OPEC bulletin

9–10/22

Vienna Energy Scholar Programme

OPEC-GECF:
Enhancing cooperation

Books:
Oil through the ages

Football:
OPEC at the World Cup

OPEC 8th International Seminar

Save the date

July 5–6, 2023

Hofburg Palace, Vienna, Austria

The 8th International OPEC Seminar will be held under the theme:

'Towards a sustainable and inclusive energy transition'

www.opec.org

The OPEC Academy's enduring contributions

In recent weeks at the OPEC Secretariat, it has been possible to hear discussions on innovations in the crude futures markets, energy consumption and economic growth in the EU, ESG policies, investments in the fossil fuel sector, oil supply modelling, along with many other timely topics.

It may sound like a university syllabus — and it could be. But these topics reflect just a few of the presentations hosted by the OPEC Academy, the Organization's knowledge and networking platform.

The Academy is an important part of the services the OPEC Secretariat provides to Member Countries and other key stakeholders. Its full portfolio includes the Visiting Research Fellow Programme (VRFP), Summer Fellowship Programme (SFP), Multi-Disciplinary Training Course (MDTC), Internship Programme, Lecture Series, the Vienna Energy Scholar Programme (VESP), OPEC Energy Review and the Secondment Programme.

Under its umbrella, the Academy attracts some of the world's leading energy experts, while giving professional researchers, university students, interns and others an opportunity to enrich their knowledge of the Organization, its Member Countries and the oil industry in general.

Established in 2018, the OPEC Academy incorporates the activities of the Academic Committee, which was created in 2006 to oversee the OPEC Secretariat's multitude of research and training programmes. Since then, the Academy has expanded and is an integral part of efforts to build capacity, strengthen professionalism and share expertise.

Traditional academic institutions can be resistant to change. By contrast, the OPEC Academy has been quick to adjust to the times and often focuses on issues that are making headlines. As the world locked down at the onset of COVID-19 in 2020, the Academy quickly moved online. It provided a steady stream of programmes that helped maintain an open channel of communication between experts from the OPEC Secretariat, Member Countries and their counterparts outside of the Organization. These discussions have contributed — along with OPEC's dialogues and other outreach — to a better understanding of what has been happening in the world and the energy markets since the pandemic began.

The VESP is the Academy's newest programme, having marked its second year in September. *(See our coverage on page 44.)* The VESP provides university students and future energy professionals in Vienna a unique opportunity to learn about OPEC, its Member Countries and the oil business through hands-on experiences and field trips. Furthermore, this programme enhances the cooperative relationship that has existed between the OPEC Secretariat and the city it has called home for 57 years.

Going forward, the Academy is well positioned to help OPEC oil producers attract new generations of skilled employees to the industry by offering rewarding professional experiences, training opportunities and a platform for young professionals to share their own ideas and expertise. As an outgrowth of these opportunities, facilitating additional research and career exchanges between Member Countries would bring added value to the Academy's multifaceted programmes.

This is important, given that the oil industry overall paid a dear price in both lost investment and human resources during the dramatic market crisis in 2020 and the industry downturn in 2015 and 2016. The market's rebound over the past two years, and the urgent need to prepare for future growth, mean the oil sector needs to redouble efforts to attract and retain workers with diverse skill sets, educational backgrounds and work experiences.

With its vast knowledge network, the Academy is also in a strong position to foster the dialogue and cooperation needed to achieve an energy transition that is orderly, inclusive and addresses the world's economic, social and environmental concerns.

This summer, nine young professionals from OPEC Member Countries (four of whom were based at the Secretariat) participated in the SFP. Their impressive array of research represents a prime example of how capacity building can contribute to attracting, motivating and rewarding the best and brightest in an industry that will remain vital to the world's energy needs for the foreseeable future.

Knowledge — like oil itself — is an indispensable commodity. As one of this year's Summer Fellows aptly noted during a presentation at the OPEC Secretariat: "We always talk about the financial investments in the industry. But we also need to talk about human capital development."

The OPEC Academy's investments in enhancing professionalism and the exchange of knowledge will pay dividends for a long time to come, and ultimately contribute to OPEC's efforts to achieve a more stable, sustainable and secure energy future.

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Cover
This month's cover shows the Vienna City Hall. The VESP enhances the cooperative relationship between OPEC and its host city (see story on page 44).
Image courtesy Shutterstock.

Vol LIII, No 6, September/October 2022, 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
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OPEC Membership and aims
OPEC is a permanent, intergovernmental Organization, established in Baghdad, on September 10–14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective — to coordinate and unify petroleum policies among its Member Countries, in order to secure a steady income to the producing countries; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the petroleum industry. Today, the Organization comprises 13 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, rejoined in 2007, and suspended its Membership again on December 31, 2019. 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.

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
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Indexed and abstracted in PAIS International
Printed in Austria

DoC continues to promote stability amidst volatile markets

Above left: Bruno Jean-Richard Itoua, Minister of Hydrocarbons, Republic of the Congo, President of the OPEC Conference; and above: HRH Prince Abdul Aziz Bin Salman Al Saud, Minister of Energy, Saudi Arabia, Chairman of the JMMC and ONOMM.

At its 32nd and 33rd Ministerial Meetings, OPEC and its non-OPEC partners of the 'Declaration of Cooperation' (DoC) continued to support oil market stability through timely decisions made at its September and October meetings.

Attending the press conference preceding the 33rd OPEC and non-OPEC Ministerial Meeting are (l–r):
Mohamed Arkab, Minister of Energy & Mines, Algeria;
Suhail M Al Mazrouei, Minister of Energy & Infrastructure, United Arab Emirates;
Dr Mohammad A Al-Fares, Deputy Prime Minister, Minister of Oil, Minister of State for Cabinet Affairs, Kuwait;
HRH Prince Abdul Aziz Bin Salman Al Saud, Minister of Energy, Saudi Arabia, Chairman of the JMMC and ONOMM;
Bruno Jean-Richard Itoua, Minister of Hydrocarbons, Republic of the Congo, President of the OPEC Conference;
Haitham Al Ghais, OPEC Secretary General;
Ihsan Abdul Jabbar Ismaael, Minister of Oil, Iraq;
Salem al-Aufi, Minister of Energy and Minerals, Oman;
Dr Mohamed Bin Mubarak Bin Daina, Minister of Oil and Environment, Bahrain.

Suhail M Al Mazrouei, Minister of Energy & Infrastructure, United Arab Emirates.

Mohamed Arkab, Minister of Energy & Mines, Algeria.

At the 32nd OPEC and non-OPEC Ministerial Meeting (ONOMM) held on September 5, 2022, the Ministers decided on a downward adjustment of 100,000 barrels/day for the month of October, reverting back to the August 2022 production level.

Factors playing into the decision included the ongoing high levels of volatility and uncertainty, the decline in liquidity, ongoing COVID-19 restrictions in China, as well as inflationary pressures and potential downside risks for economic growth and oil demand.

The Ministers, through a post-meeting *communiqué*, expressed their readiness to make "immediate adjustments to production in different forms, if needed, and that OPEC+ has the commitment, the flexibility, and the means within the existing mechanisms of the 'Declaration of Cooperation' to deal with these challenges and provide guidance to the market."

In an *Energy Intelligence* article published in its *International Oil Daily* publication three days after the meeting, the ONOMM Chairman and Saudi Arabia's Energy Minister, HRH Prince Abdul Aziz Bin Salman Al Saud, explained the reasoning behind the decision.

"This decision was an expression of our willingness to use all of the tools in our kit. This simple tweak shows that we are attentive, pre-emptive and proactive in terms of supporting the stability of the market to the benefit of market participants and the industry," he was quoted as saying.

The DoC producers' commitment to vigilance and flexibility was reinforced by the meeting's request for the Chairman to call for an OPEC and non-OPEC Ministerial Meeting "anytime to address market developments, if necessary."

Moreover, the meeting urged all members to adhere to full conformity to their respective production adjustments and to the agreed-upon compensation mechanism as set out in the statement of the 15th ONOMM.

33rd ONOMM

On October 5, the DoC Ministers convened in Vienna for the first in-person meeting to be held at the OPEC Secretariat since early 2020.

No opening session was held, but a press conference was hosted after the conclusion of the meetings.

Citing the prolonged uncertainty that has continued to cloud the global economic and oil market outlooks, the Ministers decided to adjust downward overall production

Dr Mohammad A Al-Fares, Deputy Prime Minister, Minister of Oil, Minister of State for Cabinet Affairs, Kuwait.

Haitham Al Ghais, OPEC Secretary General.

by 2 million b/d from the August 2022 required production levels, starting in November 2022.

In a *communiqué*, the Ministers emphasized "the need to enhance the long-term guidance for the oil market … in line with the successful approach of being proactive, and pre-emptive."

In a further sign of their commitment to long-term market stability, the Ministers agreed to extend the duration of the landmark DoC until the end of 2023.

In terms of future meetings, the Ministers decided that the Joint Ministerial Monitoring Committee (JMMC) would now meet every two months and the ONOMMs would convene every six months in accordance with the ordinary meetings of the OPEC Conference. It was stated, however, that based on market developments, additional meetings of the JMMC and ONOMM could be convened at any time.

The press conference at the conclusion of the event was attended by roughly 70 members of the international media and market analysts who had an opportunity to ask their questions regarding the meeting's outcome.

In terms of the decision to adjust production downward, Prince Abdul Aziz explained that the prevailing economic uncertainty, in tandem with a resurgence in COVID-19 cases both in China and other parts of the world, were the contributing factors.

"We have always opted for making sure that we are attentive, and to be attentive, you have to be assertive and pre-emptive, and certainly ahead of the curve, which means you have to be proactive," the Chairman explained. "The world energy markets need careful planning and guidance to ensure commitment to future investments in the industry."

Referring to the recent mounting levels of uncertainty, Prince Abdul Aziz added, "I have had 35 years of experience in this field, and I challenge anyone who would come and say that we have been through something similar to today's conditions. We cannot afford to play catch-up. We prefer to be pre-emptive, otherwise the cost in terms of time and value will be higher. This is not just about OPEC's Member Countries, this is about an industry and about a global economy that would suffer if we run out of energy."

"OPEC+ is here to stay as a moderating force to bring about stability and provide support to the world economy."

— HRH Prince Abdul Aziz Bin Salman Al Saud, ONOMM Chairman and Saudi Arabia's Energy Minister

Ihsan Abdul Jabbar Ismaael, Minister of Oil, Iraq.

On the subject of the DoC and the Ministers' decision to extend the agreement until the end of 2023, the Chairman pointed to the ongoing commitment and unity of the group.

"The key to our success as OPEC+ is first and foremost our cohesion, and you can see it in front of you here. We have a record to show that we have been successful," he said from the OPEC Secretariat's press conference room. "OPEC+ is here to stay as a moderating force to bring about stability and provide support to the world economy."

Investment challenges

On the dire issue of reviving desperately needed long-term investment in the global industry, Suhail Mohamed Al Mazrouei, Minister of Energy and Infrastructure of the United Arab Emirates (UAE), highlighted that this is a top priority for OPEC.

"We are concerned about the lack of investment," he said. "We care about the consuming nations, and what we are trying to do is to ensure that we have more oil coming to the market for years to come. It is not a short-term issue."

It was announced that, in accordance with the newly agreed meeting protocol, the 34th Meeting of the OPEC and non-OPEC Ministerial Meeting would take place on December 4, 2022.

Salem al-Aufi, Minister of Energy and Minerals, Oman.

Dr Mohamed Bin Mubarak Bin Daina, Minister of Oil and Environment, Bahrain.

Haitam Al Ghais

OPEC Secretary General

Wishes to extend his sincere appreciation to the City of Vienna, Austrian Federal Ministry for European and International Affairs and Austrian Federal Police for the exceptional support and courtesies extended during the 33rd OPEC and non-OPEC Ministerial Meeting on October 5, 2022.

Venezuela mission:

Celebrating binding ties

*OPEC Secretary General, **Haitham Al Ghais**, undertook his first mission to the Bolivarian Republic of Venezuela in mid-September. It was an opportunity to celebrate the unique role Venezuela has played in OPEC's history, meet with government and industry leaders, and see first-hand the many strides being taken in the country's oil industry.*

Venezuela is famed for its hospitality and the best features of this welcoming culture were on display when Al Ghais arrived at Simón Bolívar International Airport on September 13, 2022.

The Secretary General was received by Carlos Faria, Minister of Foreign Affairs; Rubén Molina, Vice-Minister for Multilateral Affairs at the Ministry of Foreign Affairs; Eng Angel González Saltron, Venezuela's Governor for OPEC; and Eng Ronny Romero, Venezuela's National Representative. Also in attendance were members of the national press and the arrival was broadcast live on Venezuelan TV. The Secretary General thanked the Foreign Minister for the warm welcome in Spanish and held bilateral talks with him.

The welcoming ceremony included a performance by a choir from Venezuela's National System of Children and Youth Orchestras (El Sistema). El Sistema is a world-renowned music education initiative for young people across Venezuela. The programme was founded by the educator, musician and activist José Antonio Abreu, with a group of fellow musicians in 1975, inspired by the principles of Simón Bolívar.

As UNESCO's website explains, "This project is meant to incorporate children and teenagers in vulnerable situations or extreme poverty into the National System of Children and Youth Orchestras by creating, equipping, developing, supervising and assessing regional orchestras and choirs for children and teenagers, as well as artisanal workshops with musical instruments." Priority is given "to people with disabilities, children whose rights have been infringed upon, and people living in poverty, to achieve a significant improvement in the quality

Haitham Al Ghais (r), with Carlos Faria (l), Venezuela's Minister of Foreign Affairs, during the welcoming ceremony.

of life of participants, their families and communities, by using music as a cohesion and social integration strategy, providing the population with activities that allow them to attain development in a socially-minded democracy by establishing and adequate, productive use of spare time."

According to UNESCO, "The widespread expansion of social measures and music education that is El Sistema, seen from a functional, educational, artistic and administrative perspective, has been made possible by setting up local centres and modules in all 24 states of the federal territory. There are currently 440 centres and 1,340 modules across the country, where children, teenagers and young adults are looked after by an academic staff made up of 10,191 teachers distributed across 24 states, and based, most of them, in the schools to support the Simón Bolívar Project for the teaching of orchestral and choir music. The entity currently has 1,210 orchestras and 372 choirs for youths and children."

"Venezuela, as a Founder Member of our Organization, has played a unique role in OPEC's evolution and successes over the course of the last 62 years."

— Secretary General, Haitham Al Ghais

Venezuela's National System of Children and Youth Orchestras (El Sistema) performed in honour of the visit of the OPEC Secretary General.

Haitham Al Ghais (c), OPEC Secretary General, with (l–r): Shakir M A Alrifaiey, Head, OPEC Secretary General's Office; Eng Angel González Saltron, Venezuela's Governor for OPEC; Rubén Molina, Vice-Minister for Multilateral Affairs at the Ministry of Foreign Affairs; and Eng Ronny Romero, Venezuela's National Representative.

National Pantheon of Venezuela

September 14 featured a packed agenda that began when the Secretary General paid his respects at the memorial for Simón Bolívar at the National Pantheon in Caracas. Al Ghais paid homage alongside Molina, González, Romero and Shakir Mahmoud A Alrifaiey, Head of the Office of the Secretary General at the OPEC Secretariat.

The Pantheon is located in the northern edge of the old town of Caracas. It was originally built as the Santísima Trinidad church but in the 19th century became the location to conserve the remains of national heroes and other eminent people. The central nave is dedicated to Bolívar, with his bronze sarcophagus as the centrepiece. The vault of the pantheon is adorned with paintings depicting scenes from the liberator's life. It was reopened in 2013, after a restoration project that lasted three years. The remains of many prominent heroes from Venezuela's independence wars and subsequent history are buried there.

Bilateral meeting with Minister El-Aissami

Following the visit to the National Pantheon, the Secretary General visited the Ministry of Petroleum, where he was received by Tareck El Aissami, People's Minister of Petroleum and Vice-President for the Economic Sector of Venezuela. The Minister and Al Ghais held a bilateral meeting, discussing oil market

Bilateral meeting with Tareck El Aissami, People's Minister of Petroleum and Vice-President for the Economic Sector of Venezuela.

developments and ways to strengthen cooperation between OPEC and Venezuela, one of the Organization's Founder Members.

OPEC's 62nd Anniversary event

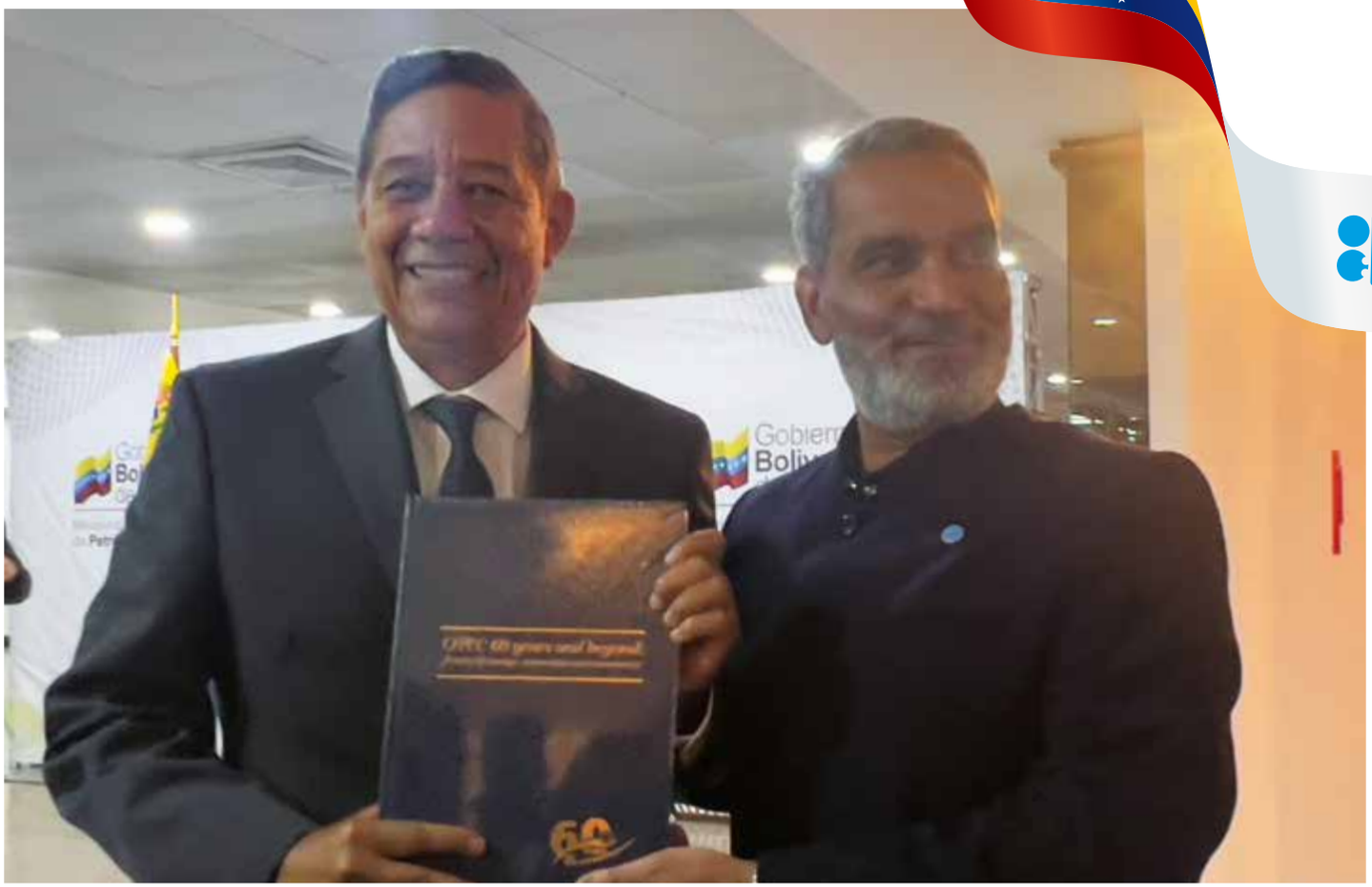
The Ministry of Petroleum organized an event to mark 'OPEC Day'. There was a photo exhibition and a televised ceremony which featured addresses by El Aissami and the Secretary General. In attendance were Ambassadors from OPEC Member Countries, as well as non-OPEC countries participating in the 'Declaration of Cooperation' (DoC). There were also members of the cabinet and the board of Petróleos de Venezuela, SA (PDVSA), including its President, Asdrúbal Chávez. Distinguished academics, oil workers, ministry officials, and authorities and students of the Venezuelan University of Hydrocarbons also attended.

El Aissami provided an overview of Venezuela's role in the history of OPEC and described the ongoing efforts in the recovery in production. He paid tribute to the late Secretary General, Mohammad Sanusi Barkindo. He also underscored Venezuela's support for the new Secretary General.

Al Ghais addressed the audience in Spanish, which was appreciated by the hosts. The Secretary General said, "There are few places on earth like Venezuela. This is a breathtakingly beautiful country, with diverse landscape and terrain. A land that straddles the Andes mountains, the Caribbean, the Amazon rainforest and the Atlantic Ocean. As the great song tells us, this is the land of 'desert, jungle, snow and volcano'. It is the land of the world's highest uninterrupted waterfall in Angel Falls in Canaima National Park."

'My second home'

He continued, stating, "And yet, for its abundance of natural assets, undoubtedly the greatest resource you have is the heroic, welcoming and kind-hearted people



Haitham Al Ghais with President of Petróleos de Venezuela, SA (PDVSA), Asdrúbal Chávez (l).

of Venezuela. I am delighted to be in your country, which I consider my second home."

The Secretary General paid tribute to the President of the Bolivarian Republic of Venezuela, Nicolás Maduro. "President Maduro, you continue to provide inspirational leadership in your support of OPEC and the 'Declaration of Cooperation' process. Under this process, OPEC works with ten non-OPEC producing countries in concerted effort to accelerate the stabilization of the global oil market. This unique forum was born as a result of the severe market imbalance in 2014–16, which necessitated a cooperative ethos among the producing countries of the world, something that President Maduro spearheaded and championed," Al Ghais said.

"You have provided our market stabilization efforts with a gravitas by engaging with your counterparts at the head of state and government levels," he added. The Secretary General warmly recalled his meeting with President Maduro when he visited Kuwait earlier in the year.

Venezuela's role in OPEC history

The Secretary General provided an overview of some of the critical moments in the Organization's history. "Venezuela, as a Founder Member of our Organization, has played a unique role in OPEC's evolution and successes over the course of the last 62 years," he said. "The land of Simón Bolívar has infused our Organization with some of the great liberator's most treasured principles: cooperation among nations, unity and respect for national sovereignty."

He described the significant events from OPEC's history that have taken place in Venezuela. For example, the second meeting of the OPEC Conference was held in Caracas between January 15 and 21, 1961. At this meeting, the OPEC Statute, which established the structure and functions of the Organization, was finalized and approved.

On September 27 and 28, 2000, the Second Summit of Heads of State and Government of OPEC Member

Haitham Al Ghais paid tribute to Dr Álvaro Silva Calderón (l), who served as OPEC Secretary General from July 1, 2002 to December 31, 2003, and received an Honorary Doctorate from the Venezuelan University of Hydrocarbons.

Countries took place in Caracas. The significance of the event was enhanced by the concluding Second Solemn Declaration that expanded the scope of the Organization's original mission and vision.

"OPEC is determined to honour its heritage and learn from the wisdom of previous Secretaries General, each of whom left their own mark in shaping OPEC into the Organization it is today."

— Secretary General, Haitham Al Ghais

Contributions to the energy industry

Al Ghais described OPEC's future projections for the oil industry. "According to OPEC's *World Oil Outlook (WOO),* the global population is expected to increase by around 1.7 billion between 2021 and 2045, from 7.8bn to 9.5bn. The global economy in 2045 will be more than double the size it was in 2021. With more people and more incomes, there will be a concurrent rise in global energy demand, which is set to increase from around 286 million barrels of oil equivalent per day (m boe/d) in 2021 to 351m boe/d by 2045. Global oil demand is expected to increase by close to 13m b/d to reach close to 110m b/d by 2045."

Given this increase in demand, Venezuela, with the world's largest proven oil reserves of over 300 billion barrels, has a critical role to play in meeting the world's future energy needs. This role is particularly important in efforts to alleviate energy poverty. According to United Nations statistics, more than 700 million people have no access to electricity and 2.4 billion people still use inefficient and polluting cooking systems.

The Secretary General also used his remarks to highlight the critical issue of investment. "Ours is an investment-intensive industry, yet it currently suffers from chronic underinvestment. This is concerning as natural decline rates in our industry average approximately five per cent annually. In the WOO, we see the global oil sector needing cumulative investments of around $12 trillion in the upstream, midstream and downstream through to 2045. These investments are essential for both producers and consumers."

Haitham Al Ghais held a bilateral meeting with Delcy Rodríguez, Vice-President of Venezuela, at the 'Casa Amarilla', the ceremonial house of the Ministry of Foreign Affairs.

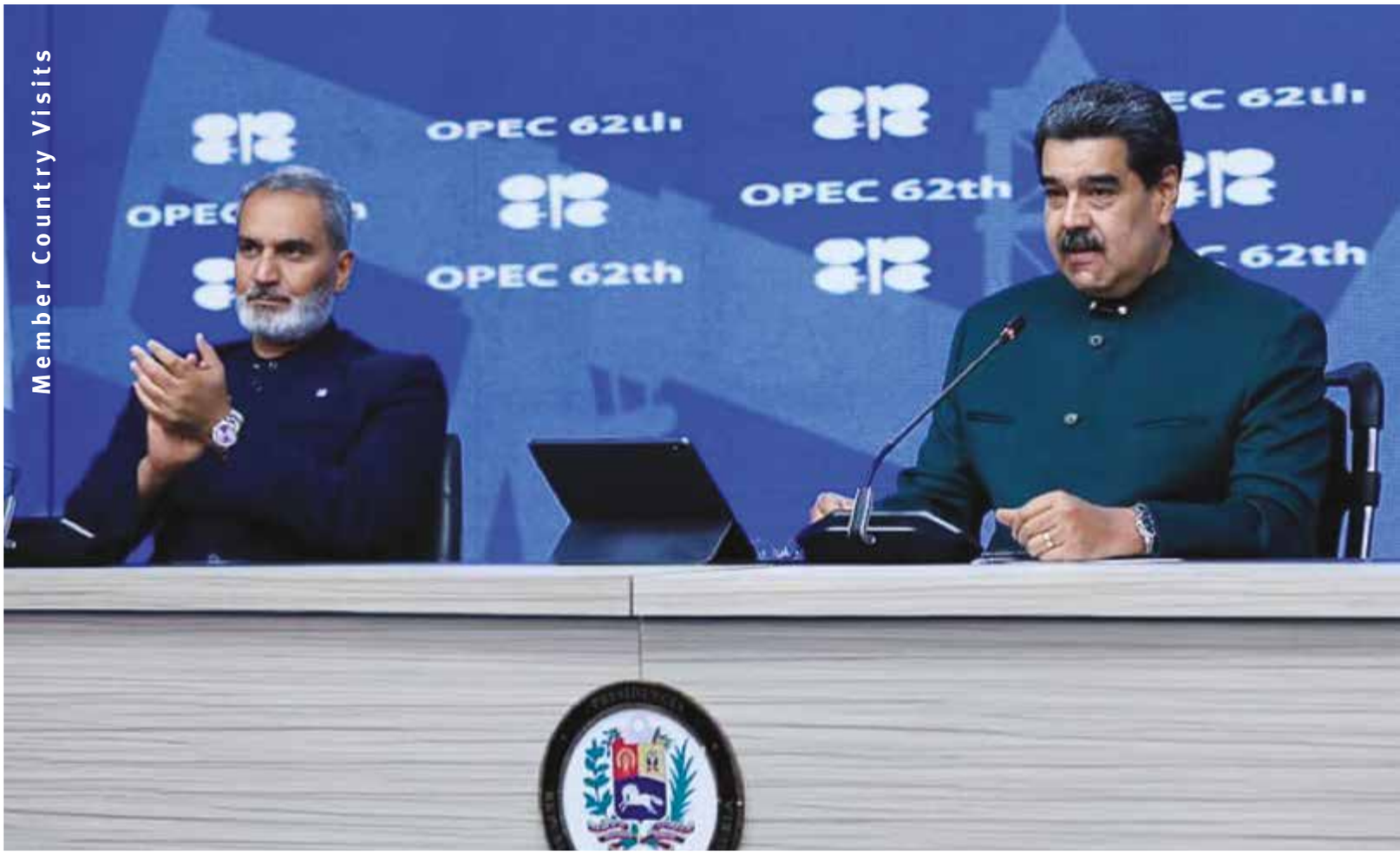
Dr Álvaro Silva Calderón — an OPEC legend

In attendance at the event was Dr Álvaro Silva Calderón, who served as OPEC Secretary General from July 1, 2002 to December 31, 2003. He received an Honorary Doctorate from the Venezuelan University of Hydrocarbons. Al Ghais paid tribute to Dr Calderón, saying, "OPEC is determined to honour its heritage and learn from the wisdom of previous Secretaries General, each of whom left their own mark in shaping OPEC into the Organization it is today. A few weeks ago, the OPEC Secretariat staff wished an OPEC legend, former Secretary General, Dr Subroto, a happy 99th birthday.

"Dr Calderón is another OPEC legend," Al Ghais said. "He has had an outstanding career dedicated to his country, our industry and OPEC. Dr Calderón was a member of the advisory team of Dr Juan Pablo Pérez Alfonzo, one of our Organization's founding fathers. Staff at the Secretariat speak extremely warmly of the support and encouragement they received during his tenure. On behalf of OPEC, I would like to thank Dr Calderón for his service to our Organization. Congratulations on receiving your well-earned Honorary Doctorate from the Venezuelan University of Hydrocarbons. It is a fitting tribute to your lifetime of service."

Meeting with Vice-President of Venezuela

Following the event, the Secretary General held a bilateral meeting with Delcy Rodríguez, Vice-President of Venezuela, at the 'Casa Amarilla', the ceremonial house of the Ministry of Foreign Affairs. This is located just in front of the iconic Plaza Bolívar in the centre of Caracas. Al Ghais thanked the Vice-President for her continuous



Venezuela's President Nicolás Maduro received the OPEC Secretary General at the Miraflores Palace. Al Ghais thanked the President for his exemplary leadership, wisdom and facilitating role in the DoC process.

support and firm commitment to OPEC and the DoC process since its inception.

Meeting with President Maduro

President Nicolás Maduro received the Secretary General at the Miraflores Palace. Al Ghais thanked the President for his exemplary leadership, wisdom and facilitating role in the DoC process.

Following their bilateral meeting, President Maduro presided over a ceremony to celebrate the 62nd Anniversary of OPEC's founding. In attendance were the diplomatic corps from OPEC Member Countries and DoC countries. There were also workers from PDVSA and other Venezuelan officials.

The President provided an overview of his views on the important role OPEC has played in stabilizing the oil market throughout the Organization's history. He highlighted Venezuela's contribution to the Organization's founding, particularly through the diplomatic endeavours of Dr Juan Pablo Pérez Alfonzo. The Secretary General used his remarks to thank Venezuela and President Maduro for their outstanding contribution to the success of the DoC.

As part of the ceremony, Dr Calderón was awarded the Order of the 'Liberators of Venezuela' by President Maduro. The President paid tribute to Dr Calderón's lifetime of service. He was heartily congratulated by the Secretary General. The ceremony was broadcast live on Venezuelan national television.

Anzoátegui Petrochemical Complex visit

On September 15, the OPEC delegation visited the José Antonio Anzoátegui Petrochemical Complex in Anzoátegui State. PDVSA President Chávez welcomed Al Ghais. Erick Pérez, Vice-Minister of Hydrocarbons and Vice-President of Exploration and Production at PDVSA, OPEC Governor González and National Representative Romero were also in attendance. The Secretary General

held a meeting with members of the Board of Directors of PDVSA and had an opportunity to meet PDVSA workers.

The complex is composed of four main upgraders and a petrochemical plant. PDVSA gave a presentation on the main investment opportunities in Venezuela in the areas of exploration and production, gas and refining.

Al Ghais commended the leadership of Venezuela, the management of PDVSA and the heroism of PDVSA workers who have done an outstanding job in supporting the oil industry in the country. There have been extensive improvements to the petrochemical complex over the last two years. This constitutes a monumental achievement given the challenging conditions. The Secretary General stressed the importance of investing across the entire value chain in the oil industry. The activities of Venezuela in the José Antonio Anzoátegui Petrochemical Complex are extremely important in this regard.

The OPEC delegation during the visit to the José Antonio Anzoátegui Petrochemical Complex in Anzoátegui State.

"Venezuela is a 'land of heroes'. This complex and indeed, this state, is named after one of the great heroes of your independence movement, José Antonio Anzoátegui," Als Ghais said. "And hearing about what has been accomplished in this complex over the last two years and seeing the commitment of PDVSA workers, it is clear that the spirit of heroism, the spirit of Anzoátegui, the spirit of the liberator Simón Bolívar, live inspire here and inspires feats of tremendous courage and dedication."

Asdrúbal Chávez paid tribute to Al Ghais and congratulated him on his appointment as Secretary General. He said the Secretary General's career is the ideal background to steer the Organization at this critical juncture in its history. Both the Secretary General and PDVSA President paid tribute to remarkable commitment of PDVSA workers and then toured the facilities at the petrochemical complex.

Bonds between OPEC and Venezuela reaffirmed

Overall, the mission represented a manifestation of the positive and constructive relationship between OPEC and Venezuela. The Secretary General was able to outline his forward-looking vision for the Organization and received the strong backing of President Maduro, Vice-President Delcy and Minister El-Aissami. As Al Ghais noted, in undertaking his duties, it is extremely encouraging to know he has the support of this great country.

Cueva de Kavac:
Stunning natural beauty in the heart of Venezuela

The May edition of the OPEC Bulletin *featured an article on one of the natural wonders of the world: Canaima National Park in Bolívar State, Venezuela. There is so much in this park, one article or publication cannot do it full justice. The waterfalls, the savannah, the vistas, the tepuis which are some of the world's oldest rock formations, the flora and the fauna: they all amount to a spectacular overwhelming of the senses. Its gorges are particularly stunning and culminate in the Cueva de Kavac.*

Tepuis —unique rock formations

In 1994, Canaima National Park was granted World Heritage status by UNESCO. According to UNESCO, "Roughly 65 per cent of the park is covered by table mountain (tepui) formations. The tepuis constitute a unique bio-geological entity and are of great geological interest. The sheer cliffs and waterfalls, including the world's highest (1,000 m), form a spectacular landscape." The indigenous people who inhabit the Gran Sabana, speak a language called Pemon. The word tepui is Pemon for the 'house of the gods'.

Auyán Tepui is one of the most iconic tepuis. Its summit area amounts to 666.9 square kilometres and has an estimated slope area of 715 square kilometres. Angel Falls, the world's tallest uninterrupted waterfall, drops from a cleft near the summit.

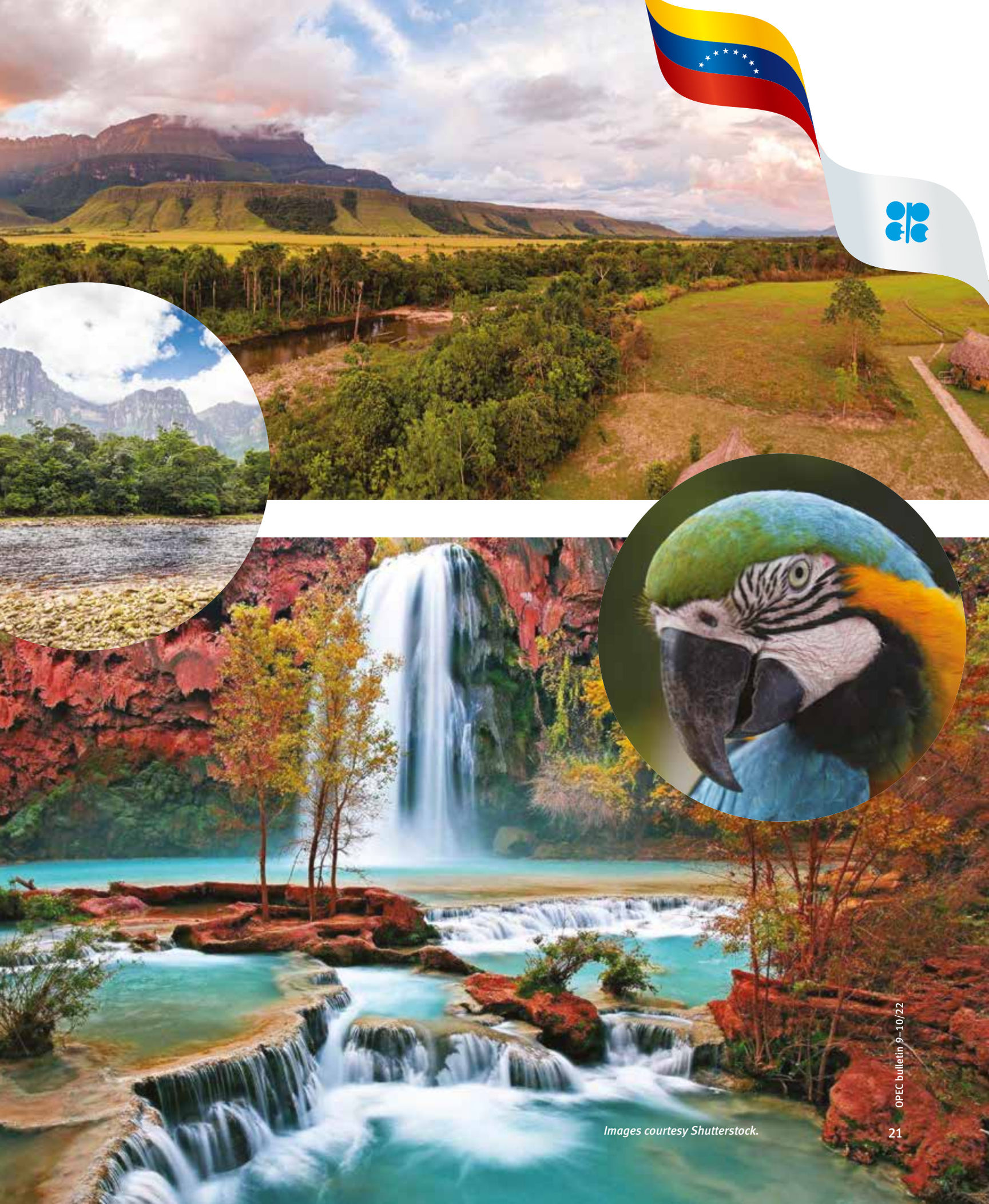
Cueva de Kavac

Cueva de Kavac sits at the foot of the Auyán Tepui. It comprises of 150 metres of multi-coloured rocks that form parallel walls, with a large waterfall at the end of the crevice. At the foot of the waterfall, there is a natural pool. The name of this cave comes from the bird known as Kavac, which means 'royal parrot'. The gorge was formed over 1.8 billion years ago, in the Precambrian period. The presence of the mineral silica has contributed to the uniqueness of the gorge formation.

Reaching the pool constitutes quite an adventure. Tours are led by locals from the nearby village of Kavac. The village is reached by plane and the walk from the village to the gorge is roughly 30 minutes. The paths along the caves can be very deep and rocky, so care is required while walking and swimming. The water is beautiful and fresh.

Natural wonder

Canaima Park is one of the most beautiful and breath-taking places on earth. It offers much for tourists to do and see. Cueva de Kavac is just one example of an incredible activity that can be undertaken when visiting this great part of a wonderful country.



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OPEC Secretary General visits Equatorial Guinea

*OPEC Secretary General, **Haitham Al Ghais**, visited Equatorial Guinea in September. The mission marked the beginning of the Secretary General's tour of OPEC Member Countries and his first visit to Africa since taking office. OPEC's Ayman Almusallam reports.*

OPEC Secretary General, Haitham Al Ghais (l), met with President of the Republic of Equatorial Guinea, Teodoro Obiang Nguema Mbasogo in Malabo.

Between September 11 and 13, 2022, OPEC Secretary General, Haitham Al Ghais, travelled to the elegant capital of city of Equatorial Guinea, Malabo.

The visit featured several meetings with high-level officials, such as the President of the Republic, Teodoro Obiang Nguema Mbasogo; Prime Minister Francisco Pascual Obama Asue; and Gabriel Mbaga Obiang Lima, Minister of Mines and Hydrocarbons and Head of Equatorial Guinea's Delegation to OPEC. He also had various engagements with the regional and international press. The mission helped to strengthen the robust ties between Equatorial Guinea and the Organization.

Equatorial Guinea's exemplary leadership

During their meeting, Al Ghais thanked the President for his "exemplary leadership and exceptional sagacity," adding that the President's "leadership role in OPEC, the 'Declaration of Cooperation' (DoC) and the 'Charter of Cooperation' (CoC) is widely admired and respected."

The Secretary General also emphasized the importance of the mission.

Al Ghais stressed that visiting Equatorial Guinea provided an opportunity to "reflect on the significant contributions" of the OPEC Member Country to the Organization since it became a Member in May 2017. He also underscored its key role in the DoC process.

In this context, the President said that it is "a great honour for Equatorial Guinea to be chosen as the first stop by the Secretary General in his tour of Member Countries," adding: "Equatorial Guinea is not a big producer," but the presence of the Secretary General is "a reflection of the great treatment we receive from the Organization."

The President congratulated Al Ghais on his appointment as Secretary General and wished him great success. He underscored his readiness to fully support the Secretary General.

In this regard, the Secretary General expressed his deep appreciation for Equatorial Guinea's support and

trust during the selection process that led to his appointment by acclamation as OPEC Secretary General for a three-year term, stating, "This is indeed an honour of a lifetime."

The Secretary General extended an invitation to the President to visit the OPEC Secretariat in Vienna. The meeting took place at the People's Palace in Malabo.

Active actor in the global oil market

The Secretary General held a bilateral meeting with Prime Minister Francisco Pascual Obama Asue.

In welcoming the Secretary General, the Prime Minister thanked him for visiting Equatorial Guinea and wished him "courage and strength" in his new position. He also assured the Secretary General of the country's continuous support.

The Prime Minister noted that Equatorial Guinea embodies equity and fairness — some of OPEC's key values. He also stressed that the Organization has a bright future.

In his remarks, Al Ghais thanked the Prime Minister for his valuable guidance and firm commitment to the Organization. He also used the opportunity to reiterate Equatorial Guinea's leadership role in the global oil market.

In underscoring the mission's significance, the Secretary General said that "my visit to Equatorial Guinea and the continent of Africa marks the beginning of my first tour of OPEC's 13 Member Countries since assuming office."

The Prime Minister invited the Secretary General to visit the OPEC Member Country again and witness the continuous development that the country is undergoing.

Reliable partnership, deep cooperation

At the Ministry of Mines and Hydrocarbons, Minister Gabriel Mbaga Obiang Lima and the Secretary General held a bilateral meeting to discuss a number of issues related to the industry. They also spoke to the media to reflect on the mission's successes and outcomes.

During the event, the Minister thanked Al Ghais for his visit, saying the Secretary General should consider Equatorial Guinea as his home.

The Minister said his home country has witnessed progress on various fronts, which has contributed to Equatorial Guinea's overall prosperity and success.

The Secretary General, in his remarks, praised the OPEC Member Country for its instrumental contributions to the global oil market.

The Secretary General also noted that the visit came at an important time as Equatorial Guinea is set to take over the Presidency of the OPEC Conference in 2023.

The Minister and the Secretary General emphasized the importance of enhancing information exchange and cooperation between Equatorial Guinea and the OPEC Secretariat, including at the research and technical levels.

In this context, the Minister said he looks forward to the 8th OPEC International Seminar, which is planned for July 5–6, 2023, under the theme *'Towards a sustainable and inclusive energy transition'*.

They also exchanged words of condolence on the late Secretary General, Mohammad Sanusi Barkindo, who passed away in July during a visit to his home country of Nigeria *(see OPEC Bulletin, June/July 2022)*.

Al Ghais (l) during media interviews with Gabriel Mbaga Obiang Lima (r), Minister of Mines and Hydrocarbons and Head of Equatorial Guinea's Delegation to OPEC.

Al Ghais held a bilateral meeting with Equatorial Guinea's Prime Minister Francisco Pascual Obama Asue.

Next year's OPEC Conference President discusses plans and views

The OPEC Bulletin's ***Maureen MacNeill*** *had the opportunity to interview* ***Gabriel Mbaga Obiang Lima****, Minister of Mines and Hydrocarbons for Equatorial Guinea and Alternate President of the OPEC Conference 2022 about the focus he will bring to the Conference Presidency in 2023. They spoke on the sidelines of the 33rd OPEC and non-OPEC Ministerial Meeting (ONOMM) in October at the OPEC Secretariat.*

Question: What do you hope to bring to the position of President of the Conference next year?

Answer: For the Republic of Equatorial Guinea, it will be an honour to hold the annual rotating presidency of the OPEC Ministerial Conference during 2023, a special and demanding year given international geopolitical tensions, whose effects have a direct impact on the international hydrocarbon markets.

From January 1, 2023, my work agenda will be available for the needs of OPEC, with the aim of attending all international forums where I am required. One of my main tasks will be to attract new African producers to OPEC, as it is an Organization that will allow them to have greater international presence and be up-to-date with all the news that occurs in the oil industry worldwide. At the same time, they will be made aware of the commitment involved in being part of our prestigious international Organization.

You've been quite outspoken about Africa as a producing continent with so much potential and also so much potential to provide energy to the world, especially now with the energy crisis.

One of the issues that I am really advocating is that Africa needs to create its own market. So if in the future — 2030, 2040 — different groups or geopolitical areas decide they don't want to use fossil fuels anymore, if Africa has its own market, it will allow its own market to develop and utilize their resources to great benefit. A key main benefit from this approach is job creation. We have many youth [and] unemployment is a big problem on the continent, so by using our resources we will be able to industrialize.

Secondly, it's really a consistent and secure revenue source and of course provides energy security. If you have resources close to your market you will be able to create infrastructure that gives you power. The best example is that there are very few big refineries on the continent. There are very few receiving LNG on the continent and this is what makes it very difficult for us to provide energy to our industry and to our population. Having said all of the above, we are also not going to renege on our commitments to our international customers.

When you talk about population, you mean Africa as a whole, because Africa has a huge need for refined products?

Africa as a whole, because we all have to remember history. Africa has been very much divided, so we have been doing things separately. Thus, the interconnection is very low, and interconnection doesn't have to be only about electricity. It can be interconnection regarding resources: oil, gas, and any other petrochemicals. We do believe if we create the markets, it will create different groups that will allow that interconnection to happen. It is not pleasant to see our populations queuing at gas stations for days in search of refined crude oil products, a situation that on many occasions has been the cause of social unrest.

It's a chance for all of Africa to reach its potential?

Yes, correct. And remember something very important, that one of the key components in the energy transition — especially regarding electric cars and the use of electricity — is energy storage. Batteries. Batteries are mainly produced with minerals and the majority of these minerals come from our continent. Those minerals (such as lithium, cobalt, nickel, manganese, aluminium and copper) need to be processed and for that processing you need energy.

What about working together with the African Petroleum Producers' Organization (APPO)?

APPO is working on an initiative to create regional pipeline hubs. We are already working on the Central Africa Pipeline system and there is the East Africa pipeline system, while the South African region is planning a system and North Africa already has pipelines. One of the goals of APPO is to see how we can interconnect the entire continent with pipelines for hydrocarbons, especially for countries that have difficult access because the transportation costs are very high.

What do you see on the horizon for African development, in say ten years?

In ten years, I see great opportunity here for these countries to become part of OPEC so that they can gain perspectives and experiences from other African as well as global producers. This is one reason joining OPEC has meant so much for Equatorial Guinea.

The other issue that I see going forward is that a lot of African countries are going to be focusing on our own market, not looking to the US or the European markets ... That is the only way we are going to be able to create jobs, create industrialization. Africa is going to start looking more into Africa, and if it has good business with other countries, other regions will want the resources. They will see us as a good and reliable market because you want to go to a market that's going to keep growing.

But it's not just about bringing funds and exporting products — you have to give something back. And when I talk about giving something back, it is to create jobs, create infrastructure. It makes no sense that I can export oil and gas but I cannot export the same oil and gas to my own market. So I can have a big floating production storage and offloading unit (FPSO) producing one million barrels/day (m b/d), and I say I want oil for my refinery, but you cannot because you don't have a refinery and you don't have a terminal. Those Europeans or Americans who want the resources, they need to come, create a system where we can export to their market but also leave something behind so that we also can benefit from it.

The downstream [in Africa] is lacking because there is little infrastructure. There is nobody who can receive my 1m b/d or my LNG cargoes. There's no terminal. It's almost the same situation that Europe has now with LNG because Europe has few LNG terminals. I cannot send my LNG to any other African countries because there aren't enough terminals and the terminals are not interconnected.

In advancing the oil and gas industry on the continent, are you also looking at how to address climate change?

We are all aware of the devastating consequences of climate change. It is a global task that requires the involvement of all the actors in the sector, including producers and consumers. Both producers and consumers have a responsibility to address climate change. It is one reason OPEC invests so much effort into regular dialogues with key consuming countries and regions at both the high level and technical level. We want to support an inclusive conversation about issues such as climate change, energy security and energy poverty.

Regarding the 'Declaration of Cooperation' (DoC), how do you feel about OPEC and non-OPEC and how they have managed the situation over the pandemic and other market challenges since its inception nearly six years ago?

The 'Declaration of Cooperation' has allowed us, as a compact bloc, to implement measures that at all times have made it possible to guarantee the stability of the markets. An example of its effectiveness were the measures adopted after the COVID-19 pandemic started in order to reactivate the world economy.

DoC Ministerial Meetings are supported by the Joint Ministerial Monitoring Committee (JMMC), which is mandated to monitor the conformity of voluntary production adjustments, review market conditions and recommend further decisions to the DoC Ministerial Meeting. The JMMC is supported, in turn, by the Joint Technical Committee (JTC) and the OPEC Secretariat. The DoC is based on the core principles of transparency, equity and fairness, which also serve as the foundation for all OPEC interactions with non-OPEC oil-producing partners, including cooperation at the research and technical levels.

What about at home? What are you working on?

Gas is becoming really more important with investment than oil. That does not mean that oil will be replaced. We are doing a lot of joint development with neighbours to together tap resources for us to be able to exploit, and to have more gas you need to have more drilling. Drilling has to be focused on looking for oil (with associated gas). But one of the key drivers of what we are doing is really not just about generating revenue, but the creation of jobs. For us it's very important to focus on projects that create jobs, focus on projects that create industrialization, and we have been doing very well, training and doing different things.

But now comes the moment of job creation because you have all these university graduates finishing and they are saying 'Your Excellency, what now?' and they don't want to leave the country, they want to live in the country. Thus, job creation is really our key objective at this moment.

Third OPEC-GECF Energy Dialogue takes place

Mohamed Hamel (l), GECF Secretary General; and Haitham Al Ghais, OPEC Secretary General.

The oil and gas sectors face many common challenges, and this provides the backdrop for OPEC's ongoing cooperation with the Gas Exporting Countries Forum (GECF). The Third High-Level Meeting of the OPEC-GECF Energy Dialogue took place on October 10, 2022, at the OPEC Secretariat. The OPEC Bulletin *reports.*

The meeting was co-chaired by OPEC Secretary General, Haitham Al Ghais, and GECF Secretary General, Mohamed Hamel. It noted the progress that has been achieved since the signing of the memorandum of understanding (MoU) between OPEC and the GECF in October 2019. The two organizations have intensified cooperation across a range of areas over the past three years. For example, they now contribute to each other's flagship publications — the *World Oil Outlook (WOO)* and *Global Gas Outlook (GGO)* — on a reciprocal basis.

In his opening remarks, Al Ghais gave a warm welcome to the GECF, saying, "I am delighted to welcome Engineer Mohamed Hamel, Secretary General of the GECF, to his second home, Vienna. Hamel has had a long and distinguished career, much of it devoted to OPEC affairs. This experience makes him ideally suited

as we seek to strengthen the cooperation between our organizations."

Al Ghais continued, saying, "Our cooperation with the GECF is an utmost priority for OPEC. It is consistent with the ethos of all of our energy dialogues, as all sides benefit from constructive dialogue, open and transparent use of data and the exchange of best practices."

In his remarks, the GECF Secretary General noted that "one of the key issues for the global oil and gas industry remains underinvestment, which started in 2015," adding that both organizations "also share a lot of ground on the environmental agenda."

OPEC and the GECF have common Member Countries and common values. Algeria, Equatorial Guinea, IR Iran, Libya, Nigeria and Venezuela are members of both. OPEC Member Countries Angola, Iraq and the United Arab Emirates are GECF Observers.

MoU enters third year

Great progress has been achieved under the OPEC-GECF Energy Dialogue banner. In October 2019, the organizations signed an MoU which strengthened cooperation and sharing of best practices in monitoring, analysis, modelling and forecasting.

Consequently, for the 16th edition of the *World Oil Outlook,* to be launched at ADIPEC in November, the GECF,

Partcipants also joined via videoconference.

Liquid natural gas tanker transporting gas.

Dr Aydar Shakirov, Head, Gas Market Analysis Department, GECF, during his presentation.

for the second time, has contributed a feature box. This is entitled, 'The role of natural gas in Africa'. OPEC also contributed a section to the *Global Gas Outlook Synopsis 2050,* entitled, 'The long-term outlook for liquids demand and supply'.

The Secretaries General emphasized that the oil and gas industry has an important role to play in a just and inclusive energy transition and support the need to reduce emissions, bolster efficiency and embrace innovation. Events in 2022 have underscored the importance of ensuring that there is an investment-friendly climate for the industry.

OPEC and the GECF agreed during the meeting that oil and gas will remain essential as sources of energy in the future. Required investments in both industries should not be delayed in order to ensure the energy needs of the future are met.

Delegates to the Third OPEC-GECF Energy Dialogue take time out for a group photograph.

The meeting highlighted the importance of data and knowledge exchange, which contributes to improved accuracy of data flow. As Al Ghais stated, "Accurate, unbiased data must be the foundation of sound policy-making." Going forward, the two organizations will intensify participation in yearly data and statistically focused meetings. They will continue to engage under the Joint Organizations Data Initiative (JODI).

Intensify cooperation

The meeting resolved to continue and strengthen cooperation; increase knowledge sharing by participating in each other's events; and work together on environmental matters in the build-up to the 27th Conference of the Parties of the UNFCCC (COP27) to be held in Sharm El-Sheikh, Egypt in November.

Mohamed Hamel (l), GECF Secretary General; and Haitham Al Ghais, OPEC Secretary General.

Focusing today on tomorrow's industry leaders

*OPEC Secretary General, **Haitham Al Ghais**, participated in the second Future Energy Forum organized by the Ministry of Energy and Infrastructure of the United Arab Emirates (UAE). The* OPEC Bulletin's *Ayman Almusallam reports.*

The Ministry of Energy and Infrastructure of the UAE hosted another successful instalment of the Future Energy Forum on August 30, 2022, under the theme *'The economy and the future of energy'*.

The event was attended by a number of senior Emirati officials, including representatives of the Ministry, as well as many young professionals who are interested in the oil and gas sector.

OPEC Secretary General, Haitham Al Ghais, participated by video link in a session titled: 'OPEC and the future of the oil and gas industry', during which he delivered remarks and a presentation on the role of OPEC in supporting sustainable oil market stability.

He also touched on a number of keys issues related to the industry, such as the importance of cooperation and dialogue, investment, outlooks for global energy demand, energy poverty, climate change and the importance of attracting young talent to the oil sector.

Timely event

In his remarks, the Secretary General thanked the organizers for extending an invitation to OPEC to take part in this key gathering, highlighting the importance and timeliness of the event. "It is my great pleasure to be with you today and take part of the second iteration of the Future Energy Forum," he said.

Al Ghais added: "It is unfortunate that I could not be with you in person today due to a conflict in my schedule. However, I look forward to meeting you all in a couple of months at the leading energy gathering — ADIPEC 2022."

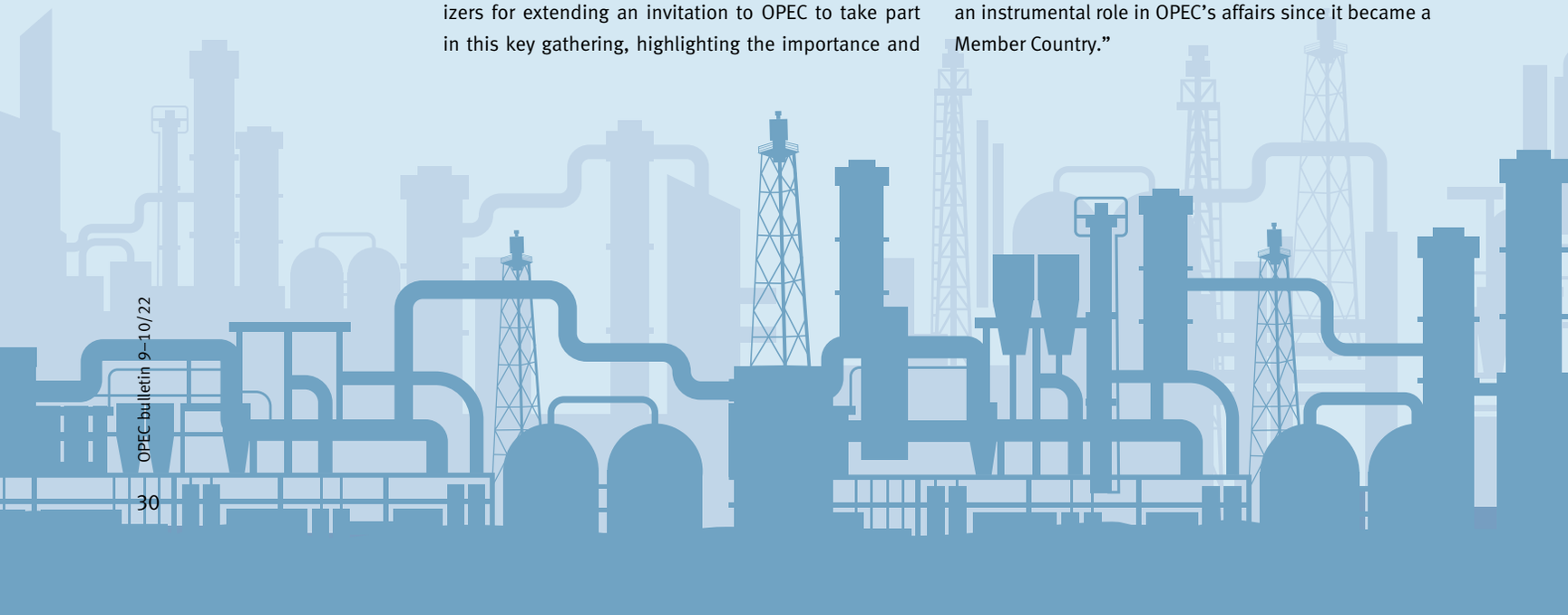
The Secretary General noted that the attendance of young Emiratis today enhances the importance of the event.

UAE: Responsible actor in a global sector

During his remarks, the Secretary General underscored the pivotal role played by the UAE in OPEC and the 'Declaration of Cooperation' (DoC), as well as in the global oil market in the interest of its stability and balance.

"I would like thank the UAE for their tireless support and unwavering commitment to OPEC and its affairs," Al Ghais stated, stressing that the UAE continues to embrace the principle "leading by example."

He added that "the UAE has undoubtedly played an instrumental role in OPEC's affairs since it became a Member Country."



OPEC Secretary General, Haitham Al Ghais, attending UAE's Future Energy Forum.

In 1967, Abu Dhabi joined the Organization. Its membership was unanimously accepted at the 14th Meeting of the OPEC Conference held in November 1967. The membership was later transferred to the UAE following the establishment of the union in 1971.

The Secretary General praised the cooperation and positive contribution of the UAE to the Organization, including on the research and technical level. He added that Emirati officials, including those who served as Presidents of the OPEC Conference, Ministers, Governors, National Representatives and others have left an unforgettable mark on OPEC's history.

For example, Dr Nadim Pachachi was the first Secretary General to be appointed from the UAE, and he served from 1971–72. OPEC veteran Dr Mana Saeed Otaiba, former Minister of Petroleum and Mineral Resources, was President of the OPEC Conference on multiple occasions (1971, 1978, 1979, 1981, 1982 and 1983).

"Otaiba was not just a key figure in OPEC, but he was also an outstanding leader in the global oil industry. The legacy of Otaiba will be remembered for many decades to come," the Secretary General said.

Al Ghais also recalled when the UAE held the rotating Presidency of the OPEC Conference in 2018 during a critical time for the industry.

The Secretary General praised Suhail Mohamed

The Ministry of Energy and Infrastructure of the UAE hosted the Future Energy Forum on August 30, 2022, under the theme 'The economy and the future of energy'. Participants gather for a group photograph.

Al Mazrouei, UAE's Minister of Energy and Infrastructure and Head of its Delegation to OPEC, for his leadership and valuable guidance. "The year 2018 saw remarkable success on many fronts," he added.

The UAE is also a key architect of the 'Charter of Cooperation' (CoC).

Youth: the industry's future engine

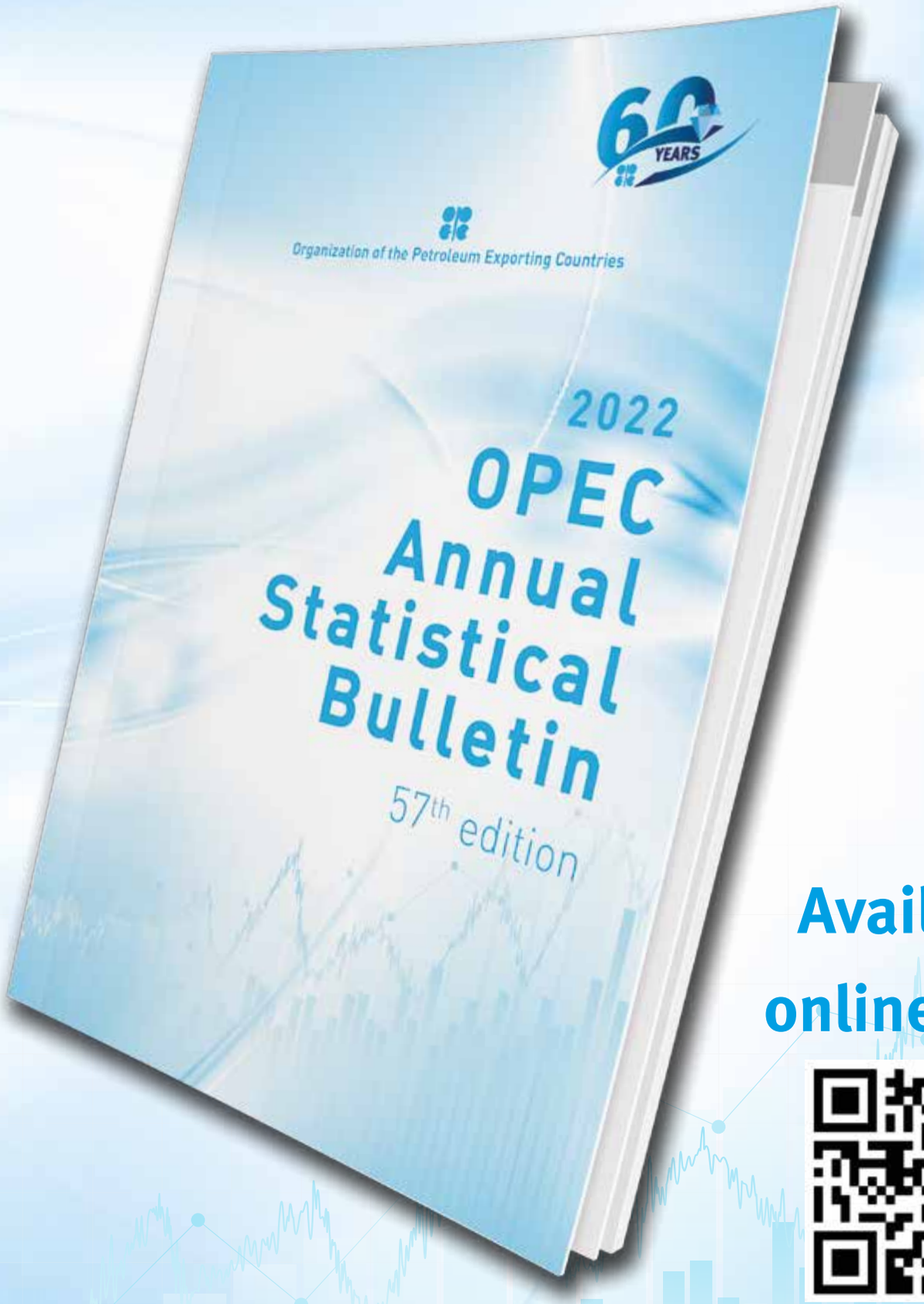
The Secretary General acknowledged the importance of human capacity building and the promising role that the youth can undertake in the oil industry. In this context, he quoted the UAE's Founding Father and great leader Sheikh Zayed bin Sultan Al Nahyan, who said: "The true prosperity of the state is in its youth."

"OPEC has a long history of encouraging young women and men to expand their awareness and enrich their knowledge about oil and other vital energy resources," he said, adding, "The industry is multidisciplinary and requires a workforce from various background, from petroleum engineers and geophysicists to marketing specialists and market analysts."

"I encourage you to consider a career in the oil business, which I have been part of for nearly 30 years," the Secretary General said. He also stressed the importance of oil in our daily lives and invited the youth to learn more about the oil industry and expand their horizons.

"We do this not only because oil is vitally important to the future, but because there is a bright future for new generations in the oil industry," he stressed, noting that "oil has been vital to our way of life for many generations, and will continue to be for generations to come."

"The industry needs future leaders like you. It is an industry that gives bright young people the chance to make a meaningful and sustainable contribution to their community and the world at large," the Secretary General said.



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Secretary General speaks on the energy transition at Oxford

***Haitham Al Ghais** participated in the 42nd Oxford Energy Seminar, speaking on the subject of 'OPEC within the global energy transition'.*

The Secretary General was invited to speak at the event by Nader Sultan, Director of the Oxford Energy Seminar and one of Al Ghais's first bosses at the Kuwait Petroleum Corporation (KPC) and a mentor within the Kuwaiti oil industry.

Al Ghais thanked Dr Bassam Fattouh, Director of the Oxford Institute for Energy Studies, who has a long history with OPEC. On the occasion of OPEC's 60th anniversary in 2020, he produced a paper entitled, *'OPEC at 60: the world with and without OPEC'*.

Haitham Al Ghais (c), OPEC Secretary General; with Nader Sultan (r), Director of the Oxford Energy Seminar; and Dr Bassam Fattouh (l), Director of the Oxford Institute for Energy Studies; attending the 42nd edition of the Oxford Energy Seminar.

The article, which examines the Organization from 1990 to 2018, concludes that oil supply shocks would have been more pronounced and more persistent if OPEC had not existed, and the volatility would have had global welfare implications.

Both Fattouh and the late Professor Robert Mabro, who founded the Institute in 1982, were recipients of OPEC awards — Professor Mabro was the first recipient of the OPEC Award in 2004 and Dr Fattouh won the OPEC Award for Research in 2018.

Both men have articles in a 2006 OPEC-sponsored book entitled *Oil in the 21st Century*.

"The book expounds at length on elements that are still critical today — dialogue, investment and sustainable development," Al Ghais said. "Environment, climate change and renewable energy are also among the topics critically analyzed in the book." Al Ghais stated that 16 years later, one can compare progress over time.

"OPEC's dialogues have intensified significantly since then and we have brought in many new dialogue partners," he said. "Besides the EU and China, regular talks now take place between various consumers and producers including Russia, India, Africa and US independent producers."

He added that there are also regular meetings with other organizations such as the Gas Exporting Countries Forum (GECF); the International Energy Agency (IEA); the International Energy Forum (IEF); the African Energy Commission; African Petroleum Producers Organization (APPO); the International Monetary Fund (IMF); and World Bank; the Vienna Energy Club; and the G20.

In addition, there is a long list of academics, researchers and analysts involved in OPEC dialogues. OPEC is also involved in the United Nations Framework Convention on Climate Change process and the annual Conference of the Parties (COP) sessions.

Dialogue is a rich part of OPEC's history and helped OPEC and non-OPEC partners who joined together in December 2016 under the 'Declaration of Cooperation' (DoC) to support the global oil market during the severe downturn in 2014–16 and once again when the COVID-19 pandemic hit.

Many transitions over time

The Secretary General spoke about the various energy transitions that have taken place over time, stating that: "Each shift was driven by technological innovation — the steam engine, oil lamps, internal combustion engines and the wide-scale use of electricity are just a few examples.

"Today's energy transition has a different root, however. It stems from the realization that we must avoid the catastrophic effects of climate change, which requires a reduction in the release of greenhouse gases (GHG)."

In dealing with today's energy transition, OPEC plans to stay firmly in line with its roots, including its mission to support market stability and an efficient, economic and regular supply of petroleum in the interests of consumers, producers, investors and the global economy.

Participants in the 42nd Oxford Energy Seminar.

For 62 years, OPEC has been a rock solid, reliable, inclusive and active energy partner and it plans to remain so going forward, said Al Ghais.

He added that there is no set definition of the current 'energy transition' and that it means different things to different people. However, the speed and scale of the transition are unprecedented. Current volatility in the oil market indicates that more needs to be done to avoid a disorderly transition, he stated.

For example, attempts to limit how money is invested in fossil fuels will exacerbate the situation, he said. "The solution we see is investment not only into renewables, but also into making fossil fuels more 'green'."

It is clear at OPEC that all forms of energy will be needed to meet growing future demand, said the Secretary General, adding that preliminary figures show oil is expected to retain the largest share of the energy mix in 2045 with around 29 per cent.

He went on to state that OPEC countries are international leaders in renewables, discussing advances taking place in OPEC Member Countries, including hydrogen projects, carbon capture and storage facilities, solar, wind and waste-to-energy projects, and the circular carbon economy.

"Not only do these initiatives combat climate change, they allow us to free up oil molecules that can be used for the international market," he said.

"No one is better placed to help find solutions to climate change than the oil industry. We have the know-how, the manpower and decades of experience. When we all work together, we can create a smooth energy transition and support leading innovation in eliminating greenhouse gases from all energy sources."

Tackling energy poverty

He finished by speaking about energy poverty and the fact that it not only hinders development, but leads to the need to burn biomass and increases the risk of geopolitical tension.

"Decision-making must be done in an inclusive and fair manner. It should take into account the principles of the Paris Agreement and the United Nations Framework Convention on Climate Change, in particular those of historical responsibility and common-but-differentiated responsibilities."

Al Ghais had a final word on investment. OPEC's upcoming World Oil Outlook shows cumulative oil-related investment requirements amount to almost $12.1 trillion in the 2021–45 period. Of this, nearly 80 per cent, or $9.5tr is needed in the upstream, he said. "We are falling far, far short of this."

He said that in relation to this, a recent survey by the World Energy Council shows world leaders are increasingly sceptical about a rapid transition in light of today's global energy challenges. These viewpoints reinforce the urgent need for enhanced global cooperation to achieve an orderly transition based on energy security, affordability and sustainability.

"We hope these changing attitudes will lead to more desperately needed investment in the oil industry around the world, in order to sustain energy security down the road," Al Ghais said. "For how are we to meet the energy needs of tomorrow if we do not invest today? A lack of investment today in our industry could lead to catastrophic energy shortages in the future."

On this front, the Secretary General emphasized the already critically low spare oil capacity the world is facing due to chronic underinvestment, which is playing a huge role in market volatility, exacerbated by geopolitical developments.

"We all have to do our part to conserve energy and combat climate change for the sake of future generations," he told the Oxford Energy audience. "The best way to do this is to support an energy transition that utilizes all energies, keeps energy affordable and abundant, and which considers the equality of all people at its core."

Haitham Al Ghais, OPEC Secretary General, delivering his speech at the G20 Energy Transitions Ministerial Meeting.

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G20 meeting focuses on energy transitions

*OPEC's Secretary General, **Haitham Al Ghais**, stresses the importance of cooperation and continued investment to help ensure 'affordable and reliable energy for all'.*

Haitham Al Ghais used his first trip abroad as Secretary General to underscore OPEC's commitment to supporting global energy security during a key G20 meeting in Bali, Indonesia.

In remarks delivered to the *Energy Transitions Ministerial Meeting* on September 2, the Secretary General recalled the vital and immediate response taken during the G20 Saudi Presidency in 2020 to address the impact of the COVID-19 pandemic on energy markets that year.

"During that turbulent period, OPEC worked closely with producing countries in the 'Declaration of Cooperation' (DoC), together with energy exporting and consuming countries of the G20, to address the destabilizing imbalances in the energy market created by the pandemic," Al Ghais said.

"This historic, shared effort," he told delegates, "helped restore energy market stability and paved the way for the recovery to go forward."

G20

Arifin Tasrif, Indonesia's Minister of Energy and Mineral Resources and Chairman of the G20 Energy Transitions Ministerial Meeting.

Mari Elka Pangestu, Managing Director of Development Policy and Partnerships at the World Bank.

Fatih Birol, Executive Director of the International Energy Agency (IEA).

'Chronic underinvestment'

In his remarks, Al Ghais said the G20 has long recognized that the security of energy supplies is essential to support economic development, as well as expand energy access. He stressed that investment in the oil sector is vital to achieving these goals, as well as ensuring stable and secure energy supplies — a key issue being discussed at this meeting of the world's leading developed and emerging economies.

"The world is witnessing in real time today the consequences of the chronic underinvestment that has plagued our industry for a number of years," the Secretary General said, noting the sharp drop in upstream investment in the oil industry over a period of several years.

"Persistent underinvestment has resulted in shrinking spare capacity, production constraints and reduced refinery output," he added. "It comes at a time when the demand for crude and oil products is rising. To help meet the expected growth in oil demand, more than $12 trillion in investment will be needed across the value chain between now and 2045."

The Secretary General said OPEC's Member Countries were committed to investing in long-term capacity to support global energy security and were mobilizing clean hydrocarbon technologies and human expertise to help the industry reduce its carbon footprint.

Along with abatement efforts, "an 'all-fuels, all-technologies' approach will be needed to achieve stable, secure and just energy transitions towards affordable and reliable energy for all," he said.

Stressing the importance of global cooperation on energy, he said OPEC would continue to work closely with the G20 "to help ensure that energy transitions are orderly, inclusive and provide for the long-term energy security and stability of all nations, while also addressing economic, social and environmental concerns."

Indonesian Minister kicks off meeting

Indonesia, a former OPEC Member Country, is hosting

Joseph McMonigle, Secretary General of the International Energy Forum (IEF).

"The world is witnessing in real time today the consequences of the chronic underinvestment that has plagued our industry for a number of years."

— Haitham Al Ghais, OPEC Secretary General

the G20 Presidency in 2022 under the motto '*Recover Together, Recovery Stronger*'. The 17th G20 Heads of State and Government Summit is scheduled to take place on November 15–16, 2022, in Bali.

Indonesia's Minister of Energy and Mineral Resources, Arifin Tasrif, kicked off the meeting which was attended by 19 Ministers and Vice Ministers of G20 countries, along with representatives from a number of non-G20 states and 11 international organizations.

"Today, G20 Energy Ministers gathered for talks at the Island of the Gods, Bali, to send a strong message in accelerating clean energy transitions and strengthening energy security, in response to the global challenges towards a more resilient global energy system, as one of our efforts to recover together and recover stronger," Tasrif said in a statement after the meeting.

G20 Energy Ministers, he added, "sent a strong signal to market that policymakers are taking actions to strengthen the investment enabling environment, which is vitally important to scale up the widest variety of technologies and to strengthen innovation ecosystems to provide clean, sustainable, just, affordable, and inclusive energy transitions, especially in developing countries."

Al Ghais was among a number of prominent heads of international organizations addressing the *Energy Transitions Ministerial Meeting*. The opening session where he spoke, which focused on the global economy and energy outlook, also featured Mari Elka Pangestu, Managing Director of Development Policy and Partnerships at the World Bank; Fatih Birol, Executive Director of the International Energy Agency (IEA); and Joseph McMonigle, Secretary General of the International Energy Forum (IEF).

Also during the *Energy Transitions Ministerial Meeting,* Representatives of the International Renewable Energy Association (IRENA) and Organisation for Economic Co-operation and Development were part of a session entitled: *Accelerating energy transitions: access, technology, finance.*

Indonesia: Former OPEC Member Country at the helm of the G20

The history between OPEC and Indonesia dates to 1962, when the oil-producing country's membership was unanimously approved at the Fourth Meeting of the OPEC Conference.

By Ayman Almusallam

During his visit to Indonesia, Haitham Al Ghais, OPEC Secretary General, met with several dignitaries, above seen with Arifin Tasrif, Indonesia's Minister of Energy and Mineral Resources.

The ties between Indonesia and OPEC evolved and strengthened over the years as the country's importance as a global oil producer rose.

During its years as a Member of the Organization, Indonesia held the position of President of the OPEC Conference 17 times. Additionally, three Secretaries General from Indonesia led the OPEC Secretariat.

The Indonesian capital of Jakarta and charming Bali, where the G20 Energy Transitions Ministerial Meeting took place on September 2, hosted many Meetings of the OPEC Conference. The 7th and 103rd OPEC Conferences took place in Jakarta, while the 47th, 59th and 97th were held in Bali.

In his remarks to the G20 Energy Transitions Ministerial Meeting on September 2, OPEC's Secretary General, Haitham Al Ghais, made reference to Indonesia's prominent role in OPEC's history.

In January 2009, Indonesia asked to suspend its membership, which it later reactivated in January 2016.

Sudirman Said, Indonesia's then-Minister of Energy and Mineral Resources, who oversaw the country's return to OPEC in 2016, told the *OPEC Bulletin* at the time, "We appreciate the inclusive environment in OPEC," adding, "Another advantage for Indonesia re-joining OPEC is to strengthen its cooperation with the Organization's producers."

"Being part of the Organization again and having people working at the Secretariat will obviously be very beneficial to us," he stated.

The country decided to again suspend its Membership at the 171st Meeting of the OPEC Conference held in November 2016 in Vienna, Austria.

Saudi Arabia: Steady leadership in a time of crisis

Saudi Arabia held the rotating presidency of the G20 in 2020, at a pivotal moment in the organization's history.

By March of that year, COVID-19 was declared a pandemic, setting in motion a global tidal wave of measures to contain the virus. At an Extraordinary Summit on March 26, chaired by King Salman Bin Abdul Aziz Al-Saud of Saudi Arabia, G20 leaders declared they were "committed to do whatever it takes to overcome the pandemic."

Then on April 10, G20 Energy Ministers Meeting under the Presidency of Saudi Arabia collectively endorsed immediate measures to stabilize the energy markets in response to the pandemic. The G20 Ministers agreed "to use all available policy tools to maintain market stability" and to "ensure that the energy sector continues to make a full, effective contribution to overcoming COVID-19 and powering the subsequent global recovery."

Throughout the year, Saudi Arabia would take the lead in global efforts to stabilize the oil and energy markets. While dealing with the crisis, the Saudi Presidency also kept an eye on the future, winning support for a circular carbon economy (CCE) framework to help overall efforts to achieve global climate goals.

Saudi Arabia's Foreign Minister Prince Faisal bin Farhan Al Saud meets Indonesia's Foreign Minister Retno Marsudi at the G20 Foreign Ministers' Meeting in Nusa Dua, Bali, Indonesia, July 8, 2022.

Reuters

The OPEC Award for Journalism 2023

Call for nominations

The call for nominations for the fifth OPEC Award for Journalism has begun. Interested journalists, analysts and media organizations are invited to nominate individual candidates, media organizations or teams for this Award, which will be presented at the 8th OPEC International Seminar in Vienna, Austria, on July 5–6, 2023.

Objective of the Award

The OPEC Award for Journalism honours journalists, analysts and news organizations that have devoted their careers and time to objective, balanced reporting on — and analysis of — the oil market. Such work will have contributed to a greater understanding of the workings of the global oil market over a significant period of time.

Eligibility

The competition is open to all print and broadcast journalists and analysts (including those from OPEC Member Countries) who have reported on — and analyzed — the industry for ten years or more.

Nominations

Completed nomination forms, available on OPEC's website at www.opec.org, together with five samples of work previously published or broadcast (CDs/DVDs) covering the required time-frame should be emailed to opecawards23@opec.org or mailed via post to:

The Chairman
The OPEC Award for Journalism
c/o Public Relations and Information Department
Organization of the Petroleum Exporting Countries
Helferstorferstrasse 17
A-1010 Vienna, Austria

All material should be received by November 28, 2022. Eligible candidates may nominate themselves, while third-party nominations are also permitted.

Winner

All entries will be judged by a panel of academics, journalists and oil industry experts. The winner will receive a plaque and a monetary award of €6,000, which will be donated on his/her behalf to the institution or charity of his/her choice.

Presentation of the Award

The OPEC Award for Journalism will be presented at the 8th OPEC International Seminar in Vienna, Austria, on July 5–6, 2023.

Nomination form for Journalism Award 2023

https://www.opec.org → click on OPEC Award for Journalism 2023

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Scholars programme reaches for the stars in its second year

Participants in the Vienna Energy Scholar Programme were welcomed by the OPEC Secretary General, Haitham Al Ghais, and other officials from the OPEC Secretariat.

Welcoming by the OPEC Secretary General, Haitham Al Ghais (panel c); Dr Ayed Al-Qahtani (panel l), Director of the OPEC Research Division and Chairman of the OPEC Academ; Leonardo Sempertegui (panel r), Head of OPEC's Legal Office; and Members of the OPEC Management.

Thirteen students enjoyed an intense and stimulating programme over the week of September 19–23 as part of the second Vienna Energy Scholar Programme (VESP). ***Maureen MacNeill*** *reports.*

With the intention of further building the long-standing bonds between OPEC and the City of Vienna, the VESP was inaugurated last year with 13 students, with the same number joining in its second year.

Dr Ayed S Al-Qahtani, Director of the OPEC Research Division and Chairman of the OPEC Academy, stated in his opening remarks that the programme started out as an idea on how to deepen the relationship between OPEC and its host city.

"With it, we want to both honour our extensive and proud history since 1965, when OPEC moved to Vienna, and set a higher bar for future partnership," he said.

Al-Qahtani said a search was conducted far and wide to choose the very best candidates. "You are here to learn about OPEC and its Member Countries, along with its role within the energy landscape and more generally about the oil market.

"At the same time, we want to tap into your brilliance and fresh ideas. This industry is constantly changing and evolving, and we need to do the same," he told the students.

"It's good for us to engage with you who are learning about the energy scene."

— OPEC Secretary General, Haitam Al Ghais.

Dr Ayed S Al-Qahtani (centre l), Director of OPEC's Research Division and Chairman of the OPEC Academy, with Thomas Resch (centre r), representative from the City of Vienna at the opening of the programme.

"This industry is constantly changing and evolving, and we need to do the same."

— Dr Ayed Al-Qahtani, Director of the OPEC Research Division and Chairman of the OPEC Academy

OPEC's work depends on diplomacy, he stated, "Coming together, exchanging ideas and thoughts, working towards a common goal. These are the pillars upon which our institution is built, and we hope to bring the spirit of this to you through the VESP.

"We love Vienna!" he expounded, "not only for its famous great sweets, spectacular musical opportunities, stunning architecture and high standard of living, but because it has been our home since 1965."

A centre for energy dialogue

Al-Qahtani went on to explain that with help from the Vienna-OPEC connection, Austria has become a centre for energy dialogue, playing a central role in international energy debates.

"OPEC and Vienna have grown up together since the '60s, including the parallel development of their reputations over this time as centres of excellence and dialogue. This has been a cornerstone of OPEC's vision since its inception."

He went on to talk about the spirit of dialogue and how it led to the signing of the 'Declaration of Cooperation' (DoC) between, at the time, 24 OPEC and non-OPEC oil producing countries in December 2016. The relationships established through this platform helped stabilize the oil market through two severe downturns.

"We will try to provide answers, but many questions don't have answers. We are trying to find them. It's like building an airplane while flying. That's why we need your collaboration."

— Leonardo Sempertegui, General Legal Counsel, OPEC's Legal Office

"I admire the dedication of OPEC and OPEC's interest in cooperating with us."

— Thomas Resch, representative from the City of Vienna

Leonardo Sempertegui, General Legal Counsel of OPEC's Legal Office, noted at the opening discussion that the DoC parties are in a strong position when there is a market crisis. "There is a confidence between the parties and they can work together."

Sempertegui assured the students that they would have access to information rarely available to the public, and welcomed them to bring their views and questions to the table.

"We will try to provide answers, but many questions don't have answers. We are trying to find them. It's like building an airplane while flying. That's why we need your collaboration."

This year's students from Viennese universities are eager to learn new things, stated

Hasan M AlHamadi, Head of OPEC's Administration and IT Services Department, and Officer-in-Charge of the PR and Information Department, during presentation on the activities of PR and Information.

VESP participants had an afternoon tour of the OMV Innovation & Technology Centre (ITC) outside of Vienna.

Thomas Resch, representative from the City of Vienna, who considers himself an "outside member of the OPEC family."

He stated that the first year of the VESP was interesting and professional. "I admire the dedication of OPEC and OPEC's interest in cooperating with us."

Resch added that the VESP is very important to the City of Vienna, stating that Vienna "connects us in other ways than the obvious, including people living here with the work and outlook of OPEC."

Finally, Resch hoped that the VESP will help create 'ambassadors' who understand not only the importance of OPEC, but also the international work of the city.

The VESP programme included awareness training about the OPEC Secretariat and Member Countries; data and technology in industry decision-making; the Sustainable Development Goals and United Nations Framework Convention on Climate Change, and challenges from the energy perspective; the short-term outlook for the energy sector; long-term challenges for the energy sector; and institutional and regulatory frameworks regarding the energy sector.

In addition, students had an afternoon tour of the OMV Innovation & Technology Centre outside of Vienna and a trip to OPEC's sister organization the OPEC Fund, along with a reception at City Hall. The group spent one day with Austrian representatives from the Ministry of Foreign Affairs, the City of Vienna and Wien Energie.

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Meeting with the Secretary General

On Day 2 of the VESP, OPEC Secretary General Haitham Al Ghais met with the students. He welcomed them and explained he used to be in international marketing

The ITC opened in summer 2020 and is located at OMV's Gänserndorf site (in the Austrian Weinviertel) — right in the middle of one of Europe's oldest oil-producing areas and the cradle of OMV's activities in research and innovation.

On the second day of the programme, a reception was held at the Vienna City Hall.

Above: A reception was held at the Vienna City Hall where Ernst Woller (centre r), the First President of the Provincial Parliament of Vienna, stated that Vienna has always been a centre of dialogue.

and sales at the Kuwait Petroleum Corporation (KPC) and responsible for KPC's contracts in Austria. Thus, he knows the city well.

When asked what the job of Secretary General is like compared with his former position, Al Ghais laughed and stated that he was always attending different OPEC meetings in his previous job.

He stated he had been on the OPEC Board of Governors and the Economic Commission Board, which looks at technical analysis and data.

"This is a different perspective. Now I look at things differently. It's very hands on, I talk to the staff, I'm in charge of the budget, administration, like a CEO except there are more details and I manage the relationship with the Member Countries ... I thought when I came into the

"We're proud of the VESP, it is a new and different approach to the oil market, future energies and international organizations."

— Ernst Woller, First President of Vienna's Provincial Parliament

OPEC Fund

After listening to the OPEC Fund briefings, students engaged in an energy quiz, part of the OPEC Fund's introduction programme.

position it would be familiar, but it is a very different way to look at the Organization.

"I'm sure you have a notion of OPEC, but it's different when you are in OPEC yourself. You can open your mind. One of our main objectives is to engage with colleagues and friends from Vienna," added Al Ghais.

"It's great to be in such a nice place, it's a great city. It's nice to pay back the hospitality of the city."

OPEC has a great relationship with the Austrian authorities, the Secretary General stated, adding 70 per cent of the workforce in OPEC is from Austria. "We also have an excellent relationship with our 13 Member Countries. We remain united and strong."

He said that OPEC attempts to create a family atmosphere at its work place. "We are here eight to ten hours a day. This is the spirit of our work."

The Secretary General added the VESP is a good chance for the students to get to know one another better.

Spanning the globe

"You are the future. You will sit in seats like this one day," said Al Ghais from the podium. "It's good for us to engage with you who are learning about the energy scene."

OPEC is a key player in energy through oil, he continued, adding that OPEC Member Countries provide the world with a stable supply of energy for the world's growth and try to minimize supply shocks.

He stated that Basam Fattouh, Director of the Oxford Institute for Energy Studies, wrote an article on 'OPEC at 60' and concluded that if OPEC had not existed, supply swings and volatility would have been much greater and significantly damaged the world economy.

Al Ghais went on to add: "Oil is in everything you see, feel and touch, whether you like it or not. It's in the furniture, my tie, our medicines.

"It's important when you come to a place like OPEC that you understand oil, not just the price of oil. This is so relevant to every part of our daily

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OPEC Fund

Participants take time out for a group photo at the lobby of the OPEC Fund headquarters in Vienna.

life. Not just fuel and petrol. Oil is also in everything in a car, including an electric vehicle, such as the steering wheel and its main components."

When asked about how OPEC has changed since its founding, he said, "The OPEC Statute approved by our Founding Fathers remains our bible to this day. They laid the foundation of how OPEC works, its rules and procedures. It's just as valid now as it was 62 years ago."

He stated there is a clear methodology, it is transparent, each country has an equal voice and almost all decisions are unanimous.

Al Ghais stated that the main difference today is broader collaboration with non-OPEC producers. Over the years, there have been attempts to bring North Sea and other producers on board. This finally met with success in 2016 with the signing of the DoC between OPEC and ten non-OPEC countries that since work together to help balance the market.

"It should not just be on OPEC to balance the market," he said.

The other big change has been outreach to consumers. "We have very successful dialogues with key consumers China, India and the EU, for example. We are working on other producer-consumer relationships. OPEC has not boxed itself in, it has progressed significantly."

Finally, he told the students, "You will spread this knowledge, inform people who aren't informed. It's not black and white. You can inform and critically analyze."

City Hall reception

Ernst Woller, the First President of the Provincial Parliament of Vienna, stated at a reception held at the opulent Vienna City Hall that Vienna has always been a centre of dialogue.

"It is seat for over 40 international organizations, 130 diplomatic corps and 3,000 diplomats. It's a hub of international diplomacy," he told the VESP participants.

He added Vienna has a UN headquarters, OPEC and a number of other international organizations, including the OPEC Fund and the Organization for Security and Co-operation in Europe (OSCE).

Herbert Brandner (standing) from Vienna's electricity provider, Wien Energie; with Caroline Stainer (second r) and Viktoria Forstinger (r) from the City of Vienna, brief the VESP participants.

"We're proud of the VESP, it is a new and different approach to the oil market, future energies and international organizations," Woller said. "You, the participants, learn about the OPEC Secretariat and promote dialogue and change. It is important to strengthen all channels of discussion to all stakeholders."

Woller emphasized OPEC's commitment to a stable oil market, healthy world economy and producer-consumer dialogue and thanked OPEC for its cooperation in organizing the VESP.

Al-Qahtani stated in his remarks that the City of Vienna is intricately intertwined with OPEC, past and present, adding the German term "zu Hause" (at home) has a special meaning because it carries with it the feeling that one belongs.

"There is the same implied sense of security and stability that OPEC represents in the oil market," Al-Qahtani said. "Many generations of OPEC staff children have grown up here and many of these families have chosen to make Vienna their permanent home over time, adding to the wonderful, multicultural landscape that makes the city unique."

He added that the VESP is a living example of the deepening bond between the city and OPEC.

Participants attend a presentation by Michael Kainz from Austria's Federal Ministry for European and International Affairs.

Sonja-Maria Wollinger-Staedtgen (r), and Catherine Quidenus (c), from Austria's Federal Ministry for European and International Affairs, during their presentation.

Students during the session on 'Institutional and regulatory framework for the energy sector' by Leonardo Sempertegui, General Legal Counsel in OPEC's Legal Office.

The programme also gives an insight into the OPEC Secretariat and Member Country activities.

"We had been putting our heads together for years to determine how to expand the relationship with our host country. We examined exchange programmes from around the world to try and create a format that suits both our goals, and we feel we have found it with the VESP!"

The goal is to seek to further develop mutual understanding between the OPEC Secretariat, its Member Countries and Austrian and European citizens participating in the programme, said Al-Qahtani, adding that great strides were already made in the VESP's first year, 2021.

"It is well-known that contact and dialogue foster understanding and minimize differences. We have noted this phenomenon very strongly with our DoC partners. The DoC countries — from highly diverse backgrounds and with different agendas — managed to efficiently join together and work diligently to overcome two of the most difficult downturns in the history of the oil market."

He added that as the bonds of friendship were created early on, DoC countries were able to quickly react to dramatic situations that would have otherwise had a more severe effect on the oil market and in turn the world economy.

"This stems from OPEC's long-standing tradition over its 62 years of existence of encouraging cooperation and dialogue," Al-Qahtani said.

This connection took another unprecedented step forward when the broader 'Charter of Cooperation' (CoC) was endorsed in July 2019, he added.

The role of OPEC as consumer-producer dialogue partner has similarly expanded precipitously over the past few decades to include regular discussions with major consumers and producers around the world, along with think-tanks, universities and other international organizations, added Al-Qahtani.

"OPEC and Vienna have grown to become ground zero to the international energy dialogue, with organizations like the Vienna Energy Club, which brings together Vienna-based international organizations dealing with energy to provide a rich platform for debate and the exchange of views."

Student praise for the VESP

Chiara Kurz, one of the students in attendance at this year's VESP, is currently pursuing a cross-border Masters of Management study at Peking University. Kurz says she applied for the VESP last year when she was studying at the Vienna University of Economics and Business.

"However, given my semester abroad, I was unable to attend last autumn, which is why I got the opportunity to defer to this year."

The programme exceeded her expectations.

"While I expected to get insights not only into the oil industry mechanisms, but also the geopolitics of primarily Austria, I did not picture the vastness of stakeholders involved and the various perspectives they would bring to the table," said Kurz.

She found the concept of south-south development support, as well as research into the energy transition in economically less-developed countries to be "rather intriguing".

In any case, it gave her a much broader perspective into OPEC and energy, Kurz stated.

"While it was evident upfront how complex the interrelations in the oil industry can be, this programme allowed

"I did not picture the vastness of stakeholders involved and the various perspectives they would bring to the table."

— Chiara Kurz, VESP participant

OPEC Fund

us to dive deeper into country-specific approaches and factors to be taken into consideration in regards to respective energy transition initiatives," Kurz said.

"Topics like the energy crisis and the environmentally necessary energy transition are arguably some of the most frequently discussed topics at the moment, with far-reaching consequences and spill-over effects onto other industries."

Kurz added that the insights she gained over the week will greatly inform any kind of future debate she participates in and form a solid base of understanding to build on.

Another student in the programme, ***Clemens Schießl***, states that he found out about the VESP through a professor at his university.

"It intrigued me from the beginning, so I decided to apply. I patiently waited in the following weeks and I was very delighted when I got a positive response.

"I hoped to gain a deeper understanding of the energy sector and what it shapes, as well as to learn more about OPEC including its Member Countries."

He states that he was interested in finding out what makes OPEC tick.

"I really wanted to see what is behind (OPEC). Currently, we are in quite challenging times when speaking about energy which also makes this programme even more interesting."

Schießl adds that the sector and the oil market are highly complex, and he wanted to get an overview.

He says that in particular, the fact that various organizations engaged in the programme was a highlight. The United Nations, OMV and Wien Energie provided insights into their areas of expertise, while various OPEC departments presented their work.

"The other participating students had different backgrounds which resulted in interesting discussions and it was very enjoyable to get connected.

"The programme succeeded in giving a good outline of the tasks of OPEC and which role it plays in the energy sector."

Schießl says he feels like he has been able to get a "bigger picture", learned how energy strategies are drawn up and how multilateral cooperation can have an impact on the sector.

"Getting insights into such an organization is second-to-none and learnings of the programme are useful for general knowledge, as well as for the future path. As I personally aim to join an international organization after studying, I think this programme will help me to take further steps.

"I can say that the programme exceeded my expectations. It covered a lot of different topics and plenty of information within one week. In any case, I am grateful to be given the opportunity to take part in the Vienna Energy Scholar Programme."

"Getting insights into such an organization is second-to-none and learnings of the programme are useful for general knowledge, as well as for the future path."

— Clemens Schießl, VESP participant

Smiles for everyone

***Haitham Al Ghais** hosts a virtual reunion for one of his predecessors as Secretary General, **Dr Subroto**, ahead of the Organization's 62nd anniversary.*

In an emotion-filled town hall meeting, OPEC Secretary General, Haitham Al Ghais, applauded the accomplishments of Indonesia's Dr Subroto during his leadership of the Organization at a defining moment in history.

"It is a great honour for me personally and all my colleagues here at the OPEC Secretariat to see you here today," Al Ghais said in a video link between Subroto's home in Jakarta and the OPEC Secretariat in Vienna. "I would like to thank you for being an OPEC legend and we all are very proud you can be with us today."

Al Ghais, who became Secretary General six weeks earlier, recalled that Subroto was an inspiration to him and to generations of OPEC employees. "I recall personally as a young man hearing of Dr Subroto on the news and I could not have imagined then that I would one day become Secretary General of OPEC."

The meeting took place on September 8, just days before two milestones — OPEC's 62nd anniversary on September 14 and Subroto's 99th birthday on September 19.

A former University of Indonesia academic and Minister of Mines and Energy, Subroto was known for his geniality, visionary leadership and beaming smile that sealed his place in OPEC history as 'the smiling Secretary General'. As President of the OPEC Conference, he was selected to oversee the Secretariat for 14 months in 1984 and 1985 and went on to serve two terms as Secretary General from 1988 to 1994.

Subroto is widely recognized for expanding OPEC's stakeholder dialogues and foreseeing that environmental issues would become a dominant issue as the world undertook the first global climate talks in the early 1990s. These were "developments of immense significance" for the Organization, Al Ghais said in his remarks.

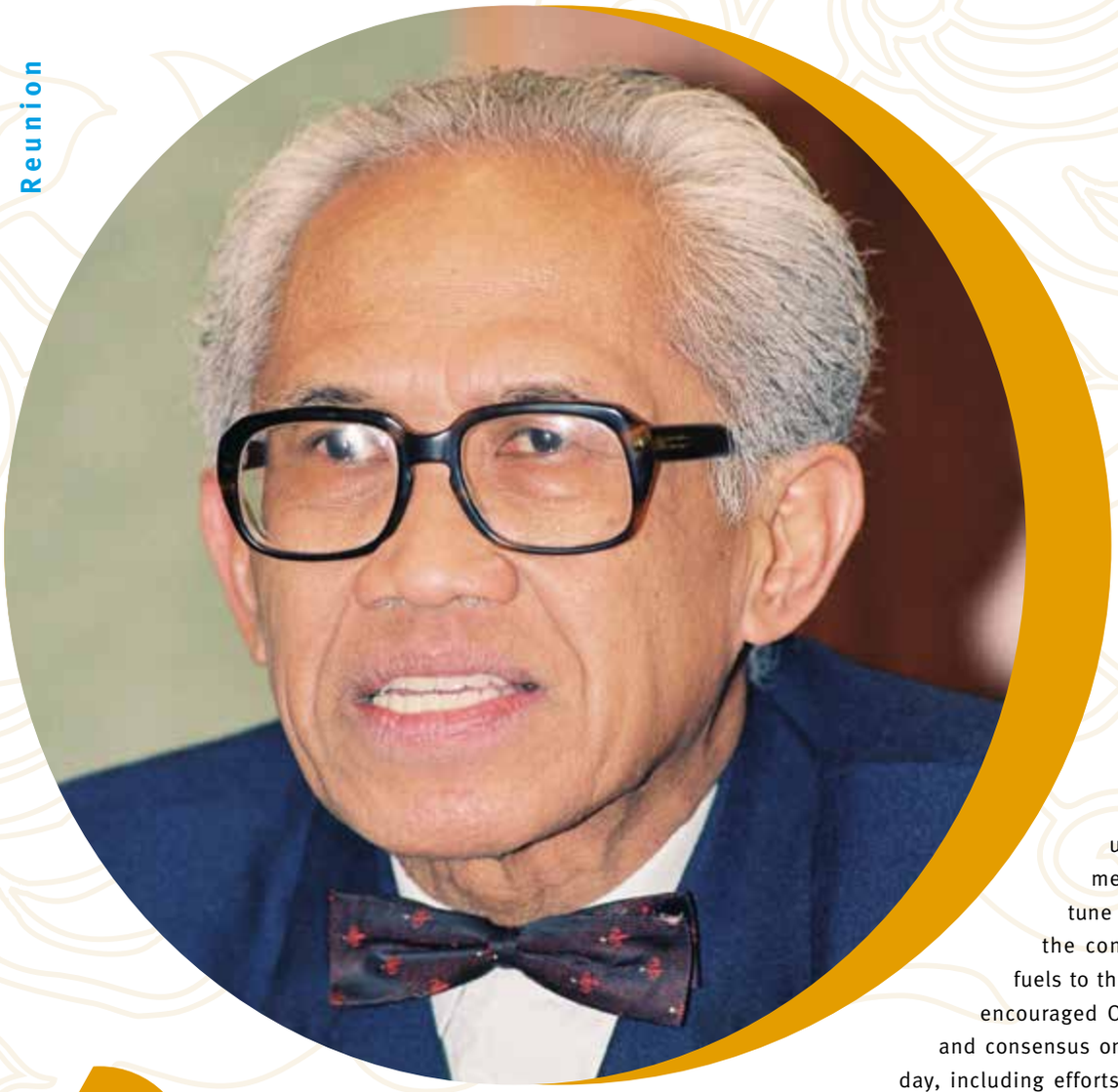
During Subroto's tenure, the Organization set up a new, eight-person Ministerial Monitoring Committee to monitor market developments, support stability and prepare long-term strategies. Many years later it would serve as a template for the Joint Ministerial Monitoring Committee (JMMC) under the 'Declaration of Cooperation' (DoC).

The globetrotting 'wise men'

As one of the 'three wise men', Subroto — along with Dr Rilwanu Lukman of Nigeria and Arturo Hernandez Grisanti of Venezuela — criss-crossed the world in 1986 to gain

OPEC Staff in the main conference room attending the video conference with Dr Subroto.

Dr Subroto (third l) with then Secretary General, Abdalla Salem El-Badri (third r), during a visit to the OPEC Secretariat in 2011 with Indonesian and OPEC Secretariat officials.



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a better understanding of the oil market from the perspective of producers and consumers.

In an interview with the *OPEC Bulletin* following the 171st Meeting of the OPEC Conference in November 2016, Subroto recalled: "From a producer perspective, outside of OPEC, there were countries like the Soviet Union, Mexico, Norway, Oman and Angola, which we believed could play a constructive role in bringing stability to the market. This meant travelling to these countries and talking to the ministers. It was a type of global dialogue." Angola would become and OPEC Member Country in 2007.

Indonesia played a prominent role in OPEC over several decades. It became a Member Country along with Libya in 1962, two years after the Organization's founding by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. The country suspended its membership in 2009, returned at the beginning of 2016 and suspended its membership again later that year.

Cooperation and consensus

Speaking from his home on a video link, Subroto congratulated Al Ghais on his appointment and wished him good fortune in leading OPEC. He stressed the continued importance of fossil fuels to the world's energy security and encouraged OPEC to promote cooperation and consensus on the important issues of the day, including efforts to reduce the oil industry's emissions.

Referring to the Organization's 62nd anniversary, he said: "I am very confident that OPEC will continue to serve mankind."

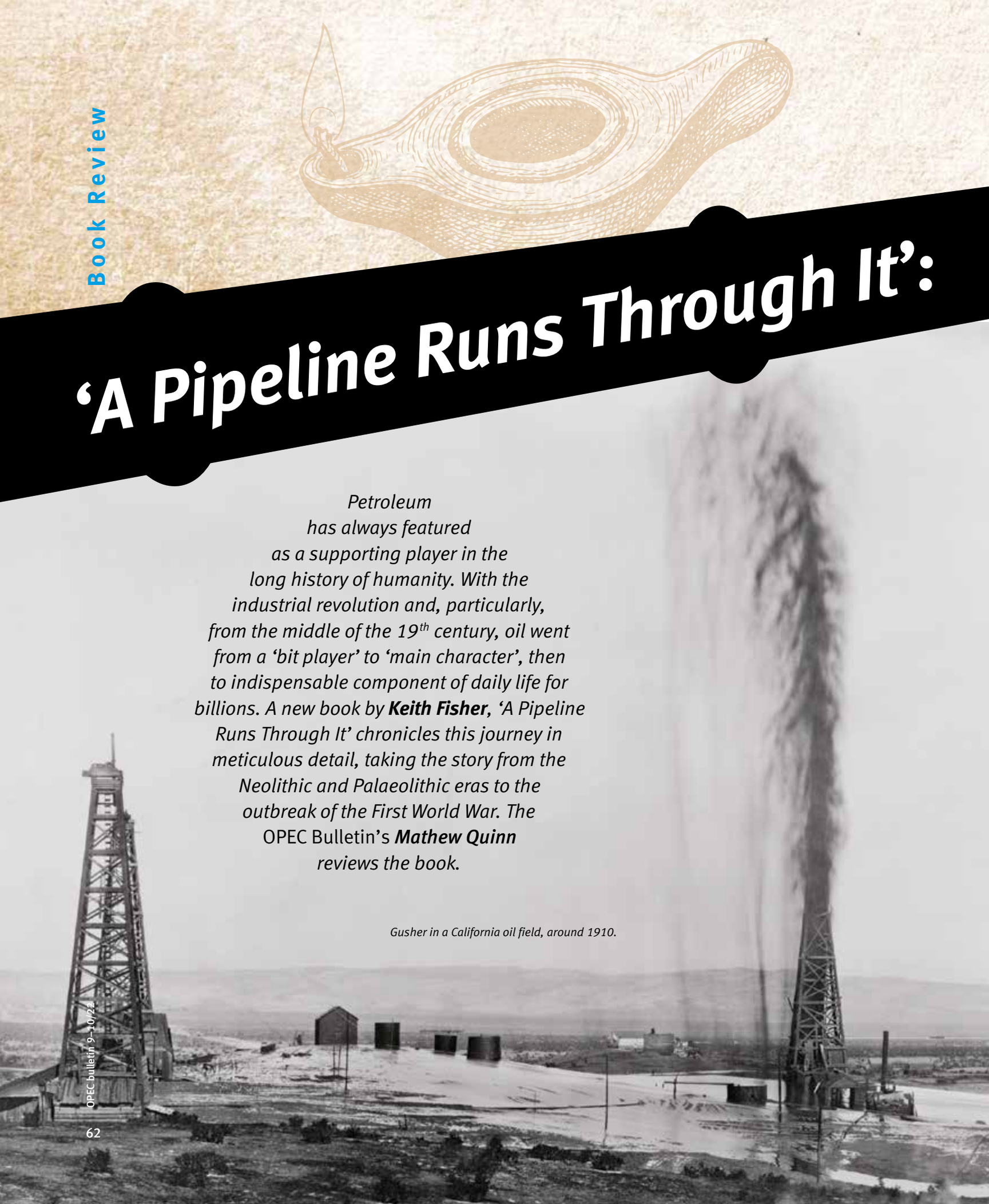
With the former Secretary General beaming on the screen, Al Ghais invited several OPEC Secretariat veterans who had served under Subroto to take the floor. Nadir Guerer, Dr Aziz Yahyai, Dr Jan Ban, Gabriele Österreicher, Diana Lavnick and Zairul Arifin — the last Indonesian at the OPEC Secretariat — reflected on Subroto's humility and dedication to the Organization, and extended birthday wishes to him.

"We will never forget your achievements for our Organization and our Member Countries," Al Ghais said during the town hall meeting. And he concluded by saying: "I now know why you are called 'the smiling Secretary General'. It's not just because you were smiling. It's because everybody else was smiling."

In 1986, the so-called 'Three Wise Men' of Dr Subroto from Indonesia (above r and below l), Dr Rilwanu Lukman from Nigeria (above l) and Arturo Hernandez Grisanti (below r) from Venezuela, undertook shuttle diplomacy to help further evolve the relationship between OPEC and non-OPEC countries.

'A Pipeline Runs Through It':

Petroleum has always featured as a supporting player in the long history of humanity. With the industrial revolution and, particularly, from the middle of the 19th century, oil went from a 'bit player' to 'main character', then to indispensable component of daily life for billions. A new book by ***Keith Fisher****, 'A Pipeline Runs Through It' chronicles this journey in meticulous detail, taking the story from the Neolithic and Palaeolithic eras to the outbreak of the First World War. The* OPEC Bulletin's ***Mathew Quinn*** *reviews the book.*



Gusher in a California oil field, around 1910.

A well-researched account of the oil industry's beginnings

The challenge Keith Fisher sets himself is enormous: to provide an overview of the role oil has played in the history of humankind from the first evidence we have of bitumen being used for tool-making — 70,000 years ago in modern-day Turkey, Syria, IR Iran and Kuwait — to a contributing factor in ratcheting the geopolitical tensions leading to the First World War.

Of course, any book on the origins of the oil industry stands in the shadows of Daniel Yergin's magisterial work, 'The Prize', and what is regarded as one of the greatest business biographies of all time, Ron Chernow's 'Titan: the Life of John D. Rockefeller'. However, Fisher approaches the story of the origins of oil production at an industrial scale with a freshness and attention to detail that provides new perspectives and lines-of-thinking on some topics that may be familiar to the reader.

If you were looking for a one-stop overview of every reference to oil being used in the pre-industrial era, it would be difficult to top Fisher's first chapter, which covers this in breath-taking detail. From the references to bitumen being used to waterproof the hulls of ships in the Epic of Gilgamesh, to Ovid's Metamorphoses, this is the definitive account of oil in ancient texts. Pliny the Elder, Plutarch's accounts of the life of Alexander the Great, Herodotus, texts from the time of the Abbasid Caliphate, Marco Polo, ancient travel writings, centuries-old Persian sources, the Japanese Nihongi from the seventh century — these sources and more are scoured for references to petroleum.

A continent-by-continent synopsis follows of all the evidence that exists which shows that humans were using oil seeping up from the earth's surface for various purposes: medicinal, as a lubricant, in battle and on ceremonial occasions. It is an ambitious attempt to leave no region of the world unmentioned and synthesize tens of thousands of years in 73 pages. While it constitutes a lot of information to digest, for those who have to write about the history of the industry, it is comforting to know there is a single volume that covers all these interesting facts.

The key moments are also described in detail with a significant breakthrough coming in 1853, when a Polish pharmacist called Jan Zeh and his apprentice, Ignacy Łukasiewicz, in the city of Lviv, now part of Ukraine, succeeded in distilling the "first commercially viable lamp oil from crude Galician petroleum." *(See 'The man who helped "illuminate the darkness of the night",' OPEC Bulletin, October 2020.)*

Enter Edwin Drake

All histories of the oil industry contain details of 'Colonel' Edwin Drake, his attempts to drill oil in Pennsylvania and striking it in 1859, as well as the emergence of the first oil boomtown and the dawn of the oil age.

What makes Fisher's account of this gripping is an explanation of what had happened in this area in the century preceding Drake's discovery.

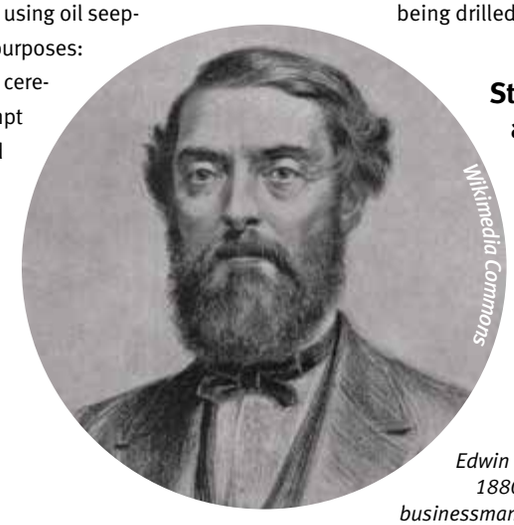
Fisher notes the importance of this context in the following way:

Due to a particular confluence of factors — geographical, historical, political, economic and geological — the banks of Oil Creek in north-western Pennsylvania would, in 1859, become the setting for the first appearance of large-scale, industrialized oil production. Yet a key precondition for this, the near complete eradication of the Native American population of the region just over fifty years earlier, typically goes unmentioned in accounts of the world's first oil boom.

Fisher follows this with a fascinating account of the fates of the Native American populations of the region and how they were drawn into the imperial wars of France and Britain fought on the North American continent in the 18th and early 19th centuries. This provides an important and tragic context to the beginning of oil being drilled for commercial purposes.

Standard Oil and its antecedents

The next few chapters centre on the chaotic opening decades of oil being produced and consumed on an industrial scale. The replacement of whale oil with kerosene as the main illuminant stimulates demand, and



Edwin Laurentine Drake (March 29, 1819 – November 9, 1880), also known as Colonel Drake, was an American businessman and the first American to successfully drill for oil.

The title page of the book, 'The history of the Standard Oil company', by Ida M Tarbell, and an illustration of John D Rockefeller by George Varian, 1903.

the US begins to export oil products and finds huge demand in Britain at the time. What ensues are the advent of pipelines, tank cars, the importance of the railroad, and the emergence of a figure who would become synonymous with the early development of the industry: John D Rockefeller.

There is chaos in those early years, as many veterans from the American Civil War seek to make a quick fortune by pumping as much oil as possible. An interesting side-note is that as early 1861, to placate the vagaries of a volatile oil market:

> *Some landowners and producers responded by setting up the Oil Creek Association, a collective attempt to control production according to the level of demand and to set a minimum oil price.*

The end of the 19th century saw the conglomeration of several strands in the industry into Standard Oil. As Fisher writes, "For Rockefeller, business consolidation was justified by the economic order, efficiency and prosperity that he believed it brought." Rockefeller was a proponent of the idea that cooperation was better than "dreadful competition." This would raise questions that are central to the American free-market system that are still being discussed to this day.

A global industry

With an industry concentrated in a region around Lake Erie and Pittsburgh, Standard Oil could, as Fisher describes it, "reign supreme". However,

> *The burgeoning international demand for kerosene, which the conglomerate had worked hard to stimulate and from which it had profited so hugely, now presented a major opportunity for competitors to enter the market.*

Within the US, oil was discovered in California, and in North America, both Mexico and Canada see the beginnings of their nascent industries. Industries were beginning to crop up in Romania, Austria-Hungary, Burma and India from the 1860s onwards.

Of course, the most significant competitor for the US in the latter half of the 19th century was Russia and primarily, the city of Baku, in present-day Azerbaijan. Baku has a crucial impact on the development of the oil industry. It was described as "the nursery for British oil men" but this was true for many who embarked on a career in the industry. Many innovations that would have a pivotal impact on the subsequent history of the industry bear the 'Made in Baku' stamp, for example, the first oil tanker.

The preferred choice of many navies

Fisher is particularly strong in describing how most of the world's navies moved from coal power to oil power. He details the advantages for naval ships, but also some of the geopolitical questions raised regarding security of supply. As Fisher states:

> *Compared to coal, the greater thermal efficiency of fuel oil offered all navies the possibility of increasing the range of their ships before they had to refuel, thus reducing their reliance on coaling stations — which were either too costly to maintain or simply non-existent. Fuel oil's greater energy content also enabled ships to reach higher speeds and because of its fluid nature, accelerate more rapidly, as extra fuel could be introduced more quickly than stokers could shovel coal.*

Men turn the wheels of large valves that regulate the flow of oil into oil tankers at a US Atlantic coast seaport (around 1944).

Baku, Azerbaijan: Monument to the world's first industrially drilled oil. Old wooden derricks and pumpjacks, used by the Nobel Brothers Oil Production Company in 19th century.

The world's largest navy at the time, Britain's Royal Navy, and its decision to move to oil, had enormous consequences, the ramifications of which are still being felt today. Fisher's account of this journey is written vividly.

Future OPEC Member Countries

The first discoveries of oil in areas that would become OPEC Member Countries are also covered, namely Kuwait, Venezuela (Lake Maracaibo), Nigeria (Niger Delta Region), Iraq and in areas in present-day IR Iran. The origins of Shell and BP are among the key developments in the period.

Imperial rivalries, social unrest, labour disputes — all these come to influence the oil industry in the opening decades of the 20th century. The situation in Baku around 1905 played a role in the so-called first Russian Revolution, which Fisher notes was "the first time the oil market was disrupted on a major scale due to political turmoil."

The pace of the story accelerates somewhat in the build-up to the outbreak of hostilities of the First World War, with many of the Great Powers relentlessly pursuing new opportunities in the production of oil. The Galician and Romanian industries had something of a boom in the 1910s. Ida Tarbell famously attacks Standard Oil, launching a process that would eventually see the conglomerate broken up. Again, an interesting note is that in the years prior to the outbreak of war:

> *Kaiser Wilhelm II himself became involved in attempts to persuade the Russian Government of the benefits of a German, Austro-Hungarian, Rumanian and Russian oil union.*

Britain's concern with securing supply for the Royal Navy leads to intensified imperial activity in what was then known as Persia and Mesopotamia. As Fisher writes:

> *At the outbreak of war, only Russia, Austria-Hungary, Romania and the US were self-sufficient in oil. Britain, France and Germany were dependent on external sources and this became a major determinant of the war's progress.*

Fascinating and enjoyable read

There are many components to story of the first half a century of the oil industry. The geographical scope is enormous and the various themes require intensive analysis, namely, imperial rivalries and exploitation; the development of large corporations; the impacts of market instability; and technological innovation. Fisher manages to address all these topics and more.

'A Pipeline Runs Through It', is an enjoyable and detail-rich origin-story of this formative period in the oil industry.

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Sonatrach announces new oil discovery in Sbâa

Sonatrach has announced a new oil discovery in the Hassi Illatou Est-1 (LTE-1) field located in the Sbâa concession, its latest in a series of new finds this year.


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Preliminary estimates show crude volumes of up to 150 million barrels. This brings to eight the number of oil and gas discoveries Sonatrach has announced since March 2022 *(see OPEC Bulletin 8/22, p58)*.

"This discovery comes 28 years after the last oil discovery in the Sbâa region," Sonatrach said in a statement.

The discovery is seen as a "positive and very encouraging" development for supplying the Adrar refinery in the south-western Adrar province. The refinery produced 13,000 b/d in 2021, according to the 2022 edition of the *OPEC Annual Statistical Bulletin (ASB)*.

The OPEC Member Country has proven oil reserves of 12.2 billion barrels and gas reserves of 4.5 trillion cubic metres, according to the *ASB*.

Sonatrach has been expanding its oil and gas production capacity to address the rising demand in key global markets, including Europe.

NNPC becomes limited liability company

Reuters

A year after the passage of the landmark Petroleum Industry Bill (PIB), Nigeria's President, Muhammadu Buhari, oversaw the transition of the Nigerian National Petroleum Corporation (NNPC) into a new limited liability company.

Empowered by the new petroleum law, NNPC Ltd is now a commercial company with the flexibility to expand into other sectors.

In a statement, NNPC said the "historic event marks a crucial change in structure of the company," which was originally established as the Nigerian National Oil Corporation (NNOC) in 1971. Nigeria became an OPEC Member Country in the same year.

Among the many dignitaries attending the ceremony on July 19 in Abuja were Nigeria's Minister of State for Petroleum Resources, Timipre Sylva; NNPC's Board Chair, Senator Margerie C Okadigbo; and Director/Chief Executive Officer, Mallam Mele Kyari.

During the ceremony, the company's new brand image and motto, *'Energy for today, energy for tomorrow'*, were unveiled.

The PIB was adopted by both houses of the 9th National Assembly on July 16, 2021, and signed into law by President Buhari a month later. The signing of the law culminated many long years of efforts aimed at strengthening NNPC and enhancing Nigeria's ability to attract long-term investment in its key oil and gas sector.

New Iraqi refinery to begin production by year's end

Oil has begun flowing to the new Karbala refinery with the facility expected to be fully operational by the end of 2022, Iraqi officials said.

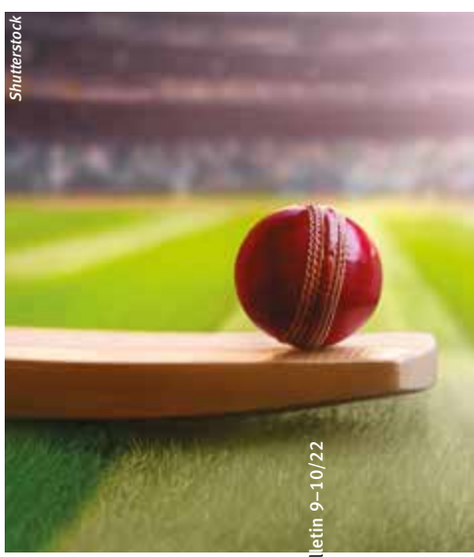
Iraq's Minister of Oil, Ihsan Abdul Jabbar Ismaael, announced on September 25 that the first oil was being pumped to refinery, which has a production capacity of 140,000 barrels/day.

In a statement, Ismaael said the new refinery marked an important step in addressing Iraq's domestic demand and reducing the need for imported production. He praised the consortium of companies working on the project.

Dr Hamid Younis, who oversees Refining Affairs for the Ministry of Oil, said refining operations should begin by the end of this year with full production expected early in 2023. In the Ministry statement, he said the Karbala refining complex "was established according to international standards and technology" and would produce "products with high quality" for Iraqis.

The $6-billion contract for the Karbala refinery was awarded in 2014 to a consortium that includes South Korea's Hyundai Construction, GS Construction and SK Construction. It is located in Karbala province south-west of Baghdad.

Aramco to sponsor leading cricket events



Saudi Aramco and the International Cricket Council (ICC) have announced a major sponsorship agreement covering some of the highest-profile events on the sport's calendar through next year.

Under the deal, Saudi Aramco will sponsor competitions including the ICC Men's T20 World Cup 2022 in Australia, the Women's T20 World Cup in South Africa, the World Test Championship Final in the UK, and the Men's Cricket World Cup 2023, which will take place in India.

Cricket's global governing council, which represents 108 members, welcomed the partnership with one of the world's leading energy companies.

"We are delighted to welcome Aramco into the family of ICC global partners," ICC Chief Executive, Geoff Allardice, said in a statement on October 14. "Our shared commitment to excellence is the foundation of the partnership and we are looking forward to working with Aramco on our major men's and women's events through to the end of 2023."

Under the partnership agreement, Saudi Aramco has also been given naming rights for the ICC Player of the Match awards.

"This represents a significant addition to our network of global partnerships and we are pleased to join forces with the ICC," said Saudi Aramco's Global Public Affairs General Manager, Talal Al-Marri. "Excellence is one of our core values and this is reflected in our support of cricket at the elite level. It is a sport that demands high levels of focus, teamwork, discipline, integrity and ability — and these are all attributes that we value highly at Aramco."

Ruwais recovery plant to begin operations soon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Part of the gas compression systems and waste heat recovery system at the Ruwais refinery.

ADNOC Refining expects to complete the first stage of its Waste Heat Recovery project in Ruwais by the end of the year, with the second phase scheduled for completion in 2023.

The innovative project will generate electricity from waste heat produced at the firm's General Utilities Plant, ADNOC Refining announced on September 14. The $600-million project is expected to produce around 230 megawatts of electricity per day, as well as distilled water for plant operations.

"The Waste Heat Recovery project will revolutionize power and water generation at our plant in Ruwais, and is vital to the ongoing expansion of Ruwais as part of ADNOC's 2030 smart growth strategy," the firm's CEO, Abdulla Ateya Al Messabi, said in a statement.

The project's initial phase includes two boilers and turbines, with two additional boilers to enter operation in 2023.

The project at Ruwais, located in Abu Dhabi, began in 2018 and is designed to boost power output and thermal efficiency by approximately 30 per cent. ADNOC Refining said the Waste Heat Recovery operations would not generate any additional carbon dioxide (CO_2) emissions and contribute to the United Arab Emirates' Net Zero by 2050 strategic initiative.

ADNOC Refining is a joint venture between the Abu Dhabi National Oil Company (ADNOC), Italy's Eni and the Austrian oil and gas concern OMV.

ADNOC hosts Emirati Women's Day event


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The ADNOC Headquarters building, located at Corniche Road West in Abu Dhabi, UAE.

At an event marking the eight Emirati Women's Day, Her Highness Sheikha Fatima bint Mubarak praised the role of women in the growth and development of the United Arab Emirates (UAE), including those working in the oil industry.

During the event hosted by the Abu Dhabi National Oil Company (ADNOC), Sheikha Fatima highlighted the role that ADNOC's female employees play in the country. The remarks were delivered on Sheikha Fatima's behalf by Dr Maitha bint Salem Al Shamsi, UAE Minister of State.

"I was pleased to note that you are working across all ADNOC sites and benefiting from the opportunities made available in response to the directives of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, and with the commitment of ADNOC and Dr Sultan bin Ahmed Al Jaber, who steadfastly implemented the leadership's directives for women empowerment," she said, according to an ADNOC press release.

"Women now occupy the highest leadership positions in ADNOC and are no longer a numerical percentage of ADNOC's workforce, but strong and influential human capital, instrumental in the company's progress," she added.

Sheikha Fatima is the widow of UAE founder His Highness Sheikh Zayed bin Sultan Al Nahyan, who passed away in 2004. Known as the 'Mother of the nation', Sheikha Fatima is Chairwoman of the General Women's Union (GWU), President of the Supreme Council for Motherhood and Childhood, and Supreme Chairwoman of the Family Development Foundation (FDF).

Sheikha Fatima established Emirati Women's Day in 2015 and it is commemorated annually on August 28.

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 present on the Organization and the oil industry. Here we feature some snapshots of such visits.

Visits to the Secretariat

August 30 Officials from the Europäische Akademie NRW, Bonn, Germany.

September 7 Students from Colgate University, Hamilton, NY, USA.

Football fever

World Cup on the horizon for two OPEC Member Countries

With the 2022 FIFA World Cup to take place in Qatar from November 21 to December 18, 2022, the OPEC Bulletin *takes a look how the two OPEC Member Country qualifiers, IR Iran and the Kingdom of Saudi Arabia, reached the finals, and gauges expectations for the tournament.*

Since the inaugural FIFA World Cup in 1930, with Uruguay running out winners in a 13-team tournament, the event has dazzled and enthralled successive generations of football fans. There was the 'Miracle of Bern' in 1954 when West Germany upset the overwhelming favourite, Hungary, in the final; the 17-year-old Pele scoring a brace for Brazil in the 1958 final; the only ever final hat-trick by England's Geoff Hurst in 1966; and Maradona's 'Goal of the Century' and 'Hand of God' in the same game in 1986, to name just a few iconic moments.

The last tournament was held in Russia in 2018, with France running out the deserved winners. Four years later, it is the turn of Qatar.

Back in December 2010, FIFA revealed that Qatar would host the 2022 FIFA World Cup, bringing the world's most prestigious football tournament to the Middle East for the first time in the tournament's history. It will also be the first World Cup held in the months of November and December, given the regular sweltering temperatures in the country during its summer months.

The two OPEC Member Country qualifiers for the World Cup began their campaigns to reach Qatar back in September in the second round of the Asian Football Confederation (AFC) qualification. IR Iran won 2–0 away to Hong Kong, and Saudi Arabia drew 2–2 away to Yemen, in a match that took place in Bahrain.

IR Iran followed up with a 14–0 trouncing of Cambodia, with Sardar Azmoun scoring a hat trick and Karim Adil Ansarifard going one better with four goals. However, IR Iran then followed this up with two away losses to Bahrain and Iraq, before embarking on a run of four straight victories to top their group by one point from Iraq and move forward to the third round of qualifying. Azmoun and Ansarifard topped the group's goal scoring charts with seven goals apiece.

Night view of the 80,000-seats Lusail Stadium where the finals of the FIFA World Cup Qatar 2022 will be staged.

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Reuters

In the qualifying rounds IR Iran scored a 14–0 vs Cambodia, with Sardar Azmoun (r) scoring a hat trick and Karim Adil Ansarifard (l) going one better with four goals.

Saudi Arabia followed up its first game draw with a 3–0 home win against Singapore, before drawing 0–0 away against Palestine, in a game that took place in Oman. What then followed was a run of five impressive victories to see them top the group by five points from Uzbekistan. Salem Muhamed al-Dawsari was the top scorer for Saudi Arabia with five goals during the qualifying round.

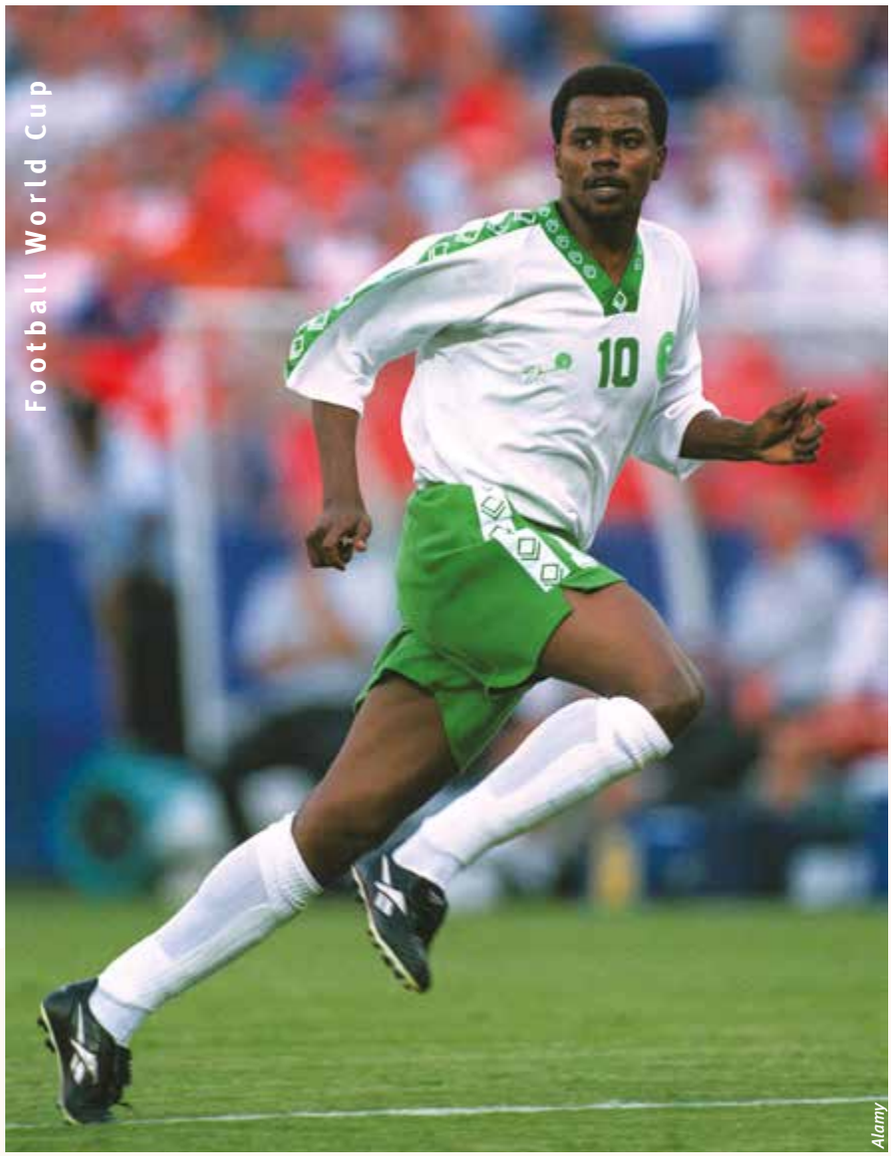
Third round

The third round of qualifying began in September 2021 with two groups, and with the top two in each group qualifying for Qatar. IR Iran was in a group that included two other OPEC Member Countries, Iraq and the United Arab Emirates (UAE). Saudi Arabia's group contained a 'Declaration of Cooperation' (DoC) partner, Oman.

Both teams started with home wins, with IR Iran defeating Syria 1–0 and Saudi Arabia beating Vietnam 3–1. Saudi Arabia would go onto win all its home games, with its only blemish a 2–0 away loss to Japan. It was held to away draws by Australia and China. IR Iran would end up winning eight of its ten games, with a 1–1 draw at home and a 2–0 away loss to South Korea its only dropped points.


Reuters

Salem Muhamed al-Dawsari was the top scorer for Saudi Arabia with five goals during the qualifying round.



Alamy

Saeed Al-Owairan of Saudi Arabia scored the famous goal at the World Cup in July 1994.

In fact, such was the remarkable nature of the campaigns that both qualified for the World Cup before their last games.

IR Iran was the first team from Asia to qualify for Qatar following a 1–0 win over Iraq in Tehran in January 2022. Medhi Taremi's goal early in the second half at the Azadi Stadium secured a third straight World Cup appearance for the country with three group games still remaining. It is also the earliest qualification of an Asian team for the World Group.

By this point IR Iran had 19 points, two ahead of South Korea, which by then was also within touching distance of a tenth successive World Cup appearance. These two teams dominated the group, with South Korea qualifying for the finals in the next round of games in early February.

IR Iran would eventually top the group with 25 points, followed by South Korea with 23, and the UAE 11 points behind in third place.

Saudi Arabia qualified without even playing a game following Japan's 2–0 defeat of Australia in late March. It meant that Saudi Arabia could play there last two games against China and Australia in the knowledge that they were heading for Qatar.

The last game saw over 50,000 fans come to celebrate the team's achievement and the players responded by finishing their qualification campaign on a high in Jeddah. They defeated Australia 1–0 to take top spot in the group, with Salem Al-Dawsari's decisive second-half penalty the difference.

It was a deserved win for the hosts, who finished the group with 23 points from ten games, one point ahead of Japan, which also qualified, and seven points ahead of Australia.

World Cup draw

The final draw was held at the Doha Exhibition and Convention Centre in Doha, Qatar, on April 1, 2022.

It saw IR Iran drawn in Group B, alongside England and the USA, as well as the winner of Path of the UEFA play-offs, which was decided in June 2022 when Wales beat Ukraine 1–0. Its group fixtures are:

- IR Iran vs England, November 21, Khalifa International Stadium, Al Rayyan
- IR Iran vs Wales, November 25, Ahmed bin Ali Stadium, Al Rayyan
- IR Iran vs USA, November 29, Al Thumama Stadium, Al Khor

Saudi Arabia was drawn in Group C, with its three opponents, Argentina, Mexico and Poland. Its group fixtures are:

- Saudi Arabia vs Argentina, November 22, Lusail Iconic Stadium, Lusail
- Saudi Arabia vs Poland, November 26, Education City Stadium, Al Rayyan
- Saudi Arabia vs Mexico, November 30, Lusail Iconic Stadium, Lusail

Wikimedia Commons

Diego Maradona's famous 'Hand of God' goal in June 22, 1986.

World Cup pedigree

IR Iran has appeared at the World Cup finals on five previous occasions, in 1978, 1998, 2006, 2014 and 2018. Its qualification for 2022 is the country's third successive finals.

While it has never managed to get past the group stage, it won games in both 1998 and 2018. Its 1998 defeat of the USA has gone down in the annals of Iranian football history. Thanks to goals from Hamid Estili in the first half and Mehdi Mahdavikia late in the game, with Brian McBride scoring a consolation for the USA, IR Iran secured its first ever World Cup victory that night. However, losses to Yugoslavia and Germany meant IR Iran had to say goodbye to the 1998 tournament.

In 2018, IR Iran had its most successful World Cup. A win against Morocco, a draw with Portugal and a loss to Spain left with four points, but still not enough to qualify for the knockout stages. However, memories of Alireza Beiranvand's penalty save from Ronaldo will live long in the memories of Iranian fans.

Saudi Arabia has also previously qualified for five finals, in 1994, 1998, 2002, 2006 and 2018. The team's best performance was in 1994, when they reached the 16th round. In the group fixtures, they beat Morocco 2–1 and Belgium 1–0, but lost to the Netherlands 2–1. In the 16th round, they came up against Sweden and lost 3–1.

The 1994 tournament also saw Saudi Arabia's Saeed Al-Owairan score against Belgium in what is considered to be one of the greatest World Cup goals of all time. Within five minutes of the match starting, Al-Owairan gathered the ball deep in his own half and began an exhilarating 70-yard run that saw him skip past several Belgian players before sliding a shot past goalkeeper Michel Preud'homme to score the only goal of the game and send Saudi Arabia through to the knockout round.

In 2018, Saudi Arabia secured its first World Cup win since 1994, defeating Egypt 2–1, but losses to host Russia and Uruguay saw it depart the tournament.

Chances in 2022

A September win against Uruguay and a draw against Senegal have left IR Iran in good spirits for the upcoming World Cup. With international stars like Mehdi Taremi, Sardar Azmoun and Alireza Jahanbakhsh, the first promotion from the group stage of a World Cup is a possibility.

For Saudi Arabia, memories of losing only one of its ten third-phase group games will stand it in good stead. It may be in a tough group, but the country has ambitions to make the knockout stages for the second time.

The OPEC Secretariat wishes both teams every success in Qatar.

Gottlieb Daimler and his associate, Wilhelm Maybach, developed the motorized quadricycle with a two-cylinder engine and a top speed of 18 kph. The vehicle premiered at the Paris World Exhibition in 1889.

How the 'horseless carriage' changed the world

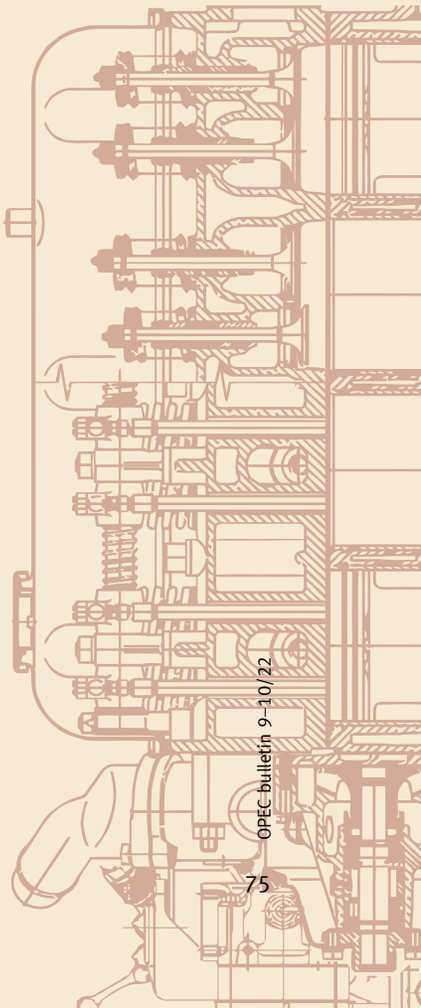
The history of oil and the automobile are closely intertwined. Two automotive museums of well-known German manufacturers shed light on the development of the motor car that revolutionized transport.

Since two pioneering German inventors, Carl Benz and Gottlieb Daimler, introduced the first gasoline-driven vehicles nearly 140 years ago, motorized transportation has undergone a revolution that has changed the world.

The first 'horseless carriages' were noisy, inefficient and mocked for being slower than those pulled by horses. Yet steady improvements in technology and design, coupled with the recognition of the motorized vehicle's potential for moving people and goods more reliably, changed perceptions very quickly.

By the turn of the last century, the auto was taking a lead for its practical and pleasurable uses, including a pastime that has grown into an institution of its own, racing.

"The growth of the automobile industry was phenomenal," notes Daniel Yergin in his authoritative history of oil, *The Prize*. "Registrations in the United States rose from 8,000 in 1900 to 902,000 in 1912. In a decade, the automobile went from a novelty to a familiar practicality, changing the face and mores of modern society. And all of it was based on oil."



A BMW 3.0 CSL race car on display at the BMW Museum in Munich, Germany.

efficient. The gleaming metal bodies and polished interiors on display are a reminder that style and comfort have also been a driving force in the development of the automobile almost from the beginning.

For anyone working at, or visiting, the OPEC Secretariat in Vienna, the museums are close enough to visit on a long weekend or a holiday side excursion.

Technology and ICEs

Today, the history of the automobile is told in living colour by a pair of German museums named for two of the world's best-known vehicle brands, including one marque that traces its roots to Benz and Daimler.

The Mercedes-Benz Museum in Stuttgart and BMW Museum in Munich each provides a full-throttled history of these manufacturers' contributions to the automobile and mobility. The exhibitions examine the evolution of technologies over the decades, including the all-important development of internal combustion engines (ICEs) to replace horse power.

Moreover, these museums explore the overall changes in design, materials and other innovations that have made transportation faster, safer and more

The first motor car patent

Although inventors had used steam and electricity to propel tractors and carriages in the 19th century, Carl Benz and Gottlieb Daimler are widely credited with developing gasoline-powered motors to drive vehicles.

Both engineers, the two worked separately on their inventions. Benz patented the first motor car in 1886, and by 1900, Benz & Co became a leading automotive company.

Daimler's company, which became known for its car named after a German racing enthusiast's daughter, Mercedes, merged with Benz & Co in 1926 as Daimler-Benz. Nearly a century after the merger, Mercedes-Benz remains a symbol of performance, durability and status.

In contrast to Mercedes-Benz, BMW traces its origins to the early years of aviation. The company was

The BMW Museum (left), the circular BMW Welt and the company's headquarters tower are located near the Olympic Park in Munich, Germany.

founded in 1916 as a manufacturer of aircraft engines and later motorcycles. It did not begin producing cars until 1928 and today is best known for high-end cars and motorcycles.

Vast collections

In keeping with the tradition of German automobile design, much thought has gone into the architecture and flow of these manufacturers' museums and exhibition spaces. Both are gleaming and spacious structures that serve as a constant reminder of the contributions these brands have made to technology, design, style, society and politics (some of the limousines of the rich, famous and powerful are on display).

From a distance, the contemporary steel and glass structures of both museums seem more suited to the space age than the auto era. Yet the buildings, like the legendary manufacturers they represent, are both built to encourage movement. These are not boxy spaces to display portraits and paintings. Rather, the flowing and brightly lighted interiors are ideally suited to a world in motion.

Something for everyone

The BMW and Mercedes-Benz museums feature permanent collections of their legendary cars, trucks and other vehicle types and accompanying exhibits, including automotive technology and innovation. Some presentations address the darker side of Germany's history. The BMW Museum's permanent exhibit, for instance, includes a 'Place of Remembrance' featuring photos and reports documenting the use of forced labour in manufacturing during the second world war.

Special exhibitions and interactive events supplement the regular collections. Given the vastness of exhibition space and vehicle collections, a long and leisurely visit is order.

The BMW Museum debuted in 1973 and went through an extensive, four-year renovation and expansion before reopening in 2008. The complex features restaurants and a shop full of branded fashions and souvenirs. From the museum, there are views of the manufacturer's sprawling production facilities and the company's premier showroom and exhibition space, 'BMW Welt' (BMW World).

The museum's location adjacent to Munich's 1972 Olympic Park evokes the company's status as one of the world's foremost auto producers.

Its more senior domestic competitor, Mercedes-Benz, opened its first exhibition in the 1930s and today's museum in the headquarters city of Stuttgart opened in

The Mercedes-Benz Museum in Stuttgart, Germany, opened in 2006.

Gottlieb Daimler's awkward-looking 'riding car' made a three-kilometre journey from the German town of Cannstatt to Untertürkheim in 1885.

2006. There is an added bonus for anyone interested in time travel: visitors with vintage and historic cars are allowed to park outside the building, a tradition known as 'Classics and Coffee'.

Keeping the lights on

It remains to be seen how the recent spike in energy costs and concerns about possible energy shortages this winter could impact these and other museums.

German officials have publicly stressed the importance of keeping cultural and educational institutions opened after prominent institutions had announced they were struggling with higher energy costs during an exceptionally hot summer. But some museums and cultural facilities have not ruled out shorter opening hours, dimmer lighting and reduced heat to save energy in the coming months.

Despite such uncertainties, both Mercedes-Benz and BMW museums are worth a visit to for anyone interested in mobility and the fuels that have been integral to the transport revolution that has taken place since the first 'horseless carriages' were developed.

And best of all, they offer family-friendly attractions with sweeteners for all interests and ages.

Practicalities

BMW Museum, Am Olympiapark 2, Munich. Opened Tuesday through Sunday from 10:00 to 18:00. Regular admission is €10.00 per person, with discounts for families. It is about a five-hour drive from Vienna. There are fast train connections to Munich from Vienna's Hauptbahnhof and Westbahnhof railway stations.

Mercedes-Benz Museum, Mercedesstraße 100, Stuttgart. Opening hours are Tuesday through Sunday 9:00 to 18:00. Regular admission is €12.00 with reductions for children. Stuttgart is further than Munich, so a visit should ideally be done over a long weekend. To avoid queues, tickets can be purchased in advance.

Other exhibitions

Besides the BMW and Mercedes-Benz museums in Germany, other leading auto manufacturers have build museums highlighting their own history:

The Škoda Auto Museum in Mladá Boleslav.

The **Škoda Museum**, located in the Czech town of Mladá Boleslav north-east of Prague, features some of the earliest vehicles produced by the legendary Czech company. Dating to 1975, the museum moved into a renovated section of the factory in 1995, to mark the company's centenary. The small city, a little over four hours drive from Vienna, boasts other museums as well, including the Aeronautical Museum Methodius Vlach, with a collection of classical aircraft and activities for children.

The **Centro Storico Fiat** in Turin, Italy, opened in 1963 and features exhibits of this Italian manufacturer's iconic cars. The complex also houses the company's archive and features other products, including aircraft, military equipment, bicycles and appliances produced by the manufacturer.

The **British Motor Museum** in Warwickshire, boasts "the world's largest collection of historic British cars" including such icons as the Jaguar and the Mini Cooper.

Outside Europe, the **Toyota Commemorative Museum of Industry and Technology** in Nagoya, Japan, is located in a century-old factory built by Toyota Motor Corporations founder Sakichi Toyoda. Established in 1994, the museum features an auto pavilion reflecting the company's history from the early development of the auto to today's modern technologies.

In OPEC Member Country the United Arab Emirates (UAE), the **Emirates National Auto Museum** in Al Dhafra exhibits an eclectic collection of an estimated 200 vehicles owned by His Highness Sheikh Hamad Bin Hamdan Al Nahyan.

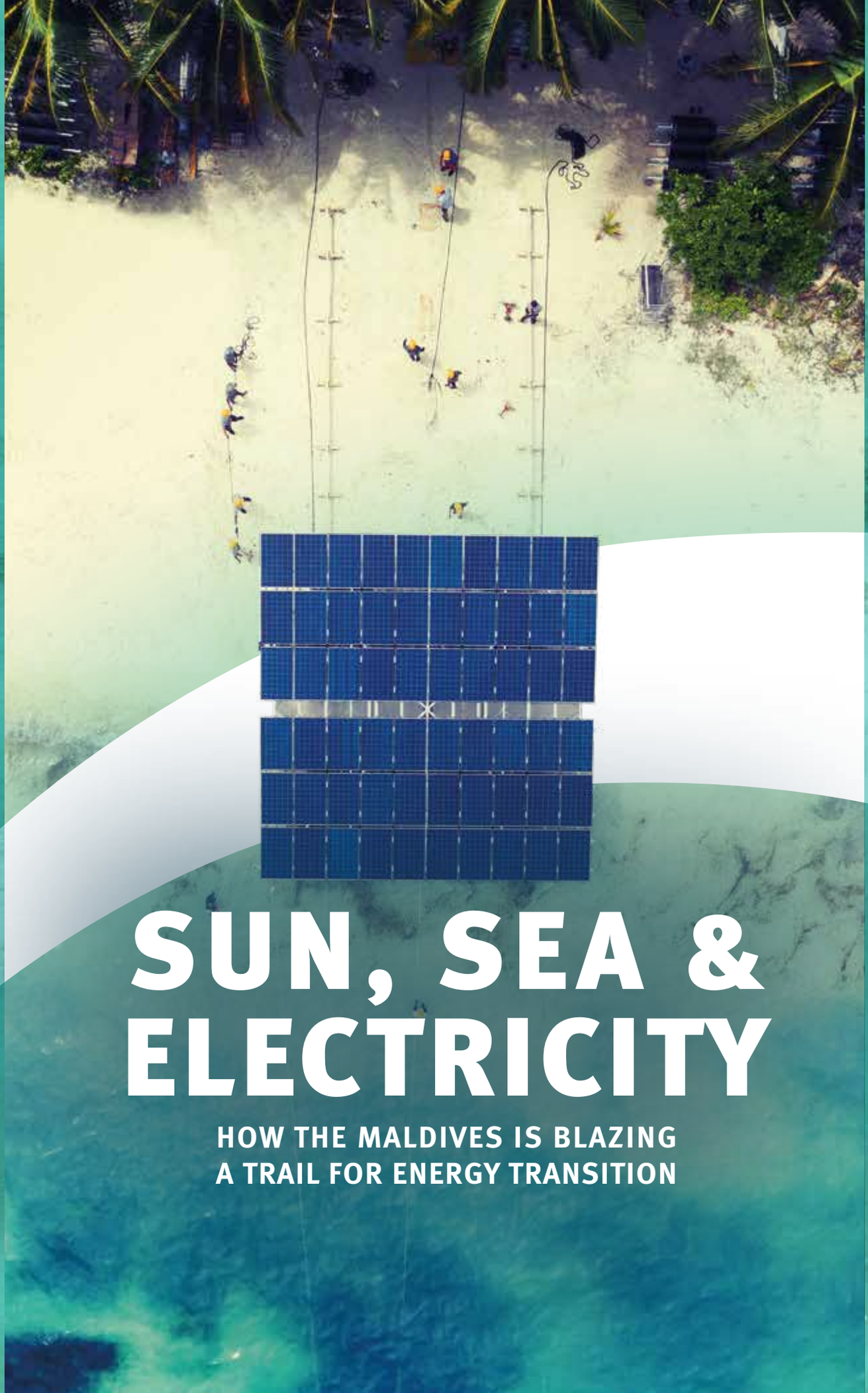
The **Henry Ford Museum** in Dearborn, Michigan, incorporating more than 250 acres of exhibitions, includes a section on the history of the auto industry and the museum's namesake, whose game-changing assembly line production system revolutionized not only auto production, but other manufacturing.

Closer to the OPEC Secretariat, the **Vienna Technical Museum** (Technisches Museum Wien) in the city's 14th District has a permanent collection focused on mobility. The museum also has many hands-on exhibits for children, providing an ideal overall learning experience for families.

The Technical Museum in Vienna features an exposition on the history of the development of vehicles and motorbikes, mopeds and bicycles.

All pictures courtesy of Shutterstock.

The Škoda Auto Museum in Mladá Boleslav presents the history of the company and its predecessor Laurin & Klement.



SUN, SEA & ELECTRICITY

HOW THE MALDIVES IS BLAZING A TRAIL FOR ENERGY TRANSITION

Swimsol

> **Solarsea was, and still is, a permanent learning curve.**
>
> **Wolfgang Putschek, CFO, Swimsol**

OPEC FUND
for International Development

Floating solar made in Austria can provide Small Island Developing States with affordable renewable energy addressing energy needs and climate challenges.

By Axel Reiserer, OPEC Fund

The Maldives are known as the quintessential holiday paradise. Pristine beaches, crystal-clear waters and year-round sunshine draw visitors from all over the world to this archipelago state. In 2019, the last year before the Covid-19 pandemic, a record 1.7 million tourists visited the 550,000-strong Maldives. When they returned to their accommodation, they enjoyed a well-tempered shower, treated themselves to a chilled drink and fixed the air-conditioning so they would wake up at a pleasant temperature the next morning.

However, this comes at a price. All these amenities need electricity. At present, the island state has about 200 hotels, each with an annual consumption of 1–2 MW, mostly for air-conditioning and desalination for freshwater. For the generation of electricity the Maldives are dependent on fossil fuels. As a nation of hundreds of tiny islands scattered around the Indian Ocean the Maldives do not have a universal electricity grid supplying the archipelago with electricity. Instead the country is heavily reliant on imported diesel with consumers from hotels to schools and shops to public buildings forced to secure their own supplies. The consumption of diesel of a typical hotel resort runs from two million to four million litres per year.

This dependence on hydrocarbons is economically risky and has massive ramifications for the environment that today are universally acknowledged. Fossil fuels are the main drivers of climate change which has become an existential threat particularly for small island nations.

In October 2019, the Maldives government attracted widespread attention with a cabinet meeting underwater which sent an 'SOS' to the international community: "We must unite in a worldwide effort to halt further temperature rises," the government said. "Climate change is happening and it threatens the rights and security of everyone on Earth."

The reliance on fossil fuels is all the more stupefying as the Maldives, in theory, with year-round sunshine, storm-free weather and stable temperatures would be ideal for alternative sources of energy such as solar. In theory. Because in reality the lack of land for a long time restricted the use of solar power to the installation of a few solar panels on the rooftops of buildings.

All this changed when Martin Putschek, an Austrian entrepreneur with a PhD in Physics, visited the Maldives in 2009 and immediately realized the potential for floating solar plants. It was a journey of five years from the first stroke of inspiration to the delivery of the world's first marine-grade floating solar power system in 2014 called 'Solarsea'. Wolfgang Putschek, Martin's brother and CFO of their joint company Swimsol, says: "It was, and still is, a permanent learning curve."

Once Swimsol was confident they could master the technical challenges, the company launched a highly competitive business approach. "First we had to convince potential

clients that our technology works," Putschek remembers. "Then we had to address an even more delicate issue: the price." Swimsol developed two offers: Under the first option, Swimsol owns the solar system and sells energy to the client at a fixed rate. "We offer long-term power purchase agreements that are always cheaper than diesel fuel and transfer ownership of the system to the customer for free after 15–20 years," Putschek says. The second option is a turnkey project where Swimsol builds the full system and eventually sells the complete plant to the client.

From the first pilot in 2014 until today, Swimsol has enjoyed steadily growing demand for its solar facilities and today runs 44 projects in the Maldives ranging from rooftop panels to floating installations with an installed peak capacity of 14.3 MW. Swimsol is also branching out into new markets such as the Seychelles, Indonesia or Malaysia. The company is reaching high: "In the next ten years we are aiming at halving the annual consumption of diesel which currently amounts to 400–500 million litres in the Maldives," says Putschek. This would require the installation of an additional 500 MW solar capacity. Investors are able to claw back the current price of a Solarsea plant of $3–5 million within ten years.

The plans for expansion will require additional funding. The company with currently 55 staff (35 in Vienna and 20 in the Maldives) is already cooperating with the Austrian Development Bank (OeEB) and the Swiss impact investor responsAbility. For the future Putschek could also imagine a partnership with the OPEC Fund, building on the development institution's long-standing engagement with the country: "Especially when it comes to public sector projects such as schools or office buildings, this could definitely be an option," he says.

Ambitious as the Swimsol plans sound, the omens are favorable: the sharp decline in the price of solar panels has dramatically increased the competitiveness of photovoltaic plants in recent years; the conditions for the operation of solar plants in the Maldives and similar regions along the equator are ideal; current geopolitical events have led to a global reassessment of the dependency on fossil fuels; and the clock for climate action is ticking louder and louder. As the French novelist Victor Hugo put it: "Nothing is more powerful than an idea whose time has come."

Forthcoming events

Operational excellence in power and utilities, November 1–3, 2022, Houston, TX, USA. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 36 89 300; fax: +44 207 36 89 301; e-mail: enquire@iqpc.co.uk; website: www.oilandgasiq.com/events-opexinoilandgas?utm_medium=portal&mac=IQPCCORP.

19th world LNG and gas series: Americas summit and exhibition, November 1–4, 2022, Lake Charles, LO, USA. Details: dmg :: events, 6th floor, Northcliffe House, 2 Derry Street, London W8 5TT, UK. Tel: +44 20 36 15 28 73: fax: +44 20 36 15 06 79; e-mail: conferencemarketing@dmgevents.com; website: www.worldlngamericas.com.

13th international conference on oil and gas, November 7–8, 2022, Rome, Italy. Details: Conference Series LLC Ltd, 35 Ruddlesway, Windsor, Berkshire SL4 5SF, UK. Tel: +44 20 33 18 01 99; e-mail: oil-gasexpo@speakersagenda.com; website: https://oil-gas.expertconferences.org.

Deepwater topsides operations conference and exhibition, November 8–10, 2022, Galveston, TX, USA. Details: Endeavor Business Media, 10300 Town Park Drive, Ste 1000, Houston, TX 77027, USA. website: www.offshore-event.com.

European e-fuels conference, November 9–10, 2022, Hamburg, Germany. Details: Active Communications International, 5–13 Great Suffolk Street, 4th Floor, London SE1 0NS, UK. Tel +44 207 981 98 00; fax: +44 207 593 00 71; e-mail: claire@acieu.net; website: www.wplgroup.com/aci/event/european-e-fuels-conference.

US Mexico natural gas forum, November 14–16, 2022, San Antonio, TX, USA. Details: Access Intelligence LLC, 921 Corporate Blvd, 4th floor, Rockville, MD 2085, USA. Website: https://www.usmexiconaturalgasforum.com.

Energy transition Europe 2022, November 15–16, 2022, London, UK. Details: Reuters Events, 5 Canada Square, Canary Wharf, London, E14 5AQ, UK. Tel: +44 207 37 57 500; e-mail: luke.brett2@thomsonreuters.com; website: https://events.reutersevents.com/energy-transition/energy-transition-europe?gclid=EAIaIQobChMIgoDXrNHc-QIV6oxoCR378wKoEAAYASAAEgLc8PD_BwE.

East Africa energy, oil and gas summit and exhibition, November 15–17, 2022, Nairobi, Kenya. Details: Global Event Partners Ltd, London Office, 20–22 Bedford Row, London WC1R 4JS, UK. Tel: +44 203 48 81 191; e-mail: enquiries@gep-events.com; website: http://eaogs.com/en.

SPE Annual Caspian Technical Conference, November 16–18, 2022, Nur-Sultan, Kazakhstan. 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/2022/conference/22ctc/annual-caspian-technical-conference.html.

LNG bunkering summit North America, November 15–17, 2022, Washington, DC, USA. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 36 89 300; fax: +44 207 36 89 301; e-mail: enquire@iqpc.co.uk; website: www.oilandgasiq.com/events-lngbunkeringna?utm_medium=portal&mac=IQPCCOR.

European gas and LNG conference, November 28–29, 2022, Barcelona, Spain. Details: S&P Platts, 20 Canada Square, Canary Wharf, London E14 5LH, UK. Tel: +44 207 17 66 142; fax: +44 207 17 68 512; e-mail: cynthia_rugg@platts.com; website: https://plattsinfo.spglobal.com/2022-event-emea-european-gas--lng-conference_02---lp---register-your-interest.html?/summary#_ga=2.85632538.2009242063.1652788171-196192437.1652788171.

Angola oil and gas, November 29–December 1, 2022, Luanda, Angola. Details: Global Event Partners Ltd, London Office, 20–22 Bedford Row, London WC1R 4JS, UK. Tel: +44 203 48 81 191; e-mail: enquiries@gep-events.com; website: https://energycapitalpower.com/event/angola-oil-gas-2022.

22nd world LNG summit and awards, November 29–December 2, 2022, Athens, Greece. Details: dmg :: events, 6th floor, Northcliffe House, 2 Derry Street, London W8 5TT, UK. Tel: +44 20 36 15 28 73; fax: +44 20 36 15 06 79; e-mail: conferencemarketing@dmgevents.com; website: www.worldlngsummit.com.

Barcelona bunker fuel conference, December 1–2, 2022, Barcelona, Spain. Details: S&P Platts, 20 Canada Square, Canary Wharf, London E14 5LH, UK. Tel: +44 207 17 66 142; fax: +44 207 17 68 512; e-mail: cynthia_rugg@platts.com; website: https://plattsinfo.spglobal.com/Barcelona-Bunker-Fuel-2022.html.

Oil and gas conference, December 1–2, 2022, Baton Rouge, LA, USA. Details: Society of Louisiana Certified Public Accountants, 3850 N Causeway Blvd, Suite 1650, Metairie, LA 70002, USA. E-mail: info@lcpa.org; website: www.lcpa.org/cpe/011560mb:2022-oil-gas-conference-both-days.

11th practical Nigerian content forum, December 5–8, 2022, Yenagoa, Bayelsa, Nigeria. Details: dmg :: events, 6th floor, Northcliffe House, 2 Derry Street, London W8 5TT, UK. Tel: +44 20 36 15 28 73; fax: +44 20 36 15 06 79; e-mail: conferencemarketing@dmgevents.com; website: www.pncnigeria.com.

Energy supply chain and procurement summit, December 6–7, 2022, Houston, TX, USA. Energy Conference Network. Tel: +1 855-869-4260; e-mail: info@energyconferencenetwork.com; website: https://supplychain-energy.energyconferencenetwork.com.

LNG to power forum Americas 2022, December 8, 2022, Houston, TX, USA. Details: The Petroleum Economist Ltd, 69 Carter Lane, London EC4V 5EQ, UK. Tel: +44 207 779 8800; fax: +44 207 779 8899; e-mail: customerservice@petroleum-economist.com; website: https://web.cvent.com/event/d497452b-5e5e-488c-852d-3c1ea20df9d9/summary.

Environmental Coordinator

The objectives are to analyze, report and advise on developments pertaining to the international debate on climate change and contribute to the close coordination of Member Country positions on environmental matters. This entails: monitoring and analyzing international debate and development on climate change, sustainable development and trade; gathering and analysing data and information in these fields; contributing to coordination among Member Countries and participating in relevant multilateral fora and discussions; and building up OPEC's networks with national, regional and multilateral organizations.

Objective of position:

The Environmental Coordinator is expected to coordinate the activities of the Unit, to fulfill its objectives. Under the supervision of Director, Research Division, he/she is to study and analyze national and multilateral environmental policies and assess their impact on energy developments, in particular on the medium- to long-term oil outlook and on OPEC; to study and analyze developments in the global and multilateral debate on climate change and evaluate the impact on OPEC; and to contribute to the coordination of OPEC Member Country positions in international fora on issues pertaining to environment in general and to UNFCCC negotiations in particular.

Main responsibilities

- Coordinates the activities of the Unit in line with its objectives.
- Studies and analyses developments in the international debate on environmental issues related to the energy industry and in particular the activities related to the United Nations Framework Convention on Climate Change (UNFCCC) and its subsidiary bodies and the Kyoto Protocol.
- Responsible for preparing for and attending UNFCCC meetings and reporting on these.
- Assesses the impact of changes in environmental policies in consuming countries on the medium- and long-term development of the world petroleum industry.
- Conducts studies relevant to the subject of environment as it affects the energy sector in general and oil in particular.
- Contributes to the coordination of Member Countries' positions concerning environmental issues.
- Contributes to speeches, articles and presentations to internal meetings and various international forums.
- Carries out any other tasks assigned by the relevant superiors as pertain to his/her background, qualifications and position.

Required competencies and qualifications

Education:
University degree in Environmental Science or Economics, Engineering or other Sciences, preferably with specialization in environment; advanced degree preferred.

Work experience:
University degree: ten years; advanced university degree: eight years.

Training specializations:
Environmental policies; analysis of environmental issues related to energy; international debate on environment; modeling techniques

Competencies:
Managerial and leadership skills; communication skills; decision making skills; analytical skills; presentation skills; interpersonal skills; customer service orientation; team-building skills; initiative and integrity.

Language: English

Status and benefits:

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

The post is at grade D reporting to the Director, Research Division. The compensation package, including expatriate benefits, is commensurate with the level of the post.

Applications:
Applicants must be nationals of Member Countries of OPEC and should not be older than 58 years.
Applicants are requested to fill in an application form which can be downloaded from the OPEC website.
In order for applications to be considered, they must reach the OPEC Secretariat through the relevant Governor not later than **November 20, 2019,** quoting the job code: 6.1.01 *(see www.opec.org — Employment)*.

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Assessment of the global economy

September 2022


Organization of the Petroleum Exporting Countries

OPEC Monthly Oil Market Report

13 September 2022

Feature article:
Assessment of the global economy

Economic growth is forecast to remain robust at 3.1 per cent in 2022. Consumer spending in value terms has performed well in recent months — better than indicated by underlying sentiment, particularly in western economies. Positively, this weakening sentiment seems to have been offset so far by a combination of ongoing social welfare measures in advanced economies, rising wages and salaries, increasing debt-financed consumption, particularly in the US, as well as consumers tapping into their savings. In terms of economic sectors, support has come from a recovery in the contact-intensive services sector, as can be seen from the rebound in global tourism activity. Moreover, strong growth in commodity-exporting economies and rising global trade contributed to this trend. Finally, some strong economic growth trends in 1H22 should be highlighted, which provides a more granular perspective when reviewing global economic developments. Economies like India and the Euro-zone showed a strong growth dynamic in 1H22, compensating very well for the relatively — and likely temporary — weaker performance of the US and China.

Looking forward to the coming year, global economic growth in 2023 is again expected to be strong at 3.1 per cent. This matches the average pre-pandemic growth level of around 3.1 per cent between 2009 and 2019. Despite the obvious downside risks, there is also upside potential to the global economic growth forecast. Fiscal measures in the EU and China support growth towards the end of the year and lead to the potential continuation of a stable dynamic in 2023. This fiscal support may at least counter-balance the anticipated downward momentum that some market observers forecast. Moreover, any resolution to developments in Eastern Europe could have a positive impact on the inflationary dynamic, allowing for less hawkish monetary policy, which in turn could uplift consumer and business sentiment, in addition to triggering a wide range of other positive impacts. However, downward risks still exist.

Another important aspect is the strong rise of the US dollar, which is an outcome of considerable monetary tightening efforts by the US Federal Reserve, in combination with uncertainty in the global economy. The strengthening of the US dollar led to rising import costs in non US-dollar denominated economies in 1H22, including major economies like Japan and India. However, the expectation of a less accentuated rise in the US dollar exchange rate in 2H22 could provide some relief to affected economies in the near term.

Oil demand is forecast to remain driven by ongoing global economic growth, especially by the recovery in travel and transportation, which is projected to lead to robust overall growth in oil demand of 3.1 million barrels/day in 2022 and 2.7m b/d in 2023, surpassing the pre-COVID-19 levels, to stand at 102.7m b/d.

Given the ongoing high level of uncertainty and increased volatility observed in the markets, OPEC and non-OPEC countries participating in the 'Declaration of Cooperation' (DoC) will continue to monitor market developments and address challenges, as well as ensure sustainable market stability.

MOMR ... oil market highlights

September 2022

Crude oil price movements — Crude oil spot prices fell for the second-consecutive month in August. The North Sea Dated benchmark declined by $13/barrel month-on-month (m-o-m), while Dubai fell by almost $7/b. The OPEC Reference Basket fell by $6.65, or 6.1 per cent, to settle at $101.90/b. The ICE Brent front-month declined by $7.38, or 7.0 per cent, to average $97.74/b. NYMEX WTI fell by $7.90, or 7.9 per cent, to average $91.48/b. Consequently, the Brent-WTI futures spread widened by 52¢ to an average of $6.26/b. The market structure of all three major crude benchmarks — ICE Brent, NYMEX WTI and DME Oman — remained in backwardation but flattened significantly in August. Hedge funds and other money managers further cut net long positions in the two major futures contracts. The paper and physical markets have become increasingly more disconnected. In a way, the market is in a state of schizophrenia, and this is creating a type of yo-yo market and sending erroneous signals at times when greater visibility and clarity and well-functioning markets are needed more than ever to allow market participants to efficiently hedge and manage the huge risks and uncertainties they face.

World economy — The global economic growth forecast remained similar to last month's assessment at 3.1 per cent for both 2022 and 2023, although some minor adjustments have been applied. For the US, economic growth remained unchanged for both 2022 and 2023 at 1.8 per cent and 1.7 per cent, respectively. Euro-zone economic growth for 2022 was revised down to 3.1 per cent, but remained at 1.7 per cent for 2023. Japan's economic growth forecast remained unchanged at 1.4 per cent for 2022, followed by growth of 1.6 per cent in 2023. China's 2022 growth forecast was revised down to 4.2 per cent, while the 2023 forecast remained unchanged at 5.0 per cent. The forecast for India remained the same at 7.1 per cent in 2022 and 6.0 per cent in 2023. Brazil's economic growth forecasts were revised up slightly for both 2022 and 2023, to stand at 1.5 per cent and 1.6 per cent, respectively. The 2022 forecast for Russia was unchanged, showing a contraction of 6.0 per cent. This will be followed by growth of 1.2 per cent in 2023. The global growth level has been well supported by consumption, which has shown a solid trend especially in advanced economies. However, some downside risks remain, stemming from ongoing geopolitical tensions, the pandemic, supply chain issues, rising inflation, high sovereign debt levels in many regions, and expected monetary tightening by US, EU and UK central banks.

World oil demand — World oil demand growth in 2022 remained unchanged from the previous month's assessment at a healthy level of 3.1 million barrels/day (m b/d). This includes the recently observed trend for additional oil demand growth due to fuel switching in power generation. Oil demand in the OECD is estimated to grow by 1.6m b/d in 2022, while non- OECD growth is expected at 1.5m b/d. The second quarter of 2022 is revised higher amid better-than- anticipated oil demand in the main OECD consuming countries, while the 3Q22 and 4Q22 have seen offsetting revisions. For 2023, the forecast for world oil demand growth also remained unchanged from the previous month's assessment to 2.7m b/d. The OECD is expected to grow by 600,000 b/d and the non-OECD by 2.1m b/d. Oil demand in 2023 is expected to be supported by a still-solid economic performance in major consuming countries, as well as potential improvements in COVID-19 restrictions and reduced geopolitical uncertainties.

World oil supply — Non-OPEC liquids supply growth in 2022 remained broadly unchanged from last month's assessment at 2.1m b/d. A downward revision in Other Eurasia and OECD Americas was offset by an upward revision in Latin America and Other Asia. The main drivers of liquids supply growth for 2022 are expected to be the US, Canada, China, Brazil and Guyana, while the main production declines are expected in Indonesia and Norway. In 2023, the forecast for non-OPEC liquids production growth remained unchanged from last month's assessment of 1.7m b/d. The main drivers for 2023 growth are expected to be the US, Norway, Brazil, Canada and Guyana, whereas oil production declines are projected mainly in Russia and Azerbaijan. However, geopolitical concerns and uncertainties around the operational side, as well as financial aspects of US production remain high. OPEC NGLs and non-conventional liquids are forecast to grow by 100,000 b/d in 2022 to average 5.4m b/d, and by 50,000 b/d in 2023. In August, OPEC-13 crude oil production increased by 618,000 b/d m-o-m to average 29.65m b/d, according to available secondary sources.

Product markets and refining operations — Refinery margins showed diverging trends in August. In the US Gulf Coast (USGC), margins declined moderately, with weakness mainly at the top of the barrel. This was on the back of weaker gasoline domestic consumption which exhibited signs of a slowdown amid concerns over high inflation, economic growth and the approaching end of the driving season. In contrast, refinery margins in Europe and Asia reversed trend, following the steep losses witnessed in July. This was mainly reflective of a continued decline in diesel availability, as high operational costs for European refiners due to strong natural gas prices weighed on diesel production. In Asia, strong diesel consumption in India and China, and open arbitrage for diesel flows from Asia to Europe, led to significant regional market support that resulted in higher refining gains. Over the month, global refinery runs slightly extended the upward trend, in line with expected seasonality, despite significant unplanned US refinery outages.

Tanker market — Dirty tanker spot freight rates continued to pick up in August. They now stand at the top of the five-year range. VLCC rates rose a further 16 per cent m-o-m on average, with all monitored routes seeing gains. Spot VLCCs rates on the Middle East to East route rose 17 per cent. Aframax rates edged up five per cent on average, with rates on the Caribbean to US East Coast route up 21 per cent, offsetting declines on Mediterranean routes. Suezmax rates rose four per cent on average. Clean rates fell for the second-month in a row, with rates on the NWE to the US East Coast down six per cent.

Crude and refined products trade — Preliminary data shows US crude imports fell in August after reaching a three-year high in July, while US crude exports set a new record high of just under 4.0m b/d. Japan's crude imports recovered from an 11-month low to average 2.6m b/d in July, representing a strong y-o-y increase. Preliminary estimates show OECD Europe crude imports moved to higher levels in May, while crude exports remained at low levels as more locally produced supply remained in the region. Preliminary data shows China's crude imports averaging 9.5m b/d in August, representing a y-o-y decline of around ten per cent. China's product exports remained soft August as increased outflows of gasoline, fuel oil and gasoil outpaced declines in jet fuel and naphtha. India's crude imports edged three per cent higher to average a robust 4.8m b/d in July, with secondary sources showing Russian flows remaining above 1.0m b/d. India's product exports dropped a seasonal 18 per cent, with losses in naphtha and gasoil.

Commercial stock movements — Preliminary July data sees total OECD commercial oil stocks up m-o-m by 18.1m b. At 2,699m b, they were 148m b less than the same time a year ago, 279m b lower than the latest five-year average and 271m b below the 2015–19 average. Within the components, crude and product stocks rose m-o-m by 6.4m b and 11.7m b, respectively. At 1,318m b, OECD crude stocks were 45m b lower than the same time a year ago, 128m b below the latest five-year average and 144m b lower than the 2015–19 average. OECD product stocks stood at 1,380m b, representing a deficit of 103m b compared to the same time a year ago, 151m b lower than the latest five-year average and 127m b below the 2015–19 average. In terms of days of forward cover, OECD commercial stocks rose by 0.3 days m-o-m in July to stand at 59.1 days. This is 2.7 days below July 2021 levels, 5.3 days less than the latest five-year average and 3.4 days lower than the 2015–19 average.

Balance of supply and demand — Demand for OPEC crude in 2022 remains unchanged from the previous month's assessment to stand at 28.9m b/d. This is around 900,000 b/d higher than in 2021. Demand for OPEC crude in 2023 was also unchanged from the previous assessment at 29.8m b/d. This is around 900,000 b/d higher than in 2022.

The feature article and oil market highlights are taken from OPEC's Monthly Oil Market Report (MOMR) for September 2022. 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 the OPEC Reference Basket and crude and oil product prices in general.

Winter oil market outlook

October 2022


Organization of the Petroleum Exporting Countries

OPEC Monthly Oil Market Report

12 October 2022

Feature article:
Winter oil market outlook

In August 2022, global refinery intake level has reached 81m b/d, the highest monthly level registered since the emergence of the COVID-19 pandemic. The strong product consumption during the summer season, amid positive fuel requirements from the industrial and manufacturing sectors, led to an increase of 2.5m b/d, y-o-y. However, in September, refinery intake fell by nearly 1.2m b/d m-o-m with the start of peak autumn refinery maintenance in the US and Europe.

Meanwhile, global oil demand is now expected to grow by about 2.6m b/d in 2022. However, risks are skewed to the downside, with slowing growth in the global economy, if continued, likely leading to lower oil demand in the months to come. While the first half of the year saw good levels of mobility, industrial activity and petrochemical feedstock requirements, the momentum has seen a slowdown due to reduced economic activity in recent months. A decrease in product output since last year due to refinery closures, pipeline and weather issues and other constraints, weighed heavily on total OECD product inventories, raising refinery margins to record-high levels.

On the US Gulf Coast, refinery margins soared to a record high of $49.92/b in June. Nevertheless, seasonal demand for gasoline throughout the driving season in the US was lower than expected, showing y-o-y declines from June to September 2022. In China, the government's zero-COVID policy restrictions led to a y-o-y decline in oil demand in 2Q22, followed by a brief recovery in 3Q22. The newly announced lockdowns are expected to add to the uncertainty going forward. Looking ahead, refinery runs are expected to slow going into 4Q22 as heavy maintenance work unfolds globally. However, ongoing tightness in product availability, particularly for gasoil, should remain supportive for refinery runs, along with expectations of a slight pick-up in diesel consumption for heating demand amid some additional potential for gas-to-oil switching. This will also depend on the severity of the winter in the Northern Hemisphere. Nevertheless, current signs of economic slowdown may further soften oil market fundamentals beyond the seasonal refinery turnaround period.

Looking to the coming winter season, a seasonal pick-up in heating oil demand due to rising requirements in the Northern Hemisphere is projected. In 4Q22, OECD Europe and Americas, as well as OECD Asia Pacific, are expected to see an increase in demand for fuel oil and distillates required for heating. In addition, rising natural gas prices will potentially lead to some degree of gas-to-oil switching in power generation in both Europe and Asia, supporting demand for residual fuels, heating oil and other fuels, which are forecast to grow by 500,000 b/d y-o-y in 4Q22. In OECD Europe and the US, heating oil will be the main driver, followed by residual fuels, while in OECD Asia Pacific, residual fuels and other fuels are expected to drive heating fuel demand. In 1Q23, global demand for heating fuel is expected to grow by 600,000 b/d, y-o-y. OECD Europe is expected to account for the largest increase by 400,000 b/d, mostly heating oil. Heating fuel demand in OECD Asia Pacific is also expected to grow by 100,000 b/d, y-o-y, while the US is forecast to show only marginal y-o-y growth.

Looking ahead, and despite the usual seasonal hike in oil demand for heating, the challenges presented by the heightened levels of uncertainty, the slowing economic growth and a possible resurgence of COVID restrictions in China and elsewhere are expected to impact oil demand in 2022 and 2023. With this in mind, the participating countries of the 'Declaration of Cooperation' (DoC), in their October 5, 2022, meeting have pre-emptively and proactively decided to adjust their overall production, starting November 2022, downward by 2m b/d (from the August 2022 required production levels), in an ongoing and relentless effort to provide a sustainable stability to the market.

MOMR ... oil market highlights

October 2022

Crude oil price movements — The OPEC Reference Basket (ORB) declined m-o-m by $6.58 in September, or 6.5 per cent, to average $95.32/b. Pressure from equity market selling, central bank interest rate hikes, and economic outlook concerns weighed on crude futures prices. The ICE Brent front-month declined $7.17, or 7.3 per cent, to average $90.57/b in September while NYMEX WTI fell by $7.68, or 8.4 per cent, to average $83.80/b. The Brent/WTI futures spread widened again m-o-m, expanding 51¢ to average $6.77/b. The market structure of all three major crude benchmarks remained in backwardation. Hedge funds and other money managers resumed selling in both major futures contracts — ICE Brent and NYMEX WTI — especially during the last week of September.

World economy — Global economic growth has entered into a period of significant uncertainty and deteriorating macroeconomic conditions, amid intensifying challenges including high inflation levels, tightening monetary policies by major central banks, rising interest rates and persisting supply chain issues. Moreover, geopolitical risks, extensions of COVID-19 related lockdowns and flare ups of the pandemic in the Northern Hemisphere during winter season remain uncertain. By taking these factors into account, the global economic growth forecast for both 2022 and 2023 are revised down to stand at 2.7 per cent and 2.5 per cent, respectively. For the US, GDP growth for 2022 is revised down to 1.5 per cent and for 2023 it is lowered to 0.8 per cent. In the Euro-zone, the 2022 GDP forecast is lowered to 3.0 per cent, and for 2023 it is lowered to 0.3 per cent. Japan's economic growth forecast for 2022 is revised up to 1.5 per cent while for 2023 it is revised down to 1.0 per cent. China's 2022 forecast is revised down to 3.1 per cent while for 2023 it stands at 4.8 per cent. India's 2022 forecast is revised down for both 2022 and 2023 to 6.5 per cent and 5.6 per cent, respectively. Brazil's growth forecast for 2022 is unchanged at 1.5 per cent while for 2023 it is revised down to 1.0 per cent. Russia's 2022 forecast is revised up to show a contraction of 5.7 per cent, with growth of 0.2 per cent expected in 2023. Downside risks to this forecast includes continued inflationary trends, further monetary actions by major central banks, aggravated geopolitical tensions, worsening of the pandemic in the northern hemisphere during winter months, tightening labour markets and further supply chain constraints. These ongoing risks and challenges, especially the economic dynamics in 4Q22 and 1Q23 will require close monitoring.

World oil demand — Global oil demand growth in 2022 is revised down by 500,000 b/d to reflect the recent macroeconomic trends and oil demand developments in various regions. These developments include the extension of China's zero-COVID-19 restrictions in some regions, economic challenges in OECD Europe, and inflationary pressures in other key economies, which have weighed on oil demand, especially in 2H22. With this, global oil demand for 2022 is now expected to grow by about 2.6m b/d. In the OECD, oil demand growth is estimated at about 1.4m b/d with the non-OECD at about 1.3m b/d. For 2023, world oil demand growth is revised down to stand at about 2.3m b/d. The OECD is projected to grow by about 400,000 b/d, and the non-OECD by about 2.0m b/d.

World oil supply — Non-OPEC liquids supply growth in 2022 is forecast at 1.9m b/d. Upward revisions in Latin America were more than offset by downward revisions to Other Eurasia, OECD Europe and Other Asia. The main drivers of liquids supply growth for 2022 are expected to be the US, Canada, China, Guyana and Brazil, while production is expected to decline mainly in Norway and Thailand. For 2023, the non-OPEC liquids production growth forecast is adjusted down to 1.5m b/d. The main drivers for 2023 growth are expected to be the US, Norway, Brazil, Canada, Kazakhstan and Guyana, with oil production declines mainly seen coming from Russia and Mexico. Uncertainty about the geopolitical situation remains high, and there is potential for further US shale liquid production. OPEC NGLs and non-conventional liquids in 2022 are forecast to grow by 100,000 b/d and then by 50,000 b/d in 2023 to average 5.4m b/d. OPEC-13 crude oil production in September increased by 146,000 b/d m- o-m to average 29.77m b/d, according to available secondary sources.

Product markets and refining operations — Refinery margins showed diverging trends in September. In the Atlantic Basin, margins increased as the start of peak refinery maintenance season led to a reduction in product output, exerting pressure on product balances, particularly gasoil. This provided solid support to products markets in both the US Gulf Coast and Northwest Europe, mainly for middle distillates. Meanwhile, refinery margins suffered losses in Asia, pressured by the recent release of China's fourth batch of export quotas as it set the stage for stronger product exports in the near term. In addition, expectations of a fifth batch of export quotas exacerbated bearish product market sentiment within the region, leading ultimately to a downturn in Asian product performance all across the barrel, with the exception of naphtha, which continued to gain favour as the preferred petrochemical feedstock given high natural gas prices. In September, global refinery processing rates declined in line with historical trends, down by 1.2m b/d in response to a rise in offline capacity amid the start of autumn maintenance season. Preliminary data points to refinery intakes declining further in the coming months by nearly 900,000 b/d.

Tanker market — Very Large Crude Carrier (VLCC) rates continued to gather strength in September, with gains seen on all major routes, supported increased demand on longer haul routes. Spot VLCCs rates on the Middle East-to-East route rose 26 per cent, while on the West Africa-to-East route they gained 23 per cent. Suezmax and Aframax rates fell from the elevated levels seen since March, as the refinery maintenance season kicked off. Suezmax rates on the US Gulf Coast-to-Europe route declined by seven per cent, while Aframax spot rates on the Mediterranean routes lossed 13 per cent. Clean rates saw diverging trends, with gains East of Suez and declines West of Suez.

Crude and refined products trade — Preliminary data showed that the US crude imports to average 6.3m b/d in September, while exports reached a record high of 4.0m b/d. China's crude imports averaged 9.5m b/d. The increase came amid expectations for a pickup in domestic product demand in 4Q22 and as the potential for product exports increased. India's crude imports fell to 4.1m b/d in August, following strong performance seen over the last four months, but remained broadly in line with seasonal levels. India's product exports increased, driven primarily by higher outflows of jet fuel and gasoil, despite the government imposing higher export duties. Japan's crude imports showed strong performance in August, averaging just under 3.0m b/d, the strongest figure since March 2020, supported by summer demand for gasoline and heathy fuel oil consumption for power generation. Preliminary figures show crude imports into the OECD Europe region remaining high compared with last year, despite steady m-o-m declines in seaborne Russian imports.

Commercial stock movements — Preliminary August data shows total OECD commercial oil stocks up 7.8m b, m-o-m. At 2,712m b, inventories were 111m b less than the same month a year ago, 267m b lower than the latest five-year average, and 273m b below the 2015–19 average. Within components, crude and product stocks rose 6.8m b and 1.0m b, respectively, compared with the previous month. At 1,315m b, OECD crude stocks were 0.7m b lower than the same month last year, 105m b below the latest five-year average and 133m b lower than the 2015–2019 average. OECD product stocks stood at 1,398m b, representing a m-o-m deficit of 110m b, 162m b lower than the latest five-year average and 140m b below the 2015–19 average. In terms of days of forward cover, OECD commercial stocks rose by 0.2 days m-o-m in August to stand at 59.3 days. This is 1.3 days below August 2021 levels, 5.0 days less than the latest five-year average and 3.8 days lower than the 2015–19 average.

Balance of supply and demand — Demand for OPEC crude in 2022 is revised down by 200,000 b/d from the last month's assessment to stand at 28.7m b/d. This is around 600,000 b/d higher than in 2021. Demand for OPEC crude in 2023 is revised down by 300,000 b/d from the last month's assessment to stand at 29.4m b/d. This is around 800,000 b/d higher than in 2022.

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Table 1: OPEC Reference Basket spot crude prices

$/b

Crude/Member Country	2021 Sep	Oct	Nov	Dec	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Weeks 36-40/2022 (week ending) Sep 2	Sep 9	Sep 16	Sep 23	Sep 30
Arab Light – Saudi Arabia	75.01	82.77	80.81	75.49	86.15	93.82	112.99	107.24	116.44	117.27	108.98	104.89	99.33	105.72	100.55	101.34	99.62	94.56
Basrah Medium – Iraq	72.64	80.45	78.55	72.81	83.80	92.44	112.21	104.63	111.91	115.56	105.36	97.66	91.16	97.47	92.28	93.10	91.06	86.90
Bonny Light – Nigeria	74.09	82.90	80.73	74.43	86.85	98.76	120.68	106.39	115.07	125.22	117.58	106.08	95.73	102.63	96.55	97.55	94.35	93.09
Djeno – Congo	66.95	76.09	73.92	66.66	79.16	90.56	111.30	96.92	105.68	116.11	105.18	92.17	82.37	88.94	83.19	84.19	80.99	79.73
Es Sider – Libya	72.75	81.59	80.32	73.35	86.16	98.06	117.90	104.42	113.18	124.96	114.03	101.17	90.47	97.58	91.29	92.29	89.09	87.83
Girassol – Angola	74.76	84.47	82.29	75.16	88.28	100.78	121.58	105.28	113.95	127.03	119.15	105.99	92.26	101.49	92.84	93.85	90.69	89.23
Iran Heavy – IR Iran	74.08	82.14	80.50	74.68	85.59	93.04	112.40	106.28	115.48	115.85	107.63	102.24	97.18	103.43	98.42	99.07	97.67	92.25
Kuwait Export – Kuwait	74.92	82.74	81.13	75.38	86.28	93.84	113.28	107.46	116.82	117.26	109.19	103.82	98.69	104.98	99.93	100.59	99.19	93.76
Merey – Venezuela	54.96	62.72	61.21	54.89	63.58	71.02	88.12	83.40	88.07	92.25	84.72	80.03	73.70	80.22	74.82	75.51	74.03	69.30
Murban – UAE	73.41	82.73	82.06	74.57	85.11	94.18	112.48	104.48	109.97	117.53	105.97	98.04	92.45	99.02	93.63	94.45	92.55	87.94
Rabi Light – Gabon	73.94	83.08	80.91	73.65	86.15	97.55	118.29	103.91	112.67	123.10	112.17	99.16	89.36	95.93	90.18	91.18	87.98	86.72
Saharan Blend – Algeria	73.85	83.54	81.97	75.50	88.21	100.71	121.80	109.37	115.28	128.31	115.83	104.22	92.72	100.31	93.54	94.54	91.34	90.08
Zafiro – Equatorial Guinea	74.03	84.12	82.25	74.35	87.28	99.51	120.50	105.71	115.25	127.10	116.60	103.50	90.72	99.84	91.73	92.14	88.94	87.68
OPEC Reference Basket	**73.88**	**82.11**	**80.37**	**74.38**	**85.24**	**93.95**	**113.48**	**105.64**	**113.87**	**117.72**	**108.55**	**101.90**	**95.32**	**101.92**	**96.48**	**97.27**	**95.25**	**90.94**

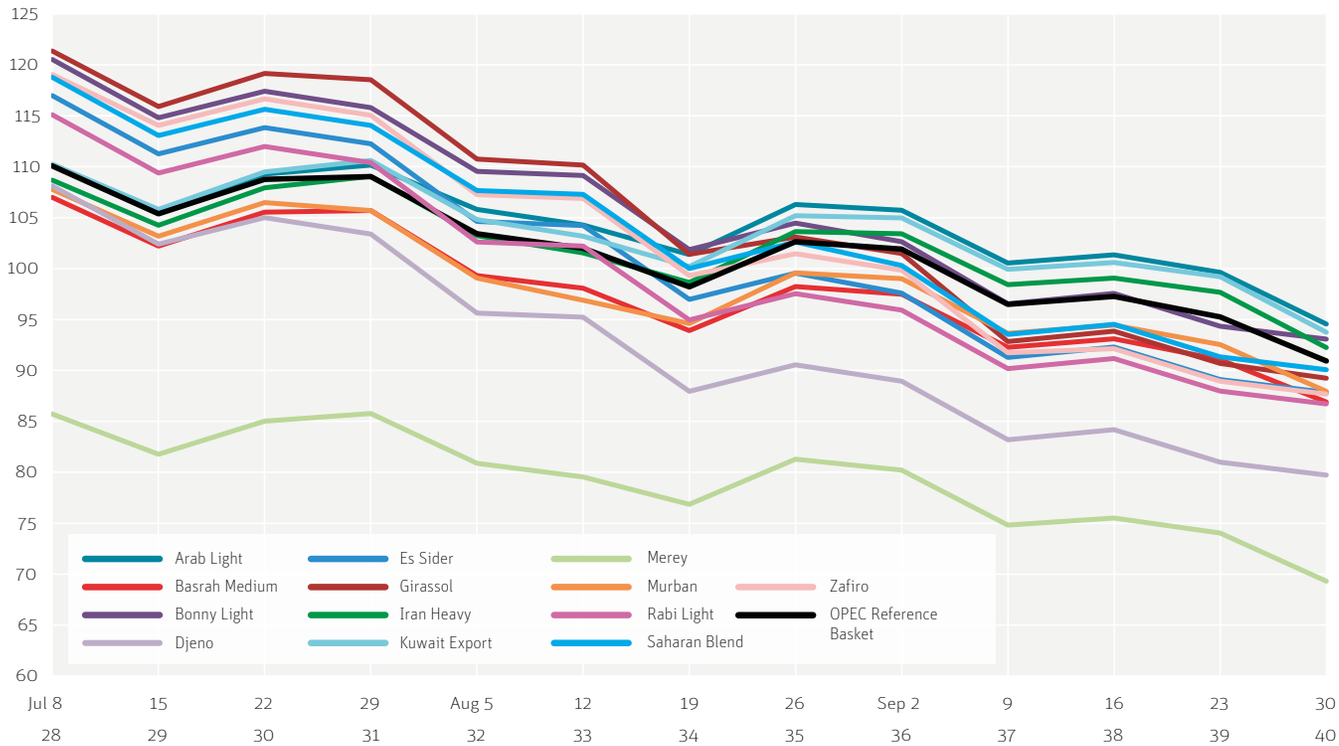
Table 2: Selected spot crude prices

$/b

Crude/country	2021 Sep	Oct	Nov	Dec	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Weeks 36-40/2022 (week ending) Sep 2	Sep 9	Sep 16	Sep 23	Sep 30
Arab Heavy – Saudi Arabia	74.07	81.92	80.19	74.27	85.28	92.78	112.13	106.21	115.53	115.91	107.84	101.95	96.89	103.15	98.13	98.79	97.39	91.96
Brega – Libya	72.80	81.69	80.22	73.35	86.26	98.31	118.15	105.27	114.03	125.96	114.53	101.52	90.52	97.81	91.34	92.34	89.14	87.88
Brent Dtd – North Sea	74.40	83.54	81.37	74.10	86.61	98.01	118.75	104.37	113.13	123.56	112.63	99.62	89.82	96.39	90.64	91.64	88.44	87.18
Dubai – UAE	72.57	81.46	80.29	73.31	83.34	92.11	110.49	102.91	107.83	112.89	102.87	96.33	90.98	97.48	92.03	92.77	91.50	86.40
Ekofisk – North Sea	74.74	84.24	82.75	75.30	89.37	101.34	123.27	107.22	117.46	130.39	120.37	105.29	93.02	99.08	94.42	95.64	90.25	89.77
Iran Light – IR Iran	71.08	80.36	78.51	71.50	85.19	95.38	117.33	102.40	107.82	118.61	106.76	92.07	82.45	88.44	83.42	83.52	80.88	80.26
Isthmus – Mexico	68.82	78.20	75.50	68.50	79.55	89.68	107.42	100.40	108.32	113.85	100.47	89.09	81.44	87.57	82.55	84.03	80.61	77.37
Oman – Oman	72.78	81.58	80.29	73.22	83.62	92.03	110.96	102.40	107.32	112.93	103.22	96.97	90.80	97.64	92.24	92.80	91.27	85.52
Suez Mix – Egypt	70.95	80.23	78.38	71.37	85.06	95.25	117.20	102.27	107.69	118.48	106.63	91.94	82.32	88.31	83.29	83.39	80.75	80.13
Minas – Indonesia	72.62	81.34	79.35	72.44	82.96	92.25	111.23	103.44	109.79	115.06	103.01	95.39	88.91	96.32	89.96	90.79	88.93	84.59
Urals – Russia	72.65	81.93	80.08	73.14	86.23	94.94	92.59	72.55	81.18	91.61	85.32	77.34	68.63	77.19	69.84	69.64	66.44	65.98
WTI – North America	71.46	81.36	79.11	71.87	83.16	91.70	108.52	101.77	109.86	114.36	100.25	91.57	84.00	90.34	85.20	86.76	83.33	79.62

Notes:
Brent for dated cargoes; Urals cif Mediterranean. All others fob loading port.
Sources: Argus; Secretariat's assessments.

Graph 1: Evolution of the OPEC Reference Basket spot crude prices, 2022 $/b



Graph 2: Evolution of selected spot crude prices, 2022 $/b

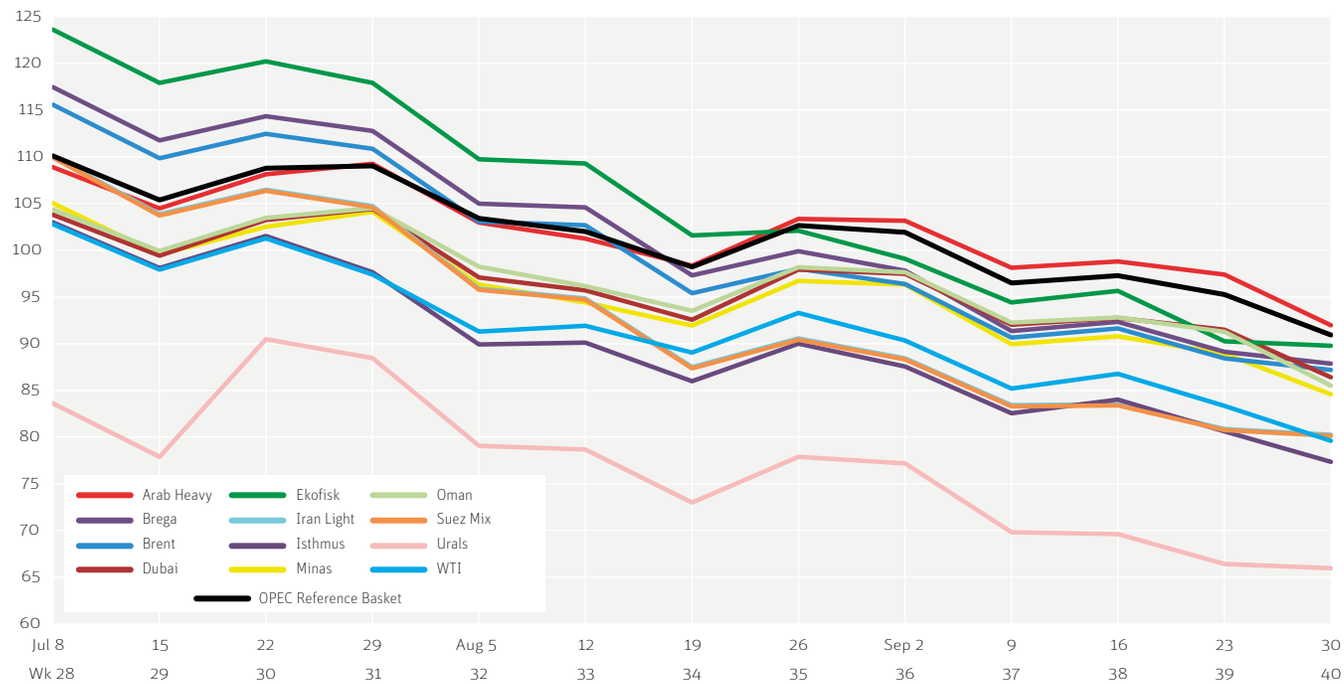


Table and Graph 3: North European market — spot barges, fob Rotterdam

$/b

		naphtha	regular gasoline unleaded	diesel ultra light	jet kero	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2021	September	75.19	93.89	82.87	84.35	73.93	64.09
	October	84.42	103.48	95.73	96.92	81.72	72.06
	November	81.41	100.77	91.26	92.83	77.65	65.40
	December	77.40	90.49	86.20	86.38	73.64	62.52
2022	January	85.91	102.47	101.51	101.18	82.97	73.18
	February	95.37	114.12	110.60	112.77	90.83	78.59
	March	111.98	134.95	152.33	156.48	109.70	95.07
	April	100.31	133.44	156.07	151.46	97.60	89.20
	May	98.23	166.14	160.81	152.37	100.66	95.41
	June	88.76	188.54	178.57	179.29	100.23	89.69
	July	84.65	158.02	147.64	153.29	89.26	70.77
	August	72.98	137.45	143.04	143.00	90.31	75.00
	September	69.03	124.73	135.02	139.42	82.58	62.10

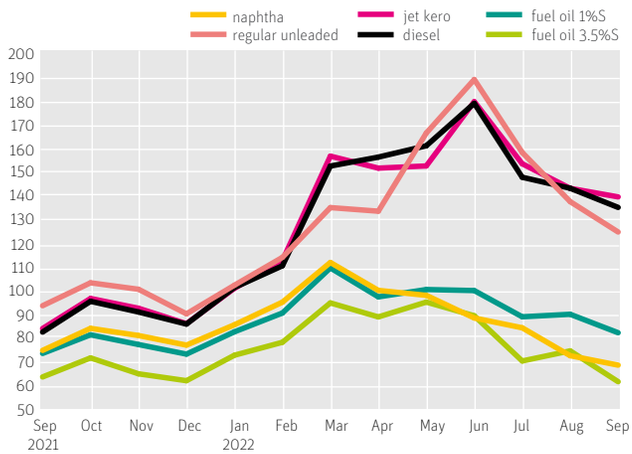


Table and Graph 4: South European market — spot cargoes, fob Italy

$/b

		naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1 per cent S	fuel oil 3.5 per cent S
2021	September	74.92	88.58	85.00	75.26	63.76
	October	83.83	97.74	97.63	83.38	71.40
	November	80.76	92.83	93.15	79.64	64.50
	December	75.50	86.82	87.05	75.70	61.24
2022	January	84.89	98.09	101.29	85.58	72.09
	February	93.90	109.76	112.16	92.31	77.06
	March	110.29	130.57	155.32	114.69	93.45
	April	97.78	128.46	150.56	104.14	87.17
	May	94.86	151.69	151.88	106.96	91.99
	June	83.67	173.11	177.45	107.04	85.70
	July	82.14	141.78	145.03	95.58	70.58
	August	70.39	114.86	135.92	96.88	71.03
	September	67.00	101.21	134.05	89.44	51.18

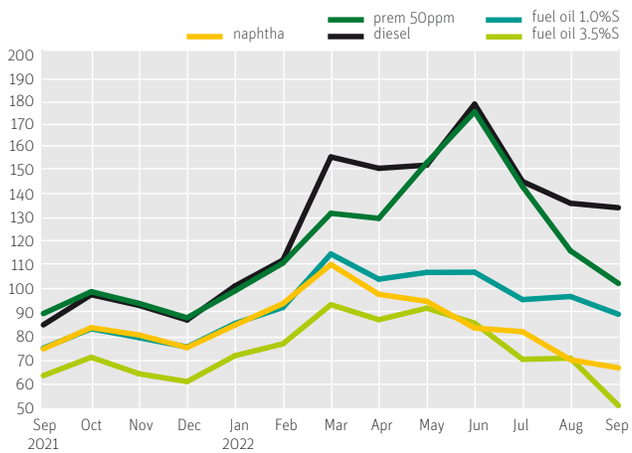
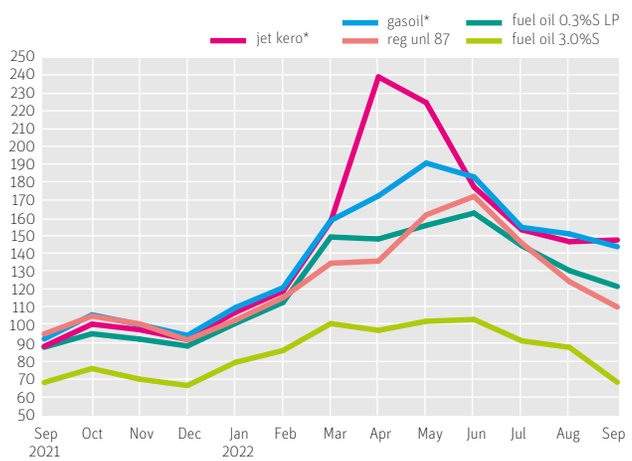


Table and Graph 5: US East Coast market — spot cargoes, New York

$/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
2021	September	95.18	92.40	88.21	87.76	68.08
	October	105.17	105.85	100.64	95.27	75.86
	November	100.78	100.43	97.55	92.28	69.91
	December	91.80	94.33	92.12	88.45	66.37
2022	January	102.81	109.86	107.23	101.02	79.27
	February	115.43	121.00	119.03	112.79	85.91
	March	134.68	158.55	158.01	149.32	100.95
	April	135.92	172.32	238.78	148.24	97.19
	May	161.70	190.63	224.38	155.83	102.26
	June	172.02	182.90	177.23	162.70	103.26
	July	145.90	154.69	153.38	144.45	91.34
	August	124.36	151.06	146.74	130.55	87.69
	September	110.22	143.93	147.65	121.67	68.18



* *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
2021	September	75.15	84.06	82.05	79.66	79.46	79.88	69.18
	October	84.45	98.48	95.71	93.38	93.10	93.09	74.81
	November	84.21	95.01	92.15	90.84	90.65	89.09	68.76
	December	77.82	87.92	85.79	84.94	84.50	83.47	63.75
2022	January	84.56	98.04	96.18	97.84	97.43	95.78	72.97
	February	95.75	110.72	108.26	109.91	109.24	106.17	79.78
	March	111.42	131.07	127.47	138.51	136.25	134.32	97.61
	April	97.75	126.73	123.45	139.18	137.21	134.35	102.47
	May	95.76	146.88	140.99	145.08	143.96	142.90	96.91
	June	85.72	155.10	148.86	168.61	168.56	164.40	91.26
	July	82.70	121.56	116.35	136.82	136.22	134.90	72.69
	August	72.64	110.57	107.25	134.09	133.62	132.39	73.78
	September	68.09	97.45	93.79	124.87	124.55	120.92	59.20

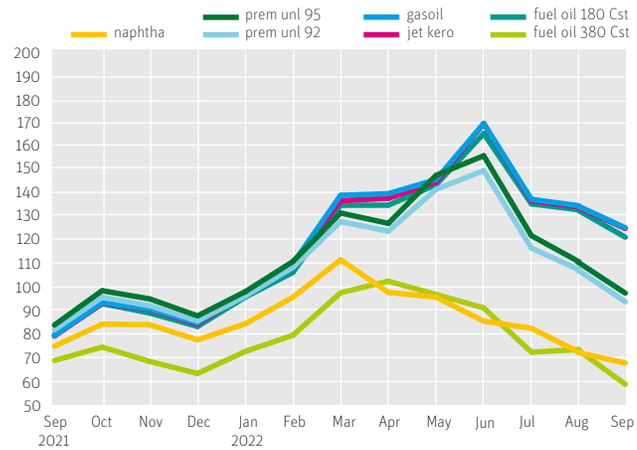
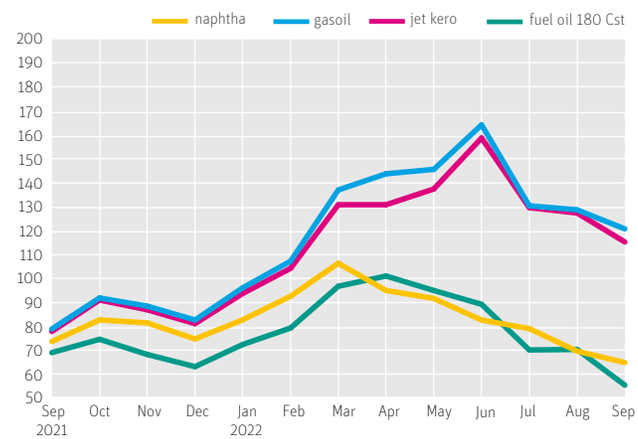


Table and Graph 7: Middle East Gulf market – spot cargoes, fob

$/b

		naphtha	gasoil	jet kero	fuel oil 180 Cst
2021	September	73.62	78.84	77.78	68.97
	October	82.62	91.80	90.95	74.55
	November	81.38	88.36	86.86	68.20
	December	74.69	82.60	81.08	63.13
2022	January	82.69	96.06	93.69	72.39
	February	92.53	107.14	104.15	79.25
	March	106.28	136.88	130.70	96.67
	April	94.92	143.61	130.70	100.96
	May	91.59	145.46	137.27	94.91
	June	82.56	164.03	158.55	89.14
	July	79.01	130.25	129.49	70.09
	August	69.59	128.58	127.26	70.31
	September	64.83	120.62	115.16	55.41



Source: Argus. Prices are average of available days.

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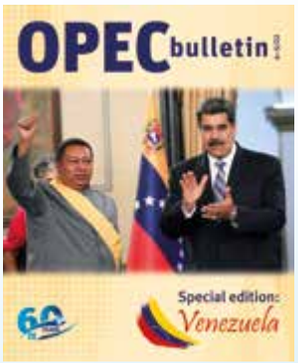

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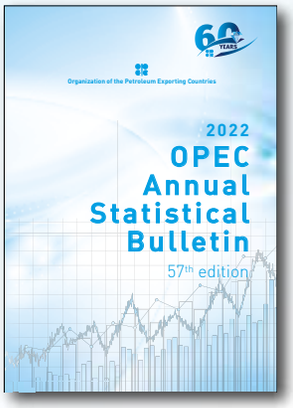

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