19	57.78	44.98

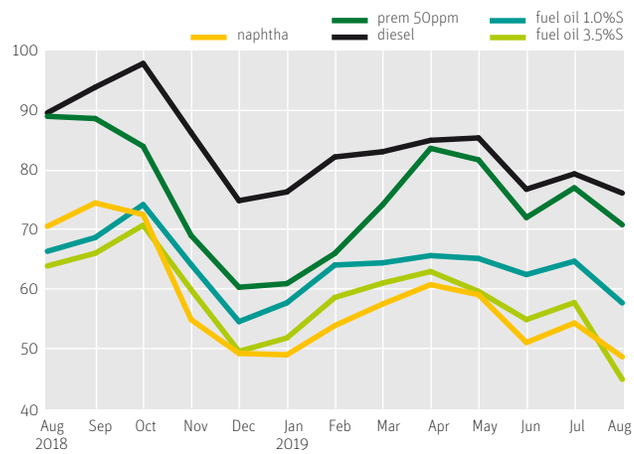
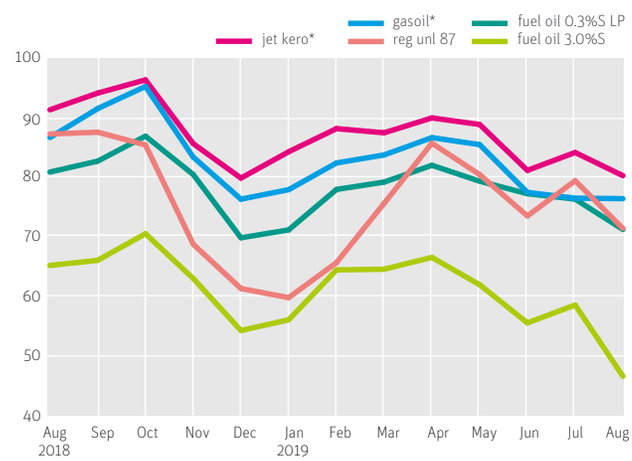


Table and Graph 5: US East Coast market — spot cargoes, New York

$/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
2018	August	87.15	86.55	91.21	80.77	65.11
	September	87.45	91.41	94.01	82.60	65.97
	October	85.32	95.12	96.22	86.79	70.44
	November	68.68	83.28	85.54	80.36	62.93
	December	61.24	76.22	79.75	69.75	54.20
2019	January	59.71	77.82	84.17	71.07	56.00
	February	65.58	82.29	88.05	77.85	64.36
	March	75.53	83.64	87.35	79.09	64.48
	April	85.61	86.54	89.85	81.90	66.46
	May	80.34	85.37	88.74	79.23	61.88
	June	73.41	77.36	81.05	77.14	55.47
	July	79.32	76.39	84.05	76.23	58.48
	August	71.32	76.31	80.16	71.14	46.53



* *FOB barge spot prices.*

Source: 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
2018	August	71.76	84.83	82.44	87.61	87.31	75.76	68.57
	September	75.39	89.53	87.51	92.76	91.75	77.59	70.54
	October	74.90	87.64	85.66	95.97	95.16	83.63	76.59
	November	57.01	68.65	66.92	81.63	82.97	77.24	68.25
	December	52.13	60.02	57.98	69.03	71.17	64.16	56.63
2019	January	51.96	61.07	59.12	70.79	71.75	65.19	58.10
	February	56.54	66.27	64.36	77.78	77.93	69.07	63.79
	March	60.24	74.42	72.83	80.31	79.82	71.61	65.56
	April	63.47	80.72	78.77	82.68	82.61	71.79	65.80
	May	60.14	76.25	74.45	82.19	81.55	69.82	62.71
	June	51.79	67.49	65.88	74.35	74.67	64.85	58.25
	July	55.68	73.61	71.11	78.10	78.43	74.51	65.49
	August	50.70	70.08	66.55	74.37	74.57	63.99	53.70

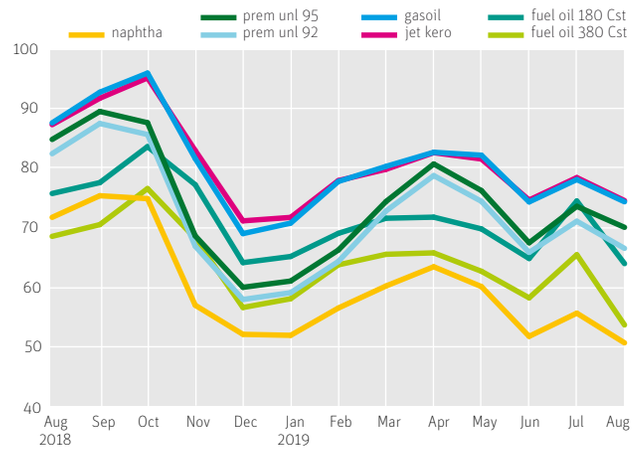
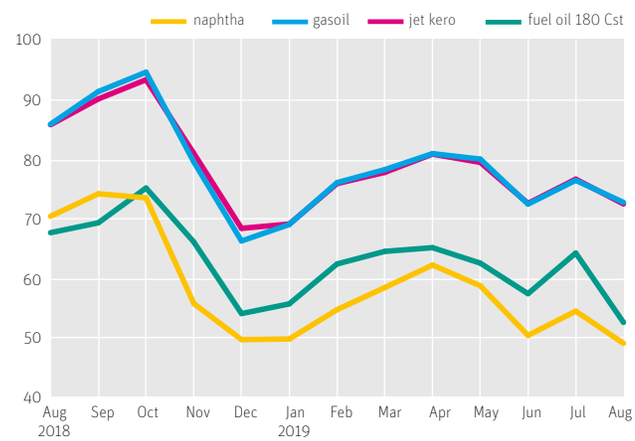


Table and Graph 7: Middle East Gulf market – spot cargoes, fob

$/b

		naphtha	gasoil	jet kero	fuel oil 180 Cst
2018	August	70.40	85.77	85.68	67.66
	September	74.16	91.22	89.99	69.31
	October	73.48	94.46	93.20	75.12
	November	55.84	79.49	80.91	66.12
	December	49.81	66.28	68.39	54.16
2019	January	49.91	69.03	69.10	55.78
	February	54.81	76.02	75.86	62.44
	March	58.50	78.19	77.73	64.54
	April	62.26	80.86	80.78	65.16
	May	58.80	79.95	79.40	62.58
	June	50.51	72.43	72.55	57.48
	July	54.56	76.40	76.60	64.27
	August	49.19	72.72	72.46	52.68

Source: Argus. Prices are average of available days.

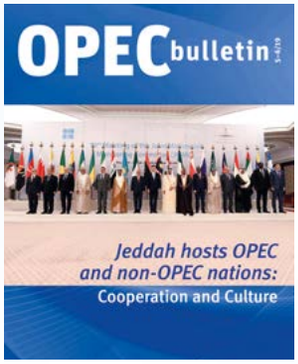


OPEC offers a range of publications that reflect its activities. Copies can be obtained by contacting this Department, which regular readers should also notify in the event of a change of address:

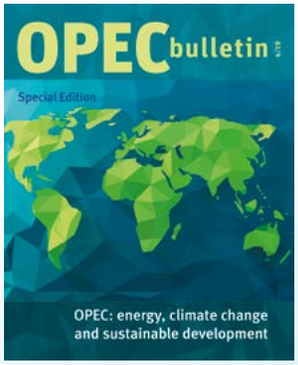
PR & Information Department, OPEC Secretariat
Helferstorferstrasse 17, A-1010 Vienna, Austria
Tel: +43 1 211 12-0; fax: +43 1 216 4320; e-mail: prid@opec.org

OPEC Bulletin
(free of charge)

July/August 2019

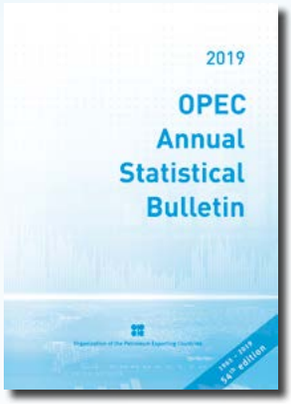


May/June 2019



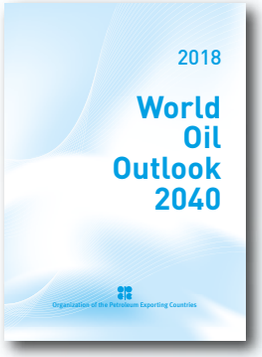
April 2019

Annual Statistical Bulletin 2019



128-page book
Interactive version available at http://asb.opec.org/

World Oil Outlook 2018
(free of charge)

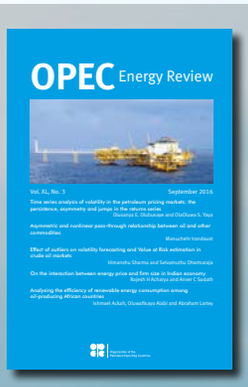


OPEC Monthly Oil Market Report *(free of charge)*

- Crude oil and product prices analysis
- Member Country output figures
- Stocks and supply/demand analysis

Annual Report 2018
(free of charge)

OPEC Energy Review



Contains research papers by international experts on energy, the oil market, economic development and the environment. Available quarterly only from the commercial publisher. Annual subscription rates for 2015:

	Institutional			Personal
	Print	Online	Print & online	Print & online
Europe €	615	615	738	182
UK £	485	485	582	123
Americas $	814	814	977	203
Rest of world $	949	949	1,139	£123

Canadian residents, please add five per cent for GST.

Orders and enquiries:
John Wiley & Sons, 9600 Garsington Road, Oxford OX4 2DQ, UK.
Tel: +44 (0)1865 776868; fax: +44 (0)1865 714591; e-mail: cs-journals@wiley.com;
http://onlinelibrary.wiley.com/

www.opec.org