

ORGANIZATION OF ARAB
PETROLEUM EXPORTING
COUNTRIES (OAPEC)



THE SECRETARY GENERAL'S ANNUAL REPORT 2021

48



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HE Ali Sabt Ben Sabt
Secretary General

We are launching OPEC Secretary-General's 48th Annual Report for the year 2021 at a time when the global oil market is witnessing positive developments thanks to the relative recovery in the performance of global economies following the great shock of COVID-19 pandemic repercussions, the emergence of new mutations, and the disruptions in supply chains in general. Vaccination campaigns and their acceleration have contributed to easing restrictions on movement related to the pandemic, and helped to make significant progress in resuming economic activity. As a result, the global goods trade movement rose to its highest quarterly level ever during the third quarter of 2021, and manufacturing activity also improved globally, albeit in relative terms, and global demand for oil recorded its highest annual rise ever, but it is still below its pre-pandemic levels.

Based on this data, global crude oil prices annual rates rose in 2021 at the highest pace since 2011, to reach \$70 per barrel, the highest level since 2014. The rise in prices was clearly reflected on OPEC member

countries' revenues from oil exports, which still constitute one of their most important national wealth, and the basis for the economies of many of these countries, being the backbone of their incomes, an essential part of their foreign trade, and one of the most important elements on which their annual budgets are based.

This report tackles in detail and analyzes a number of issues, drawing a clear picture of the various aspects of the petroleum industry in particular, and the energy industry in general. It also sheds the light on the various endeavors undertaken by OPEC+, especially its Arab OAPEC member countries, towards achieving stability and balance in the global oil market. OPEC+ countries took a number of important decisions that contributed to restricting global crude oil supplies during the year 2021, and then removing the glut of oil stocks caused by the pandemic. On the other hand, this report highlights the efforts made by the member countries to develop their oil industries at their various stages, and the execution of many projects aimed at supporting oil and gas reserves, despite the challenges they faced throughout the year.

Part I of the report presents a clear analytical picture supported by data and statistics on the various aspects of the oil and energy industry. It reviews the developments in the industry at the international level, the fluctuations in global markets and the extent to which all of this is reflected on the member countries. It also tackles the factors affecting the market, whether those related to market fundamentals, such as supply, demand and oil stocks, or those that play a role in influencing market trends, such as geopolitical issues and energy policies adopted by various political and economic blocs.

The report discusses the latest developments in price trends during 2021 and their repercussions on the member countries' oil revenues, which are the main

drive of economic and social development. It also provides a primary picture of the development of oil and energy consumption in the Arab countries in general, and the member countries in particular, according to the available primary energy sources (oil, natural gas, coal, and hydropower). It also highlights the final consumption of energy, and monitors the latest developments in the prices of oil products in the Arab countries.

Part I also highlights the various global and Arab developments that have been monitored at various levels of the energy industry, starting with the exploration and production of various energy sources, with a focus on oil and natural gas and the developments in the downstream industries (refining and petrochemicals) and the natural gas industry on both Arab and International levels.

Part II of the report has been devoted to reviewing the activities of the organization during the year 2021, covering OAPEC Council of Ministers and the Executive Bureau meetings, studies prepared by the Secretariat, in addition to seminars, meetings and conferences in which OAPEC participated or organized, both at the Arab and international levels. This part also includes the achievements of OAPEC joint ventures that have worked hard over the past year, to overcome the repercussions of the COVID-19 pandemic. Most of these Joint Ventures have succeeded in boosting their capabilities, raising the efficiency of their performance, enhancing their effectiveness, and developing their activities in their various departments to handle the repercussions of the pandemic on their activities.

In conclusion, we, at OAPEC Secretariat General, hope that this report will contribute to enabling the reader to form a comprehensive and clear picture of the Organization, its activities and goals to widen the scope of their petroleum knowledge and perceptions.





PART 1

INTERNATIONAL OIL MARKET DEVELOPMENTS & THEIR IMPLICATIONS FOR OAPEC MEMBER COUNTRIES





INTERNATIONAL OIL MARKET DEVELOPMENTS & THEIR IMPLICATIONS FOR OAPEC MEMBER COUNTRIES

- Global Oil Supplies
- OPEC Supplies
- Non-OPEC Supplies
- Global Oil Demand
- Crude Oil Prices
- Spot Prices of Oil Products
- Oil Freight Rates
- Various Oil Inventories
- Value of Oil Exports in OAPEC Members Countries
- Developments in Oil & Energy Consumption in Member Countries
- Energy Consumption by Source

INTERNATIONAL OIL MARKET DEVELOPMENTS & THEIR IMPLICATIONS FOR OAPEC MEMBER COUNTRIES

During 2021, the global oil market witnessed positive developments driven by recovery of global economies performance, especially the advanced economies, from the repercussions of the COVID19 pandemic, amid uncertainty caused by the emergence of virus variants. Vaccination campaigns and their accelerated pace have contributed to easing movement and travel restrictions linked to the pandemic. They have also helped in making a big progress in resuming economic activities leading the world trade movement up significantly to register its highest ever quarterly rate in Q3/2021. Global manufacturing industries have improved, albeit relatively, with global oil demand registering its highest ever annual rise reaching about 96.6 million b/d in 2021, which is still lower than pre-pandemic levels.

Within their endeavours to restoring global oil market balance, OPEC+ countries took a number of important decisions that have hugely contributed to restricting global crude oil supplies, and removing global oil stock gluts caused by the pandemic. In this vein, it is worth mentioning that OPEC countries crude and unconventional oil supplies have risen by about 800 thousand b/d compared to 2020 registering 31.5 million b/d; while non-OPEC supplies have also risen by about 680 thousand b/d to reach about 63.7 million b/d.

In general, primary data on global crude supply and demand in 2021 showed a deficit of 1.5 million b/d, compared to the surplus achieved in 2020 of 2.7 million b/d.

In light of the above data, the annual rates of global crude oil prices have risen in 2021 compared to the previous year, posting the fastest increase since 2011, to reach \$69.9 per barrel, the highest since 2014.

Main Developments in the Global Oil Market for 2021 and Influencing Factors:

- **Global Oil Supplies**

In 2021, total global oil supplies (crude oil and NGLs) have increased by about 1.4 million b/d or 1.5% compared to the previous year to reach 95.1 million b/d, the lowest since 2014.

- **OPEC Supplies**

OPEC crude oil and NGLs supplies have risen in 2021 by about 800 thousand b/d, or 2.5% compared to the previous year to reach 31.5 million b/d. OPEC share of total global oil supplies has risen from 32.8% in 2020 to about 33.1% in 2021.

It is worth noting that OPEC crude supplies have increased from about 25.6 million b/d in 2020 to about 26.3 b/d in 2021. OPEC NGLs and unconventional oil supplies have also risen by about 90 thousand b/d to reach about 5.14 million b/d in 2021.

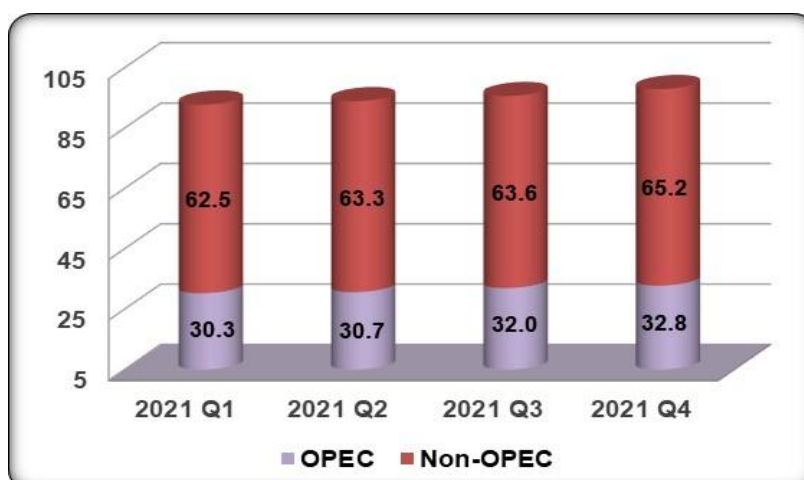
OPEC member countries spared no effort to maintain the global oil market balance especially in light of the continued repercussions of the COVID-19 pandemic on the global economy performance, which played a role in limiting the recovery of the global oil market performance, and the industry in general.

- **Non-OPEC Supplies**

Non- OPEC total oil supplies in 2021 have reached about 63.7 million b/d with an increase of 680 thousand b/d, or 1.1% compared to 2020. The source of the greatest part of the rise was the increase in oil supplies from Canada, Russia, China, and USA. Canada's oil production has risen by 330 thousand b/d to reach about 5.5 million b/d in 2021, simultaneously with Alberta Province's lifting of production restrictions imposed in 2018 to

World Supplies of Crude Oil and NGL's - Quarterly

(Million b/d)



Source: OPEC, Monthly Oil Market Report (various issues).

cut stocks that have grown due to limited exporting capacity as of January 2021, supported by significant increase in conventional crude oil production, to reach close to pre- pandemic levels. Russia's oil production has risen by 210 thousand b/d to reach 10.8 million b/d, coinciding with OPEC+ agreement. China's production has risen by 160 thousand b/d to reach about 4.3 million b/d supported by new maritime projects. The United States' oil production has risen by 130 thousand b/d compared to 2020, to reach about 17.7 million b/d.

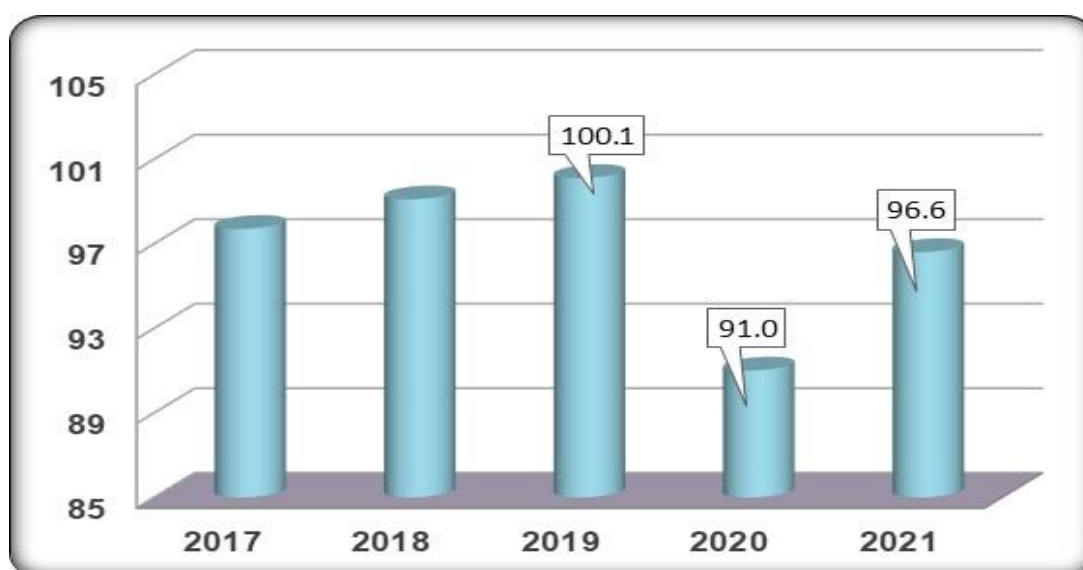
• Global Oil Demand

Global oil demand has risen in 2021 registering its highest ever annual increase of 5.6 million b/d, at a growth rate of 6.2%, to reach 96.6 million b/d, following a sharp decline last year due to COVID19 pandemic.

According to major international groups, OECD oil demand has risen in 2021, at a growth rate of 6% compared to a 11.9% decline in the previous year. In other parts of the world, oil demand has risen registering a growth rate of 6.4% in 2021 compared to a decline rate of 6.5% in 2020. This is mainly attributed to a global economic recovery from COVID-19 pandemic repercussions.

World Oil Demand

(Million b/d)



Source: OPEC, Monthly Oil Market Report (various issues).

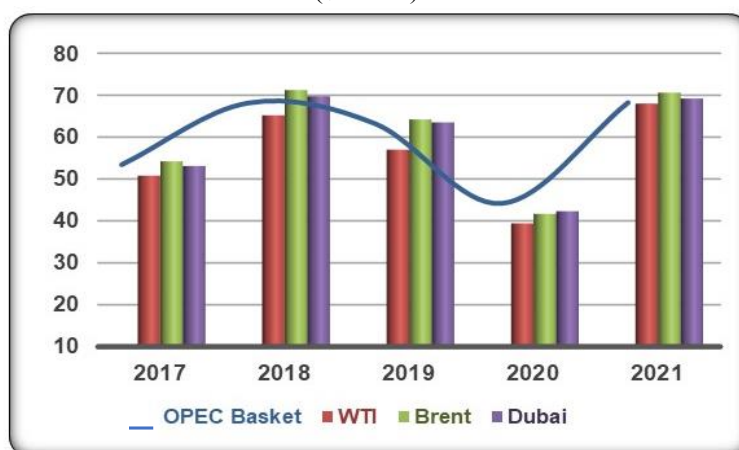
• Crude Oil Prices

In 2021, global oil prices have risen at their highest rates since 2011. This is mainly attributed to string spot oil market fundamentals and futures. Monthly OPEC oil basket rates fluctuated within a wide range between \$54.4 and \$82.1 per barrel. OPEC oil basket annual average registered its highest rate since 2014 at \$69.9 per barrel, with an increase of about \$28.4 per barrel or 68.5% compared to 2020 rate. In general, 2021 has witnessed shrinking disparities between the highest and lowest OPEC oil basket prices throughout the year of about \$27.7 per barrel compared to the previous year's disparity of \$47.4 per barrel.

Price developments and their disparities movement pattern throughout the year have reflected on spot prices of the various Arab crudes in general, which behaved in a similar way of sharp hikes in varying degrees compared to the previous year. Arab light crude price has increased by \$28.6 per barrel reaching \$70.5 per barrel in 2021; a rise of 68.2% compared to the previous year. Algeria's Sahara Blend, UAE's Murban, and Kuwait export crudes have risen by \$28.6, \$26.9, and \$28.8 per barrel to reach \$70.7, \$69.9 and \$70.3 per barrel, i.e., a hike of 67.9%, 62.6%, and 69.4% respectively. As for other Arabian crudes: Libya's Es Sider rose by \$28.9 per barrel (72.2%) to reach \$69 per barrel; Iraq's Basrah rose by \$28.2 per barrel (67.7%) to reach \$69.7 per barrel; and Qatar Marine Crude Oil rose by \$28.8 per barrel (69.1%) to reach \$70.5 per barrel.

Annual Average Prices of OPEC Basket, US Crude, Brent and Dubai

(\$/barrel)



Source: OPEC, Annual Statistical Bulletin Report (various issues).

- **Spot Prices of Oil Products**

The crude oil price hike has influenced the annual average price of various oil products in 2021, which in turn witnessed an increase in all major markets around the world by varying degrees according to market and product type. In 2021, premium gasoline price rate registered \$91.4 per barrel in the US Gulf market; \$85.9 per barrel in Rotterdam market; \$80.5 per barrel in the Mediterranean market; and \$80.3 per barrel in Singapore.

Gasoil average annual prices in 2021 have risen in general in all major markets compared to the previous year. In 2021, Rotterdam market accounted for the highest gasoil prices of \$78.3 per barrel, followed by the Mediterranean (\$77.7 per barrel); Singapore (\$77.4 per barrel); the US Gulf with the lowest price of \$73.9 per barrel. Average fuel oil prices have risen in all markets in 2021: Singapore market (\$75.7 per barrel); Mediterranean (\$70.5 per barrel); Rotterdam (\$69.1 per barrel); and the US Gulf market (\$59.8 per barrel).

- **Oil Freight Rates**

In 2021, freight price rates continued to drop against expectations of recovery from COVID19 pandemic repercussions. This is mainly attributed to meeting oil demand recovery through withdrawing from accumulated stocks that hit record highs following the collapse of crude oil prices in 2020. On the other hand, oil shipping markets have been influenced by resumption of economic activities and disproportionate lockdown measures worldwide.

In 2021, average freight price rate for oil shipments from the Middle East ports to the East via VLCCs (230,000-280,000 dead weight tons (dwt)) has dropped to about \$8.2/ton. A decline has also been registered in average freight price rates for shipments from the Middle East to the West, with a capacity of 270,000-285,000 dwt, they averaged about \$6.4/ton. As for the Mediterranean region for small and medium-sized tankers (80,000-85,000 dwt), they averaged about \$7.1/ton.

- **Various Oil Inventories**

2021 witnessed a significant drop in total global oil inventories (commercial and strategic), amidst tightening oil supply and recovering oil demand following easing restrictions and lockdown measures related to COVID19 pandemic, to reach 8.696 billion barrels by the end of Q4/2021, the lowest since Q3/2018. The drop

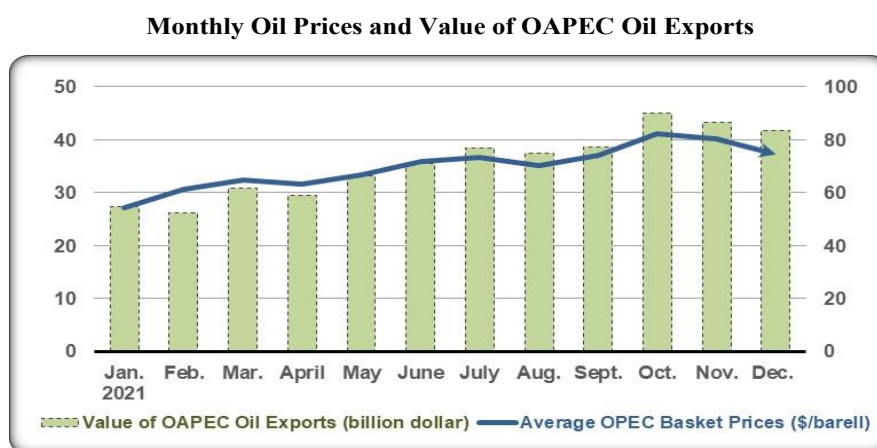
is about 684 million, or 7.3% compared to same quarter of 2020. Crude oil stocks at sea have risen to about 1.348 billion barrels by the end of 2021. This is mainly attributed to the increase in the transiting oil via ports (about 60 million barrels on annual basis) against a decline of 7 million barrels in floating stocks near key consuming areas.

Commercial inventories in OECD countries reached about 2.707 billion barrels by the end of Q4/2021. It is worth noting that OECD commercial inventories level of days cover has reached a level of about 60 days. The US Strategic Petroleum Reserve (SPR) has decreased to 594 million barrels in Q4/2021, the lowest since the third week of November 2002. By the end of November 2021, the US Department of Energy announced plans to sell up to about 50 million barrels of crude oil from its strategic inventories in an attempt to curb fuel price hikes. China also announced its first public auction of state crude oil reserves to ease pressure on raw material costs for domestic refineries. The sale of 7.4 million barrels in late September 2021 was the first deal to be sealed, and considered an unprecedented step.

• Value of Oil Exports in OPEC Member Countries

Oil price rates in 2021 and OPEC+ deal were reflected on the value of oil exports, which are the main drive for social and economic development in OPEC countries, the mainstay for their central banks' foreign currency reserves, and the main booster for their budget surplus.

It is notable that OPEC crude oil exports value has risen from \$237.9 billion in 2020 to \$ 426.6 billion in 2021, due to sharp hikes in price levels by 68.5% against the backdrop of recovery of global economy performance from the repercussion of the COVID-19 pandemic on the one hand, and the OPEC+ resolutions on the other hand, which helped achieve stability and balance in global oil markets. This represents a rise of about \$188.7 billion, or 79.3%, compared to 2020 levels.



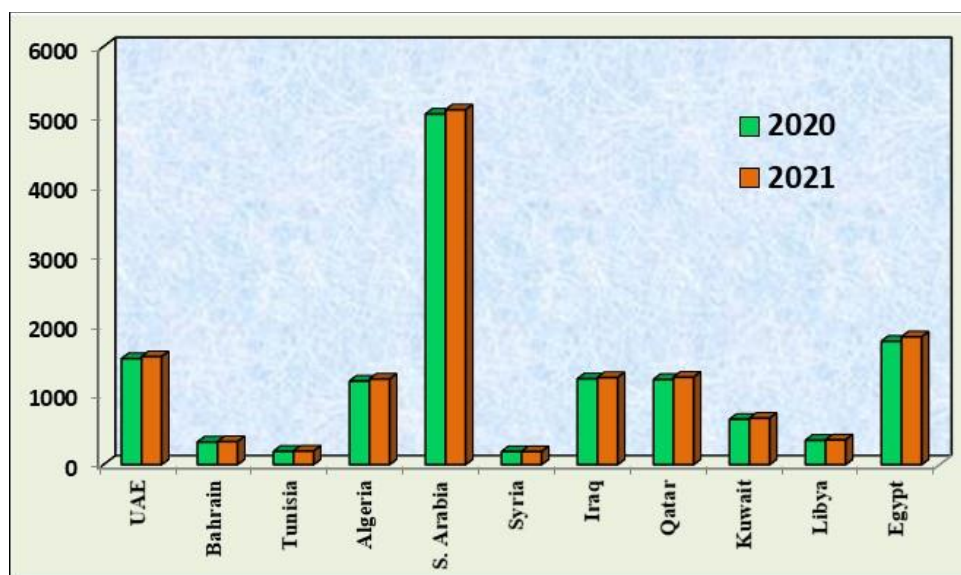
Source: OPEC, Monthly Oil Market Report (various issues), and OPEC estimates.

- **Developments in Oil & Energy Consumption in OAPEC Member Countries**

Energy consumption has risen in OAPEC member countries by 1.9% to reach about 13.9 million boe/d in 2021, driven by economic recovery from COVID19 pandemic repercussions. OAPEC member countries energy consumption depended almost entirely on oil and natural gas resources to meet their energy needs; they accounted for about 98.9% of their total energy consumption in 2021. Natural gas topped the consumption list in 2021 by 53.8%; followed by oil (45.1%); then coal (0.5%) and hydropower (0.6%). The average per capita energy consumption in OAPEC member countries has risen from 17.7 boe/d in 2017 to 18.2 boe/d in 2021, especially in Qatar, Bahrain, KSA and Iraq.

Energy Consumption in OAPEC Member Countries

(Thousand boe/d)



Source: OAPEC - Databank.

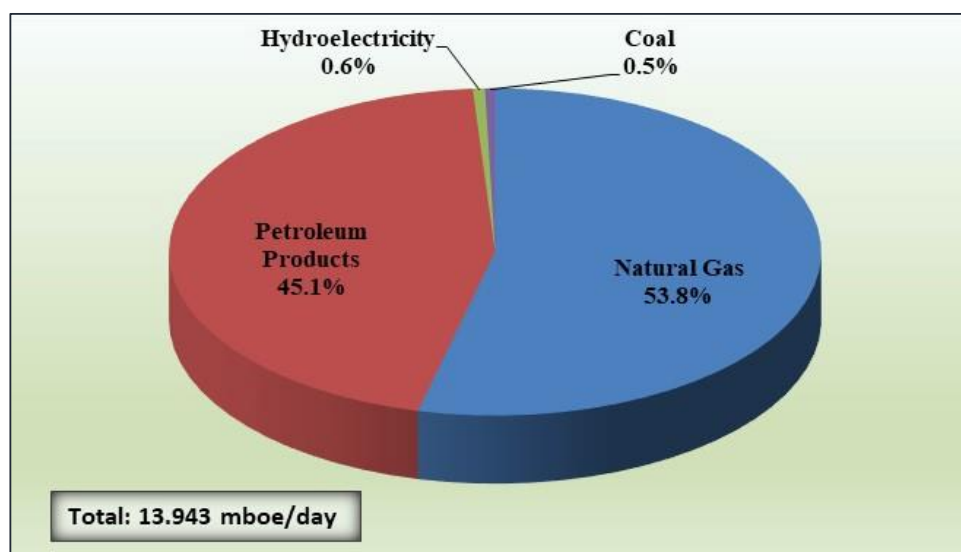
- **Energy Consumption by Source**

Natural gas consumption has risen in OAPEC member countries by 1.9% to about 7.5 million boe/d in 2021. Gas is mainly consumed in 5 countries: KSA, UAE, Egypt, Qatar and Algeria.

2021 witnessed a rise in petroleum products consumption in OAPEC member countries by 2% to reach about 6.3 million boe/d. Four countries out of OAPEC members have significant consumption rates of petroleum products and crude oil: KSA, Iraq, Egypt and Algeria.

Hydropower consumption has risen in OAPEC members by 1.1% to reach 78 thousand boe/d in 2021. Egypt the biggest hydropower Arab producer and consumer. However, coal's share has dropped in terms of total energy consumption in OAPEC member countries by 3.3% to reach 75 thousand boe/d in 2021.

Energy Consumption by Source in Member Countries



Source: OAPEC - Databank.

OIL MARKET: SHORT TERM FUTURE PROSPECTS

- **GLOBAL OIL SUPPLIES**

During the first half of 2022, total global oil supplies increased by about 3.5 million b/d compared to the 2021 level, reaching 98.6 million b/d. This is mainly due to the gradual monthly production increase approved by the OPEC + group, as well as the return of supplies from the United States of America to near pre-pandemic levels. Global supplies are expected to rise to reach 100.1 million b/d by the end of 2022, as these supplies are expected to remain above 100 million b/d in 2023.

- **GLOBAL OIL DEMAND**

During the first half of 2022, global oil demand for oil rose significantly, amounting to about 1.3 million b/d compared to the level of 2021, to reach 98.2 million b/d, mainly due to the recovery of global economic activity following the end of the closures and the lifting of restrictions imposed on movement and travel associated with the Covid-19 pandemic. Global oil demand is expected to rise to 100.3 million b/d by the end of 2022. These forecasts are subject to uncertainty related to escalating geopolitical tensions, challenges related to the re-emergence of the Covid-19 virus, supply chains bottlenecks, and high levels of inflation.

- **GLOBAL OIL STOCKS**

Total global oil stocks (commercial and strategic) have dropped during the first half of 2022, reaching 8.812 billion barrels. Members of the International Energy Agency (including the United States of America) announced the largest ever withdrawal from their strategic stocks of 120 million barrels over the period (May-October 2022), with the aim of alleviating the increasing supply shortage in the oil markets resulting from the Russian-Ukrainian crisis.

- **INTERNATIONAL OIL PRICES**

Crude oil prices rose during the first half of 2022 to their highest levels in several years, reaching an average of \$ 105 a barrel, mainly supported by growing concerns about supply

shortages amid escalating geopolitical tensions in some key production regions, particularly Eastern Europe and the Middle East, as well as disruptions in supplies in the Caspian Sea, lack of gasoline and diesel supplies during the summer driving season. While concerns about demand slowdown in China - the largest global importer of oil, had a role in limiting the rise in prices, against a backdrop of the worst outbreak of the Covid-19 virus in two years. Some forecasts indicate that crude oil price levels are expected to range between \$90 to \$100 per barrel until the end of this year (2022).

- **Global Investments**

The International Energy Agency (IEA) latest forecasts show that annual global investment rate in the oil and natural gas sector between (2021-2030) would reach \$650 billion, and \$700 billion until 2050, with more than 60 of total investments spent on developing new fields, according to announced policy scenarios, with a more conservative outlook.





DEVELOPMENTS IN ARAB & INTERNATIONAL UPSTREAM INDUSTRIES

- I- OIL & GAS
- II. COAL
- III. NUCLEAR ENERGY
- IV. RENEWABLE ENERGY RESOURCES



Developments in Arab & International Upstream industries

I- OIL & GAS

1. Overview on Exploration & Production in Arab Countries & the World

The world witnessed a noticeable improvement in petroleum market movement driven by a gradual recovery of energy demand to near pre-pandemic levels in the beginning of 2020. This has been accompanied by the relative improvement in oil prices, and the increase in some companies' investments. It also appeared in the form of a noticeable improvement in the revenues of petroleum companies, for example, Saudi Aramco, which announced on its official website that its net income in the second half of 2021 amounted to \$47.2 billion, compared to \$23.1 billion in the first half of 2020. The company also announced later that the net income in the third quarter of 2021 amounted to \$30.4 billion; the increase in net income compared to the same period in 2020 was attributed to the recovery of global energy demand and the increase in economic activity in major markets.

OAPEC member countries witnessed many events that revolve around the development of the petroleum industry in general, including, but not limited to, the announcement by the "Sharjah National Oil Corporation" in the United Arab Emirates in early 2021 about the start of production from the "Mahani" field through the well Mahane-1, which was put into production just eight months after its discovery. The aforementioned discovery represents the first new onshore discovery in the Emirate of Sharjah in 37 years.

In **Algeria**, Sonatrach signed in May 2021 a memorandum of understanding with Equinor, to discuss ways of cooperation in the exploration and production of oil and gas, greenhouse gas emissions, carbon management, and industrial safety management.

In **Bahrain**, in June 2021, Eni started drilling the first exploration well in offshore block No. 1, as part of the exploration and production sharing agreement signed with the National Oil and Gas Authority (NOGA) in 2019. The block is located in the north of the Kingdom, and extends over an area of 2858 km² in water depths ranging from 10-70 m.

In **Saudi Arabia**, Saudi Aramco awarded Lamprell an engineering, procurement and construction contract, which consists of two units of offshore production platforms, and

associated submarine pipelines and cables, in the Marjan field in the Arabian Gulf off the east coast of the Kingdom.

In **Syria**, work has been carried out on a project to install four gas compressors in the "South Central Region", a project that is expected to contribute to raising the gas production rate by about 500 thousand m³/y. In July 2021, the Jahar 7 well (northwest of Palmyra) was put into production, with a capacity of 100,000 m³/d.

In **Iraq**, a contract worth \$27 billion was signed with Total to build giant energy projects in the southern province of Basra, including the project to develop the Artawi oil field, with a production of 85 thousand b/d, to reach 210 thousand b/d.

In **Qatar**, an engineering, procurement, construction and installation contract was awarded to Saipem, with the aim of developing the sustainability of the North Field production, and increasing the production of liquefied natural gas from 77 million tons per year to 110 million tons per year. Production is expected to start in 2023.

In **Kuwait**, the global marketing sector of the Kuwait Petroleum Corporation has succeeded in marketing Kuwaiti heavy crude oil since the beginning of its export for the first time in May 2020, as nearly 18 million barrels of Kuwaiti heavy crude oil were sold from May 2020 until September 2021.

In **Libya**, the Libyan National Oil Corporation (NOC), in March 2021, awarded a consultancy services contract to Saipem to develop the Benghazi Oil Technical Centre. NOC also announced in September 2021 that Zallaf Libya Co. had signed a contract worth \$100 million with Petrofac as part of the first phase of the development of the Eraun oil field.

In **Egypt**, an international bidding round was launched to explore for oil and gas in 24 blocks, distributed over the Gulf of Suez (3 blocks), the Western Desert (12 blocks), and the eastern and western Mediterranean (9 blocks). The Egypt Upstream Gateway (EUG) has also been effectively operational as the first digital platform that provides geological data for research, exploration and production activities in the country, a milestone in digital transformation efforts and an important step Egypt is taking to reach a global level in research and exploration.

As for the non-OAPEC countries, in Oman, the Petroleum Development Oman Co. signed service contracts worth \$4 billion in early March 2021, including project completion, maintenance and readiness in the north and south of the company's concession area. The contracts include the design and execution of more

than 200 projects within the plants, and are scheduled to last for seven years, with an option to extend for another three years.

In **Morocco**, SDX announced in November 2021 the resumption of the second phase of the drilling program in Morocco, which included drilling the KSR-19 well within the “Lalla Maimouna-South” block, followed by drilling the SAK-1 well, and this may open prospects for new gas exploration prospects in the country in the event of successful drilling operations.

2- Exploration and Development Drilling:

Despite the aforementioned relative improvement, investments in exploration and production were estimated at about \$341 billion during 2021, meaning that investments still represent a 23% decline from pre-epidemic levels. This was accompanied by a decline in new discoveries to the lowest level in several decades, as the total volume of new discoveries was estimated at 4.7 billion barrels of oil equivalent during the year, of which oil represented about 66%. The decline in discoveries was reflected in the decline in oil and gas reserves in the world. The total number of operating rigs worldwide fell by about 1% in 2021 compared to 2020.

OAPEC Secretariat General tracked down 91 discoveries worldwide in 2021, including twelve oil and gas discoveries in member countries, including, for example, a giant hydrocarbon discovery in the UAE in the “Land Block 4” operated by the Japanese company INPEX. Geological reserves in the new discovery were estimated at about 1 billion barrels, while preliminary data indicate that the recoverable reserves may reach 480 million barrels, which will be confirmed around 2025 after appraisal drilling.

Kuwait also announced the four Jurassic discoveries in the fiscal year 2020/2021, including two oil discoveries.

Egypt has made seven discoveries, including a limited oil discovery made by Pharos through the “Batan-1X” well in the “Fayoum” concession. Estimates of geological reserves ranged between 0.43-4.3 million barrels. Also, Eni announced the discovery of oil in the “Mleiha” concession via the “Arcadia 9” well, which produced an average of 5,500 b/d when it was put to the test.

3. Oil and Natural Gas Reserves

3- 1 Oil Reserves

Estimates indicate a decrease in world oil reserves by a small percentage that did not exceed 1% between 2020 and 2021, from

1,317 billion barrels, to 1,304 billion barrels (the official estimates do not include very heavy oil and bitumen reserves in Venezuela, nor do they include tar sands oil reserves in Canada).

3- 1- 1 Oil Reserves in OAPEC Members & Other Arab Countries

Oil reserves in the Arab countries have not changed between 2020 and 2021. They remained at about 719 billion barrels of which about 710 billion barrels in OAPEC member countries representing 54.5% of the world's total oil reserves. Oil reserves in the Arab countries combined constituted 55.2% of the total oil reserves in the world.

3- 1- 2 Oil Reserves in the Rest of the World

Estimates of oil reserves in non-Arab OPEC countries declined in the period between 2020-2021, by a small percentage that did not exceed 0.5%, as a result of the decline in reserves estimates in Angola, Congo and Venezuela.

3-2 Natural Gas Reserves

Estimates of natural gas reserves in the world declined from 207.02 trillion cubic metres in 2020, to 205.4 trillion cubic metres in 2021, i.e. only 0.9%.

3-2-1 Natural Gas Reserves in OAPEC Members & Other Arab Countries

Gas reserves in the member countries did not witness any change between 2020 and 2021, reaching about 54.4 trillion cubic metres, representing about 26.4% of the world's total gas reserves. Estimates of reserves in the Arab countries combined remained unchanged at 55.2 trillion cubic meters, representing approximately 27% of the total global gas reserves.

3-2-2 Natural Gas Reserves in the rest of the World

Gas reserves in OPEC countries declined by less than 0.1% between 2020 and 2021, as a result of the decline in gas reserves estimates in Congo and Equatorial Guinea.

4 Hydrocarbon Liquids Production

The total world production of hydrocarbon liquids (crude oil and natural gas liquids) in 2021 was estimated at 96.7 million b/d, with a marginal increase of approximately 0.59% over production rates in 2020, which amounted to about 96.2 million b/d. The production of OAPEC member countries was estimated at about

26.6 million b/d of hydrocarbon liquids in 2021, compared to 25.7 million b/d in 2020. As for the Arab countries as a whole, their production of hydrocarbon liquids increased from 26.8 million b/d in 2020, to 27.6 million b/d in 2020.

It was noted during 2021 that the gradual improvement in energy demand encouraged raising the production rates of shale oil in the United States of America to more than 7.51 million b/d in the first half of 2021. The average production of shale oil reached about 7.7 million b/d in the last quarter of 2021.

4-1 Crude Oil Production

Crude oil production worldwide increased by 0.6% to reach about 83.3 million b/d in 2021, compared to 82.8 million b/d in 2020.

4-1-2 Crude Oil Production in OAPEC Members and Other Arab Countries

Estimates indicate an increase in crude oil production rates in the member countries by more than 5%, from 20.9 million b/d in 2020, to about 22 million b/d in 2021. A large part of this rise comes as a result of the increase in production rates in Libya. As for the Arab countries combined, production increased from 21.8 million b/d in 2020, to 22.9 million b/d in 2021. OAPEC member countries production accounted for 27.5% of the total production of hydrocarbon liquids in the world in 2021, while the production of the Arab countries combined represented about 28.6% of that total.

4-1-3 Crude Oil Production in the rest of the World

It is estimated that OPEC production will rise by about 4.6% between 2020 and 2021, from about 25.4 million b/d in 2020 to 26.6 million b/d in 2021. Part of this rise is due to the decisions of the OPEC+ group regarding reducing the agreed production cuts “that is, increasing production.”

4-2 NGLS Production

The quantities of natural gas liquids worldwide declined between 2019 and 2020 by nearly 2%, from 13.4 million b/d to 13 million b/d. The quantities of natural gas liquids declined in most of OAPEC member countries as a natural result of the OPEC+ agreements. However, official data from Oman indicates an increase in the quantities of natural gas liquids in the Sultanate by more than 45% between 2019 and 2020.

As a result, the quantities of natural gas liquids in the Arab countries as a whole declined from 5.1 million b/d in 2019 to 4.9 million b/d in 2020, and the proportion of natural gas liquids in OAPEC member countries amounted to about 37% of the world's total.

5 Marketed Natural Gas

The quantities of natural gas marketed worldwide declined by 3% between 2019 and 2020, from 3,977 billion cubic meters in 2019 to 3,859 billion cubic meters in 2020.

The changes that occurred in the quantities of marketed gas in the OAPEC member countries varied, as they declined in the UAE, Tunisia, Algeria, Iraq, Kuwait, Libya and Egypt. While it rose by small percentages in the rest of the member countries. The quantities of marketed gas at the level of the Arab countries as a whole decreased from 614 billion cubic meters in 2019 to 603 billion cubic meters in 2020.

II. COAL

1- Reserves

The world's coal reserves estimates have risen from 1070 billion tons in 2019 to 1074 tons in 2020, driven mainly by a hike in reserves in Asia and the Pacific countries, the EU and Eurasia.

2- Production

The world's coal production has declined by 5.1% between 2019-2020, from 8.13 billion tons in 2019 to 7.74 billion tons in 2020. It was clear that the reason for this decline was due to the closures that the world witnessed in 2020 due to the COVID19 pandemic. It is noted that the largest decline in production was in the USA (-155 million tons), while China's production rose by 56 million tons. It can be noted here that 75% of the total coal production in the world in 2020 was consumed in 2020 by four countries: China (54%), India (12%), USA (6%) and Japan (3%).

III. NUCLEAR ENERGY

1- Nuclear Reactors

The number of operating reactors worldwide dropped from 451 reactors in 2018, to 443 reactors in 2019, including 98 reactors in the United States of America, representing about 22% of the total operating reactors in the world. It is noted that 80% of the world's operating nuclear reactors are concentrated in only 9 countries, while the rest are distributed over 22 countries. The operating reactors had a capacity of more than 392 gigawatts, and collectively generated more than 2,654 terawatt-hours of electricity in 2019. As for the reactors under construction in 2019, there were 54 reactors, including 11 reactors in China and 7 reactors in India, meaning that 33% of the reactors under construction in the world concentrated in these two countries. The reactors under construction in the world have a capacity of 574.4 terawatts.

IV. RENEWABLE ENERGY RESOURCES

The contribution of renewable energy sources to electricity generation increased to about 12% in 2020, compared to 10% in 2019. The main reason behind this rise was the large-scale closures that the world witnessed in 2020 due to the COVID19 epidemic, as the demand for electricity decreased in general due to the

suspension of a large number of factories, airports and refineries. On the contrary, the percentage of electricity generated using fossil fuels decreased from 62.9% in 2019 to 61.3% in 2020. In general, the data of the International Renewable Energy Agency indicates that the installed capacity of renewable energies in the world increased from 2538.4 gigawatts in 2019, to 2799 gigawatts in 2020.

1- Wind Energy

The world's total installed capacity of wind energy in 2020 increased by about 18% compared to 2019, reaching 733 GW, 47% of which is concentrated in the Asia-Pacific group.

The installed wind energy in the Arab countries represents a very small percentage that does not exceed a total of 3.6 gigawatts, or about 0.5% of the total installed capacities in the world, about 38% of it is concentrated in Morocco, which ranked on top of the Arab countries in 2020, followed by Egypt which has 37% of the installed wind capacity in the Arab countries.

2- Solar Energy

The total installed capacity of solar energy in the world increased from 587 gigawatts in 2019 to about 714 gigawatts in 2020, of which about 60% are concentrated in the countries of Asia and the Pacific.

The installed solar energy in the Arab countries represented about 1.2% of the total installed capacity in the world in 2020; the UAE tops the Arab countries in this field.

3. Hydropower

The installed capacity of hydropower in the world increased from 1,311 gigawatts in 2019, to about 1,332 gigawatts in 2020, and most of it was concentrated in the Asian countries group.

There was no change in the installed capacities of hydropower in the Arab countries between 2019 and 2020, and remained at the limits of 11 gigawatts, with Egypt taking the lead among the Arab countries with more than 2.8 gigawatts

4. Biomass Energy

The installed capacity of biomass energy in the world increased from 124 GW in 2019, to 126.5 gigawatts in 2020, most of which is concentrated in Europe and Asia.

The installed capacity of biomass energy in the Arab countries constituted about 0.3% of the total installed capacity in the world

in 2020, without any change from 2019. Sudan takes the lead in this regard. The installed capacities of the world's ocean energy increased from 525 megawatts in 2019 to 527 megawatts in 2020, about 96% of which is concentrated in Europe and Asia. This type of renewable energies has not been used in Arab countries yet.

5. Geothermal Energy

The installed capacity of geothermal energy in the world increased by a small percentage, not exceeding 0.9% between 2019 and 2020, from 13.9 GW to 14 GW. About 40% of this capacity is concentrated in Asia and the Pacific countries.

This type of energy has not been used in Arab countries yet. Overall, it was noted that the growth rate of the installed capacities of geothermal energy was only 0.9% in 2020 compared to 2019. While the growth rate of the installed capacities of solar energy and wind energy reached 21.5% and 17.5%, respectively.





WORLD & ARAB DEVELOPMENTS IN PETROLEUM DOWNSTREAM INDUSTRIES

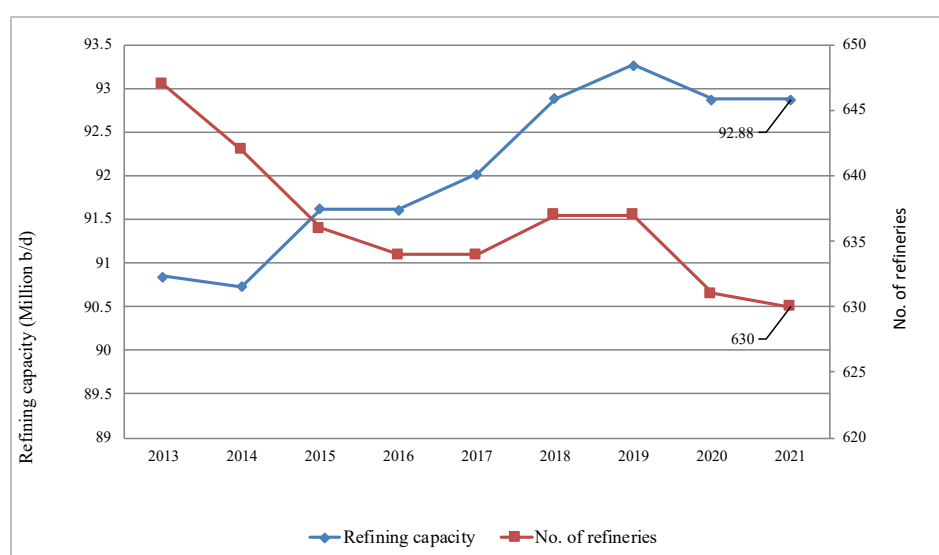
- **REFINING INDUSTRY**
- **NATURAL GAS CONSUMPTION, TRADE & PROCESSING**
- **PETROCHEMICAL INDUSTRY**

WORLD & ARAB DEVELOPMENTS IN PETROLEUM DOWNSTREAM INDUSTRIES

I. REFINING INDUSTRY

1. World Developments

The world's total refining capacity reached about 92.885 million b/d by the end of 2021 against 92.88 million b/d by the end of 2020; registering a net slight increase of 5000 b/d (or 0.01%) compared to 2020. The total number of operating refineries worldwide has also dropped from 631 to 630.



Source: - OAPEC Refining Industry Database

2. Developments in the Arab World

Refining in OAPEC members and the other Arab countries was not aloof from the repercussions of the COVID19 pandemic that affected other parts of the world. Many new refineries establishment projects and refining capacity upgrade plans have been put on hold or postponed. Efforts focused on developing and upgrading the efficiency of existing refineries to enable them produce petroleum products of standard international specifications, as well as improving their flexibility to refine various types of crude oil through the establishment of new conversion units or upgrading the production capacity of existing ones.

The total refining capacity of the Arab countries recorded an increase of 200 thousand b/d in 2021, as a result of the partial operation of the new Jazan refinery in the Kingdom of Saudi Arabia, with a refining capacity of 200 thousand b/d.

Total refining capacities of the 53 oil refineries in OAPEC member countries accounted for 8.831 million b/d, or 91% of the total refining capacity of the Arab countries of 9.685 million b/d. Total refining capacity of the 11 oil refineries in other non-OAPEC Arab countries accounted for the remaining 0.854 million b/d, or 9%, of the Arab total.

**Installed Refining Capacity in the Arab Countries,
2017-2021**

(Thousand b/d)

| | Number of Refineries in2020 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------------------------|-----------------------------------|---------------|---------------|---------------|---------------|---------------|
| Algeria | 6 | 657.0 | 657.0 | 657.0 | 663.0 | 669.9 |
| Bahrain | 1 | 267.0 | 267.0 | 267.0 | 267.0 | 267.0 |
| Egypt | 8 | 784.8 | 784.8 | 784.8 | 784.8 | 784.8 |
| Iraq | 12 | 740.0 | 815.0 | 824.0 | 824.0 | 824.0 |
| Kuwait | 2 | 736.0 | 736.0 | 724.0 | 800.0 | 800.0 |
| Libya | 5 | 380.0 | 380.0 | 380.0 | 380.0 | 380.0 |
| Qatar | 2 | 433.0 | 433.0 | 433.0 | 433.0 | 433.0 |
| Saudi Arabia | 9 | 2921.0 | 2856.0 | 2896.0 | 2927.0 | 3127.0 |
| Syria | 2 | 240.1 | 240.1 | 240.1 | 240.1 | 240.1 |
| Tunisia | 1 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| UAE | 5 | 1124.0 | 1127.0 | 1127.0 | 1272.0 | 1272.0 |
| Total OAPEC | 53 | 8316.9 | 8329.9 | 8366.9 | 8624.9 | 8831.8 |
| Jordan | 1 | 90.4 | 90.4 | 90.4 | 90.4 | 90.4 |
| Sudan | 3 | 140.0 | 140.0 | 140.0 | 140.0 | 140.0 |
| Oman | 2 | 222.0 | 222.0 | 204.0 | 304.0 | 304.0 |
| Morocco | 2 | 154.7 | 154.7 | 154.7 | 154.7 | 154.7 |
| Mauritania | 1 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Yemen | 2 | 140.0 | 140.0 | 140.0 | 140.0 | 140.0 |
| Total other Arab Countries | 11 | 772.1 | 772.1 | 754.1 | 854.1 | 854.1 |
| Total ArabCountries | 64 | 9089.0 | 9102.0 | 9121.0 | 9479.0 | 9685.9 |

Source: - OAPEC Refining Industry Database

In the **UAE**, Abu Dhabi National Oil Company (Adnoc) has announced freezing plans to establish a new refinery at Ruwais, with a refining capacity of 400 thousand b/d. On another note, the UAE announced exporting the first biodiesel shipment produced by the new refinery that started operations in Jebel Ali, at a capacity of 100 metric tons/day.

In **Bahrain**, Bahrain Petroleum Company (Bapco) signed a long-term contract with Advanced Refining Technologies LLC for a range of services for the Hydrocracking of vacuum distillation residues, at a capacity of 65 thousand b/d, which is under construction at Sitra refinery as part of the upgrading of the refinery's capacity from 267 thousand b/d to 360 thousand b/d.

In **Algeria**, Sonatrach (Société Nationale pour la Recherche, la Production, le Transport, la Transformation, et la Commercialisation des Hydrocarbures) announced making progress in the execution of Hassi Messaoud Refinery (capacity of 100 thousand b/s), which is scheduled to be completed in 2024. The project is part of Algeria's plans to develop the existing refineries and build new ones in Biskra, Arzu, and Hassi Messaoud at a capacity of 100 thousand b/d each.

In **Saudi Arabia**, Saudi Aramco announced starting commercial operations at the new units of Jazan refinery at a capacity of 400 thousand b/d, with actual capacity reaching 200 thousand b/d. The operating of the joint IGCC integrated gasification unit has also been announced. It is considered the largest worldwide and will convert 90 thousand b/d of fuel produced at the new refinery into artificial gas to be used in generating 3.9 GW of electricity in gas turbines. Also, work is ongoing in upgrading existing Rabigh Refinery and Petrochemicals Complex at the Red Sea, KSA (capacity: 400 thousand b/d.). The project aims at converting heavy distillation residues (about 25% of the refined oil) into high- value products like diesel and gasoline.

In **Iraq**, the Iraqi Oil Ministry announced that work is progressing in Basra Refinery upgrading project at a capacity of 210 thousand b/d. The project will contribute to converting fuel oil produced from the refinery into high- value products including about 19 thousand b/d of gasoline, 36 thousand b/d of diesel, 41 thousand b/d of high-quality fuel oil, 2000 b/d of naphtha, and 4300 tons/day of LPG. On the other hand, work is still ongoing at the Baiji Refinery reconstruction project to restore the latter's refining capacity to 280 thousand b/d after being destroyed by war.

In **Kuwait**, work is still ongoing at the clean fuel project that seeks to:

- upgrade the refining capacity of the two refineries from 736 thousand to 801 thousand b/d;
- install the new Al Zour refinery at a refining capacity of 615 thousand b/d;
- enable refineries to conform to environmental legislations;
- produce high- quality products in line with the latest international standards

In **Libya**, the National Oil Corporation announced starting constructions at the new refinery project that will process oil produced from Al Shararah oilfield at a capacity of 30 thousand b/d. The project aims at securing the southern region needs of petroleum products that once were transported from the far northern parts of the country.

In **Egypt**, the Egyptian Refining Company (ERC) announced the completion of pilot- operations and reaching full design operation capacity at the new hydrocracking complex in Mastard. The complex will convert fuel oil produced at the refinery of Cairo Oil Refining Company (CORC) into high value products. On another note, work is progressing at the revamping project of the MIDOR refinery in Alexandria, scheduled to be completed in 2022. The project aims at upgrading the refining capacity from 115 thousand b/d to 175 thousand b/d, at a cost of about \$2.2 billion. Work is also progressing at the 90 thousand b/d Assiut oil refinery, at a cost of about \$2.8 billion, to go on stream in 2024.

On the non-OAPEC countries' front, work is progressing at Duqm Refinery Oman, a joint venture with Kuwait, to process 230 thousand b/d of Kuwaiti and Omani oil mix.

2. NATURAL GAS CONSUMPTION, TRADE & PROCESSING

1. World Developments

1-1 Natural Gas Consumption

The natural gas sector has been affected by the unprecedented shock caused by the COVID-19 pandemic to the global economy due to the close connection between them. Natural gas consumption has dropped in many regions as a result of falling demand in main sectors like electricity, commerce, and industry due to lockdown measures imposed by many countries. In this vein, global consumption has dropped in 2020 by 2.3%, reaching about 3822.9 billion cubic metres, compared to 3904 billion cubic metres in 2019. The share of natural gas in the world's total primary energy consumption has grown to 24.7% compared to 24.2% in 2019.

In 2020, natural gas contribution in the primary energy mix has grown in 2020 in most parts of the world compared to 2019. The Middle East has registered the highest rate with 54.6% against 52.3% in 2019. Europe and Eurasia registered about 34% against 33.2% in 2019. Natural gas contribution jumped in North America to 34.4% compared to 32.5% in 2019. Moreover, it has risen in Africa to 29.6% in 2020 compared to 28.1% in 2019. Asia- Pacific has also recorded a slight increase to 12.2% against 12% in 2019, the lowest worldwide due to the dominance of coal in that region. Against a backdrop of these hikes, on the contrary, natural gas contribution in Central and South Americas has fallen to 20% in 2020 compared to 20.7% in 2019.

1-2 Natural Gas Trade

Natural gas trade has fallen significantly in 2020 by 3.2% registering total global exports of about 1243.7 billion cubic metres against about 1285.3 billion cubic metres in 2019. These figures cover gas exports via both pipelines and as liquefied natural gas (LNG) on board of tankers. The total amount of both claims about 32.53% of the total natural gas consumption worldwide, the rest is consumed domestically where it is produced.

The volume of natural gas exports by pipelines has significantly dropped to 755.8 billion cubic metres in 2020 from 801.5 billion cubic metres in 2019. Gas exports via pipelines have dropped from Russia to European markets, in light of the drop in demand due to dropping economic activities as a result of the pandemic.

LNG trade has grown very meagrely in 2020 by about less than 1%, lower than the average annual growth rate of about 6.8% over the

past 10 years. Total exports registered about 487.9 billion cubic metres compared to about 483.8 billion cubic metres in 2019, an increase of only 4 billion cubic metres. Growing LNG exports from USA of about 14 billion cubic metres have contributed to making up for the dropping exports in other regions. In general, LNG exports share worldwide has grown in 2020; they accounted for about 39.23% of the world total gas exports compared to 37.6% in 2019. Pipeline gas exports accounted for about 60.77%, with a notable decline against 2019 rates that registered 62.4%.

1-3 Global Natural Gas Prices

Natural gas prices, for both pipeline and LNG sales, have dropped sharply in many major markets in 2020 compared to its 2019 rates, registering historical lows for decades. The price of natural gas has dropped by 21.3% in the USA (to reach \$1.99 per BTU)- the lowest since 1995; 22.7% in the EU (to reach \$4.06 per BTU); 23.5% in the UK (to reach \$3.42 per BTU); and 21.4% in Japan (for LNG) to reach \$7.81 per BTU. However, in Canada, gas prices rose by 41.7%.

1-4 LNG Production

By the end of 2021, the world's nominal LNG production capacity reached about 456.2 million. Three new projects were brought on stream in Russia, Malaysia, and the USA. Australia tops the world in terms of total liquefaction capacity with a total of 87.2 tons/year with a share of 19.1% of the world's total production capacity. Qatar follows with a capacity of 77 million tons/year (a share of 16.9%). The USA strengthened its third ranking on the list with a total capacity of 76 million tons/year (without Alaska) and a share of 16.7% of the world's total. The three countries combined accounted for about 52.7% of the world's total LNG production capacity by the end of 2021. Total design capacity of LNG receiving terminals by the end of 2021 has reached about 973.6 million tons/year, more than double the global nominal production capacity of LNG. The number of LNG importing countries have risen to 44 countries following Ghana's joining of the importing countries.

2-Arab World Developments

Total natural gas exports in 2020 reached about 197.2 billion cubic metres, with a drop of 6.8 billion cubic metres from 2019, due to a drop in LNG exports. However, Arab countries' exports are expected to grow in coming years, with the forecasts on Egyptian LNG exports

growth. Arab countries natural gas exports combined have claimed a share of 15.9% of the total global natural gas exports in 2020. Qatar has maintained its leading position on top of the Arab gas exporting countries in 2020 with about 127.9 billion cubic metres (64.9% of the total Arab countries' exports), followed by Algeria with about 41.1 billion cubic metres (20.8%); Oman (6.7%), UAE (3.9%), Libya (2.1%), and Egypt (1.6%).

Natural gas industry and trade developments in 2021 by country:

UAE

In November, Abu Dhabi National Oil Company (ADNOC) has awarded two engineering, procurement and construction (EPC) contracts totalling \$1.46 billion for the Dalma Gas Development Project to National Petroleum Construction Company (NPCC) and a joint venture (JV) between Técnicas Reunidas and Target Engineering. The project production capacity is aimed at about 340 million cubic feet/day by 2025.

Bahrain

Operations at Bahrain's liquefied natural gas (LNG) terminal in the industrial area "Hidd" have been stopped. Its FSU has been re-chartered to British BP in April 2021, due to be renewed or expire in May 2022. This is because there is no need to import LNG to Bahrain currently and to cut operational costs.

Algeria

In September 2021, the national hydrocarbon company "Sonatrach" announced the completion of raising the export capacity of the Med-Gas pipeline linking Algeria with Spain from 8 to 10.5 billion cubic metres/year by the end of November 2021. In a related context, Algeria announced in November, that it will not renew the contract between Sonatrach and the Moroccan National Office of Electricity and Water, on the pipeline transporting gas from Algeria to Europe via Morocco, which means relying entirely on the Med-Gas pipeline to meet Spain's needs of Algerian gas.

Saudi Arabia

Saudi Aramco is working on the implementation of a project to raise the capacity of the gas pipeline network from 9.6 billion to 12.5 billion cubic feet/day. The network connects natural gas production sites with processing plants within the Saudi territory. The company has

recently succeeded in raising the processing capacity in the Kingdom to 18.4 billion cubic feet/day, after the Al-Fadhili gas complex was commissioned in 2019 with a capacity of 2.5 billion cubic feet/day.

Iraq

The Ministry of Oil announced in December 2021 that the year 2023 will witness the operation of the new Basra gas complex, which includes three energy production capacity phases, at 200 million cubic feet/day each. It is planned to invest 200 million cubic feet/day as a first stage, to be followed with an additional 200 million cubic feet/day (within 6 months of operations) via the investment of associated gas in a number of oil fields in Basra Governorate, namely Rumaila, Zubair and West Qurna.

Qatar

In February 2021, “Qatar Energy” announced the final investment decision in the project to expand gas production from the eastern sector of the North Field as a first stage to raise the production capacity of liquefied natural gas in the State of Qatar from 77 million tons/year to 110 million tons/year by 2025.

Kuwait

In July 2021, the Kuwait Integrated Petroleum Industries Company (KIPIC) announced the arrival of the first tanker carrying the first shipment of liquefied natural gas coming from Qatar to Al Zour land port, as part of the first phase of the project’s operation. In August 2021, the Kuwait Gulf Oil Company announced the completion of a 100-kilometre pipeline to transport gas from the export facility of the Khafji Joint Operations to the power plant in the Al Zour region. The capacity of the new line is 24 million cubic feet per day.

Libya

Mellitah Oil & Gas Co has stated that it is determined to implement several projects to raise the production capacity of gas, including the project to exploit the “Al Bouri” gas field and projects to install gas compressors at the “Sabratha” platform, in addition to drilling and linking a number of wells, which will raise the company’s production capacity by about 38 thousand barrels of oil equivalent/day. This is in addition to a project to conduct annual maintenance in the “D” contract area (the Mellitah complex, Bahr Al Salam and the Wafa field).

Egypt

The year 2021 witnessed a record boom in the delivery of natural gas to homes, as natural gas was delivered to about 1.2 million new housing units, bringing the total number of units since the beginning of the activity until the end of 2021 to 12.9 million housing units. In terms of exports, the liquefaction complex in “Damietta” was restarted, and the first shipment was exported in February 2021, after a hiatus of about 8 years, and with the increase in domestic production, which amounted to about 6.5-7 billion cubic feet/day. Egypt succeeded bringing on stream the liquefaction complexes in Damietta and Edco at their full production capacities of 1.6 billion cubic feet/day.

Oman

In December 2021, the Ministry of Energy and Minerals signed three gas agreements with Shell. The first agreement was signed with Shell Oman Integrated Gas Solutions Company “Shell Development Oman LLC”, in partnership with OQ and Marsa Liquefied Natural Gas Company, to develop gas resources in concession area No. 10 in the Saih Rawl station. The second agreement included the sale of gas production in the concession area (which may reach 500 million cubic feet/day). The third agreement was signed between Shell and Energy Development Oman with the aim of building a natural gas processing plant in concession area No. 10 located in the “Saih Rawl” plant of the Oman Energy Development Company.

Jordan

In May 2021, the Jordanian Electricity Company and the Egyptian Natural Gas Holding Company “EGAS” signed an extension to supply natural gas from Egypt to Jordan via the Arab Gas Pipeline. An addendum to the contract to operate the expansions of the natural gas network in Jordan, which is carried out by the Jordanian-Egyptian Fajr Company, was also signed.

Morocco

In April 2021, the Ministry of Energy, Mines and Environment announced expressed interest in supplying liquefied natural gas using an LNG FRSU and regasification unit in the Jorf Lasfar region. According to the invitation document, the proposed project aims to start importing liquefied natural gas by 2025 at a rate of 1.1 billion cubic metres/year, then 1.7 billion cubic metres/year by 2035 and then to 3.1 billion cubic metres/year by 2040.

Mauritania

In December 2021, the Ministry of Petroleum, Minerals and Environment announced that the Tortue/Ahmeim project to build a floating liquefied natural gas terminal - led by BP off the coasts of Mauritania and Senegal - is progressing well, with the first phase of the project to be operational during 2023. It is planned that the project will include a second expansion phase with a capacity of 2.5 million tons/year. A final investment decision is expected to be taken during 2022, which will contribute to raising the production capacity of the project as a whole to 5 million tons/year.

3. Petrochemical Industry

1. Global Developments

2021 witnessed an increase in the demand for polyolefins products, including polyethylene and polyvinyl chloride, supported by lower inventories during the early months of the year. This coincided with the recovery of the global economy after immunization efforts against the COVID19 pandemic, which paved the way for an increase in the consumption rates of durable goods. This was positively reflected on the global operating rates in petrochemical complexes, to rise to about 90%, according to the estimates of the American Chemistry Council, the highest rate in the past 30 years. This has also contributed positively to the increase in global petrochemical production rates this year by 3.9%, recovering from the 2.6% decline in 2020 due to the repercussions of the COVID19 pandemic, which represented the largest drop in the past forty years.

At the same time, the production capacity of petrochemicals in the Middle East and North Africa (MENA) countries increased by 3.6%, while the production of the GCC countries recorded a slight growth of about 1.2% during the year, compared to 2020, as petrochemicals projects did not operate at their previous pre-pandemic rates.

In terms of prices, the prices of major petrochemicals in some major regions of the world have witnessed a sharp rise, as a result of stopping production in some projects due to periodic or emergency maintenance work, or stops that took place since the end of 2020, until the first quarter of 2021, some of which resulted in following the turbulence caused by the snowstorms that hit the United States of America in February 2021. However, prices fell quickly during the second quarter of the year after they reached their peak in April 2021, especially for polyethylene products (in its various grades), and polypropylene, with the return of regularity of the production process, and recovery of operating rates to their normal levels.

At the end of the third quarter and the beginning of the fourth quarter of 2021, chemicals prices rose again due to the rise in crude oil and natural gas prices, as the rise in prices for crude oil futures led to a rise in naphtha prices in the Asian region, which reached their highest levels in 3 years. This led to an increase in the price of ethylene produced from naphtha.

Petrochemicals and Polymers Price Index (IPEX) in the US Gulf Coast region witnessed an increase of 7% on a monthly basis, during the month of August, affected by the increase in the prices of some primary raw materials produced from petroleum products, such as butadiene, aromatic benzene, and propylene. Petrochemicals and polymers prices in Europe increased by 2% on a monthly basis in August of the same year. In the same way, the global IPEX index rose by 1.95% on a monthly basis in the same month. Prices in Northeast Asia were stable to a great extent, rising by only 0.3%.

On the other hand, olefins producers in the United States have suffered from the high cost of ethane and natural gas liquids, which has reduced their profit margins, although they retained the advantage of the lower cost of producing gas-based petrochemicals, compared to companies producing petrochemicals based on petroleum products.

According to forecasts by Fitch Ratings Agency in October 2021, global petrochemical prices will continue to rise until early 2022, due to the rise in natural gas prices since the beginning of the year due to low inventories in Europe, insufficient imports from Russia, severe weather conditions and strong demand in Asia.

1-1 Developments in the bioplastics and recycled plastics markets

The use of bio raw materials in the petrochemical and plastics markets has become an even more acute focus this year with increasing pressure from governments and society, as well as, the efforts to shift from a primarily fossil- resources- based economy to a more sustainable model, which has a much lower environmental impact, and better reliance on environmentally friendly petrochemicals. This coincided with the outcomes of the latest climate summit “COP-26”.

As the plastics industry looks to its own role in the broader energy transition, bioplastics is one of the key options within the circular economy concept to address environmental concerns.

1-2 Engineering Plastic Market Developments

The global petrochemical industry is closely linked to the automobile industry. It feeds the industry with plastic products of superior performance characteristics, relying on engineering

plastics, which contributed to increasing the profitability of petrochemical companies during 2021, after the auto industry recovered from the repercussions of the COVID19 pandemic, especially in the Asia-Pacific region, which represent the largest market for the automotive industry. This market is expected to be the fastest growing market over the next few years, recording growth rates of about 3%, due to the increase in demand growth rates in some Asian countries such as China, India and Japan.

1-3 Developments of carbon capture technologies in the petrochemical industry

The year 2021 witnessed the development of a number of technologies used to reduce carbon dioxide emissions, including the development of carbon capture, use and storage (CCUS) technologies, as well as, other technologies for using electricity in the processes of heating steam cracking reactor furnaces instead of fossil fuels with the aim of reducing carbon emissions. Carbon emissions resulting from steam cracking are estimated at about 199 million tons per year, and are estimated to rise to about 264 million tons per year by 2030.

1-4 Developments in Arab countries

The value of investments in petrochemical projects in the Middle East and North Africa is expected to reach more than \$109 billion during the period 2021-2025, an increase of \$14.2 billion compared to last year expectations. Some of these investments are subject to reassessment and rationalization of their budgets due to financial pressures, and global market changes.

The Kingdom of Saudi Arabia is the largest producer in the region, and the State of Qatar is the fourth largest producer of polyethylene, with a production capacity of more than 2 million tons annually. The markets of the Asia-Pacific region, especially China, are among the main markets for polyolefins products produced in the Middle East, especially the GCC countries.

The revenues of the chemicals industry in the GCC countries for the year 2021 were estimated at about \$60 billion, an increase of about 15%, compared to the revenues of 2020, which were \$52 billion, the year that recorded the sharpest decline since 2011, as revenues reached about \$88 billion.



OAPEC ACTIVITIES IN 2021





MINISTERIAL COUNCIL & EXECUTIVE BUREAU METTINGS

Council of Ministers

The 106th Meeting of OAPEC Council of Ministers

The 106th Meeting of OAPEC Council of Ministers (at Representatives level) was held via ZOOM technology, on 22 May 2021, and chaired by the Saudi Representative at OAPEC Executive Bureau, HE Dr Nasser bin Al Humaidi Al Dossary. The Kingdom of Saudi Arabia chairs the 2021 term.

The 107th Meeting of OAPEC Council of Ministers

OAPEC Council of Ministers held its 107th Meeting, via videoconferencing, on 9 December 2021, chaired by His Royal Highness Prince Abdulaziz bin Salman bin Abdulaziz Al Saud, Minister of Energy of the Kingdom of Saudi Arabia, that holds the presidency of the session for the year 2021; in the presence of Their Excellencies members of the Council of Ministers of the Organization.

For further details on the meetings, please refer to the following Meeting's Communiqué :

The 107th Meeting of OAPEC Council of Ministers' Communiqué'

The Chair opened the meeting by welcoming their Excellencies the ministers, wishing them success in deliberating the topics on the meeting's agenda, while stressing the importance of cooperation between member countries in achieving the goals of the Organization.

His Royal Highness welcomed His Excellency Mr Mohamed Arkab, Minister of Energy and Mines in the People's Democratic Republic of Algeria; His Excellency Mr Ihsan Abdul Jabbar Ismail, Minister of Oil in the Republic of Iraq; His Excellency Dr Mohammed Abdullatif Al Fares, Minister of Oil and Minister of Higher Education in the State of Kuwait; and His Excellency Eng. Mohamed Oun, Minister of Oil and Gas in the State of Libya, who are taking part for the first time in the Council of Ministers meetings, wishing them success in their new duties. He also extended thanks to members of the Executive Bureau and the Secretariat General, as well as, the Secretary General, for their efforts throughout the year reiterating that these meetings contribute to achieving the goals for which the organization was established.

He was followed by HE Ali Sabt Ben Sabt, OAPEC Secretary General, who welcomed their Highnesses and Excellencies the ministers, stating that he was looking forward to their continued support for OAPEC activities. He also welcomed the ministers who were taking part in these meetings for the first time wishing them all success in their new posts.

After approving the agenda, the Council deliberated, discussed, and then endorsed the following:

- Approving the minutes of the 106th Meeting of OAPEC Council of Ministers, which was held at the level of Representatives via videoconferencing, on 22 May 2021.
- Approving the Organization's projected budget (Secretariat General and Judicial Tribunal) for the year 2022.
- The Council was informed about the Secretariat General report on the progress in implementing the Organization's role activation plan. In this regard, the Council expressed their appreciation for the tireless efforts made by the Secretariat General in the framework of implementing the plan and called for their continuation.
- The Council took note of the 50th Annual Report that reviewed the activities of OAPEC Joint Ventures (JVs) in 2020 and Q1/2021, as well as, the JV's 50th Annual Coordinating Meeting on 23 and 24 October 2021, in Cairo, Egypt, which underscored the continued cooperation amongst them.

The Council also reviewed a report on the efforts exerted to activate relations between the Organization and its JVs and the results achieved according to the action plan approved by the joint taskforce, including: unified meetings between the two sides, challenges facing the JVs' work and means to overcome them, and results achieved within the approved work plan. The Council appreciated the efforts made by the Secretariat towards activating the relationship with its JVs, calling for the continuation of these efforts in a way that enables these JVs to achieve the purpose for which they were established.

OAPEC Executive Bureau has been assigned to coordinate with the Kingdom of Saudi Arabia to work with the member countries to contribute to activating the "Green Middle East" Initiative launched by His Royal Highness Crown Prince Mohammed bin Salman bin Abdulaziz, in addition to working with the member countries to adopt the concept of circular carbon economy as an approach that contributes to addressing carbon emissions

in an economically sustainable manner, and to include it in the national contributions of each country, in a manner consistent with the conditions and priorities of the member countries.

- The Council approved the State of Qatar's hosting of the 12th Arab Energy Conference during the last quarter of 2023.

The Council took note of the Secretariat General report on:

- Studies carried out by the Secretariat General during 2021 (9 technical and economic studies on oil and energy were completed)
- The Secretariat General's Report on the "World's Petroleum Conditions"
- Follow-up on environmental and climate change issues, most importantly the outcomes of the United Nations Conference on Climate Change (COP 26), which was held in Glasgow, United Kingdom.
- The workflow of the Databank and the development of its activities.
- Activities organized by the Secretariat General during the second half of 2021.
- The arbitration results of the OAPEC Scientific Award for the Year 2020 on the topic "Environmental Research relevant to Petroleum and Energy". Winners were announced: the first prize (KD 7000) won by three participating research works, as follows: Algeria, Algeria and Egypt. The second prize (KD 5000) was won by three other research works, as follows: Algeria, Kuwait, Kuwait.
- The Syrian Arab Republic will assume presidency of the next session of the Council of Ministers and the Executive Bureau, for a year as of January 2022.
- It has been agreed to hold the next Ministerial Meeting in Kuwait in December 2022.

Via videoconference, 9 December 2021

Executive Bureau

THE 159th MEETING OF OAPEC EXECUTIVE BUREAU

OAPEC Executive Bureau's 159th Meeting was held via ZOOM technology, on 22 May 2021, to prepare for the 106th Meeting of OAPEC Council of Ministers.

THE 160th MEETING OF OAPEC EXECUTIVE BUREAU

OAPEC Executive Bureau's 159th Meeting was held via video conference 17 October 2021, to consider the budgets of the Secretariat General and the Judicial Tribunal for the year 2022 to submit recommendations in this regard to the 107th meeting of the Council of Ministers of the Organization.

THE 161st MEETING OF OAPEC EXECUTIVE BUREAU

OAPEC Executive Bureau held its 161st Meeting via videoconferencing on 7 December 2021 to finalise preparations for OAPEC's 107th Ministerial Meeting on 9 December 2021 (via videoconferencing).



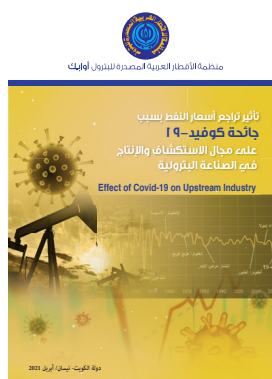


SECRETARIAT GENERAL

- STUDIES
- REPORTS
- PAPERS
- SEMINARS & CONFERENCES ORGANIZED BY THE SECRETARIAT GENERAL
- CONFERENCES & MEETINGS OAPC SECRETARIAT GENERAL PARTICIPATED IN
- FOLLOW-UP ON ENVIRONMENT & CLIMATE CHANGE
- MEDIA ACTIVITY
- DATABANK
- ADMINISTRATIVE AND FINANCIAL ACTIVITIES

1: Studies & Reports

1- Studies:



1-1 The Impact of Oil Prices Decline due to Covid-19 Pandemic on Exploration in the Petroleum Industry

The study showed that the spread of the Covid-19 epidemic had a tangible impact on the decline in demand for energy, but most of this decline resulted from the faltering of transport movement due to closures, lockdowns and the suspension of travel, in addition to the halting of businesses and factories in some countries around the world, which caused the decline in prices. This was followed by a decline in oil production rates. However, the decline in demand; the relative improvement in prices since the second half of 2020; in addition to the return of a large number of petrochemical plants to work at full capacity, with the accompanying increase in demand for light oil, are among the indicators, to date, that the petroleum industry is on its way to faster recovery than some had thought.



1-2 Carbon Capture & Use in Petrochemical Industry: Potential & Challenges

The study tackled modern techniques for capturing carbon from the exhaust gas mixture. It reviewed the challenges facing carbon capture, use and storage projects, the most important of which are the high investment cost and the difficulty of obtaining the necessary financing in a timely manner.

The study also referred to the opportunities that the Arab countries, especially OPEC members, have for the development of carbon capture projects, and the important role these projects can play in diversifying the economies of the oil and gas producing countries, if administered well with appropriate and encouraging policies in place.

1-3 The role of Digital Transformation in Improving the Performance of the Refining & Petrochemical Industry

The study defined the concepts of digital transformation techniques used in the refining and petrochemical industry, their fields of application, and their role in improving the operational and economic performance of the refining and petrochemical industry. The study presented some practical examples of implementing digital transformation projects applied in the refining and petrochemical industry in different regions of the world, and in some Arab countries.



1-4 Hydrogen Production & its Role in Energy Transition

The study aimed to review the different methods of hydrogen production, and all current and future fields of hydrogen use as a fuel or raw material. The study also touched on international policies and strategies aimed at expanding the use of hydrogen, and anticipating global demand in light of those expectations.

The study dealt with the future plans of the Arab countries that showed interest in investing in this promising field, and the most prominent elements they possess for the success of these plans.



1-5 Corrosion problems in Refining & Petrochemicals Industry

The study aimed at defining corrosion problems and their repercussions on the safety and profitability of the refining and petrochemical industry, and the most important ways to address them and reduce the chances of their occurrence.



1-6 Role of Scientific Research in the Development of the Petrochemical Industry

The study aimed at shedding light on the important role of scientific research in the development of the petrochemical industry and the production of special petrochemical products, which contribute to the implementation of strategies and visions of countries in increasing domestic production, and benefiting from global expertise and experiences in the fields of development and technology.





1-7 The Relationship between Spot Prices & Futures & their implications for Future Oil Markets

The study aims basically to present and analyze the development in spot prices and futures of crude oil in global markets; identify the extent of the relationship between them, in addition to the extent to which futures can be relied upon as an indicator for predicting the path of spot prices. This is done with a focus on the prices of Brent and West Texas crudes on the Stock Exchange at New York Mercantile Exchange “NYMEX” and the ICE Futures in London.



1-8 Future Prospects for Global Oil Markets Following COVID-19 Pandemic

The study has three main parts: the first is devoted to reviewing the outbreak of the COVID-19 pandemic and its repercussions on the current situation and future prospects for the global economy. The second part deals with the repercussions of the outbreak of the COVID-19 pandemic on global oil markets. In the third and final part of the study, light was shed on the future vision of the oil markets after the pandemic.

One of the most important findings of the study is that the forecasted scenarios of global demand for oil and its supplies in the markets all took an upward trend, with the expectation that the oil markets will witness a balance in which supply matches the upward path of demand from 2023 until the entire period to 2045, according to OPEC forecast, which OPEC considers the most likely to happen. However, the International Energy Agency expects balance to occur in 2030.



1-9 Role of International Cooperation in Achieving Balance & Stability in Global Oil Markets

The study is in three main parts, the first is devoted to reviewing the stages of regulating the global oil market and the repercussions on oil prices in each of those stages. The second part deals with cooperation between OPEC countries with some non-OPEC oil producing countries (OPEC +). In the third and final part of the study, the impact of the OPEC + agreement on the current and short-term situation of the global oil market has been highlighted.



2- Reports

2-1 Quarterly Reports on LNG & Hydrogen Developments

It has prepared four quarterly reports on “Global LNG Sector Developments and International Developments on the Role of Hydrogen in the Energy Transition.”

The reports dealt with the most prominent developments and changes in the liquefied natural gas industry during the quarter under study by reviewing the dynamics of markets, the development of liquefied natural gas exports, and the position of Arab countries in the global market. This is in addition to the development of liquefied natural gas prices in the global markets and the investment position in the planned liquefied natural gas projects according to the latest developments, in light of the continuous follow-up of COVID-19 pandemic repercussions on the global liquefied natural gas sector.

They also gave an analysis of developments in hydrogen, which has become one of the most prominent international solutions to reach a carbon-free system as it is suitable as a fuel that does not produce any emissions from burning, and can be produced from renewable energy sources. Moreover, the reports also tackled the developments in national policies and strategies on hydrogen at the Arab and global levels, in light of the efforts of several countries towards adopting ambitious plans to expand its use. The reports review the most prominent projects announced by national and international companies on blue and green hydrogen and green and blue ammonia production.

2-2 Perspective: A Quick Glance at the IEA report - Roadmap to Zero Emissions in 2050

The report concluded that the IEA roadmap ignores many realistic points, and that the focus on renewables does not justify overlooking issues of equal importance such as rationalizing energy consumption and improving its use efficiency, or carbon capture techniques in existing facilities.

2-3 Plastic Waste Recycling & Sustainable Development Opportunities in the Arab Countries

The report confirmed that plastic waste recycling provides promising investment opportunities for Arab countries, suitable

for all economic levels, and can be based on the outputs of plastic recycling operations of thousands of small, medium or large projects for individuals or institutions. Recycling is considered a safe investment, as the demand for plastic products is growing in most aspects of modern life and all industrial and agricultural sectors.

The report concluded that there are many opportunities in OAPEC member countries to benefit from the various technological solutions for recycling plastic waste. There is also an ongoing global effort to develop technologies that contribute to meeting the challenges of managing plastic waste in the future.

2-4 Expectations of a Decline in China's Imports of Polyolefins & its Implications for OAPEC Member Countries

The Secretariat General issued a report on the repercussions of China's plans to raise its production capacity of petrochemicals, as indications appeared at the beginning of 2021 that China would soon reach the stage of self-sufficiency in polyolefins, according to its plans. This will be accompanied by an increase in the expected investments in the field of petrochemical production in the Middle East and North Africa during the period 2020-2024 to reach about \$126 billion. India has also announced plans for self-sufficiency in petrochemicals, with the start-up and production of projects of the second wave of existing shale gas projects in North America.

Since China is the largest trade partner for the petrochemicals and chemicals industry in the OAPEC member countries, especially the GCC countries, this calls for searching for alternative markets, such as African markets, which can be an option to mitigate the risks of the decline of their exports to those markets.

2-5 Analysis of the Polyolefins Market in North & South Americas in 2020

In light of the follow-up of the successive developments in the global petrochemical markets, the Secretariat General issued a report on polyolefins prices forecasts in the global markets. The report expected that petrochemical prices will return to their normal rates after the first half of 2021, and with the onset of spring, the improvement of weather conditions, and the return of commercial activity to its normal levels.

2-6 Point of View - EVs as Alternatives to Regular Vehicles

The report indicated that the use of electric vehicles (EVs) within cities may reduce pollution, but the big picture means that these cars are provided with electricity generated from renewable energy sources only, otherwise the result will be just a change in the places of generating gases polluting the environment.

2-7 OAPEC's Follow-up Reports on Global Natural Gas Market Developments in light of the Historical Price Hikes

The Secretariat General issued 3 consecutive reports to monitor the factors behind natural gas price rises. The decline of gas stocks in the European market to their lowest level in a decade in the same period of the year, the halting of additional supplies of natural gas through pipelines from Russia to the European market, growing Asian demand for liquefied natural gas shipments in the spot market, which Europe resorts to to compensate for the lack of supplies, all were strong factors that pushed prices to rise to these record levels. This is in addition to the nature of the contracts that the European market prefers, which depends 80% on short term, using spot market pricing based on market fundamentals of supply and demand.

The report made a number of recommendations in order to avoid a recurrence of the price hike crisis to ensure the stability of the global market, the most important of which is the need to continue injecting investments into the natural gas sector to raise production levels to ensure a balance of supply and demand in the medium and long term, which is what the Arab countries are working on despite the challenges of the Covid-19 pandemic.

2-8 Gas Flaring: What is the actual size of the problem?

The report confirmed that the Arab countries combined release only 5% of the world's total carbon emissions. Carbon produced by gas flaring in Arab countries is much lower than 1% of the world's total carbon dioxide. Therefore, pointing the finger at Arab countries in this regard is an exaggeration. The report made it clear that the issue of gas flaring draws serious attention when considering environmental issues, and based on estimates of flared gas globally, CO₂ emissions compared to the amount of flared gas circulating globally can be estimated at about 300 million tons, technically representing about 1% of the total amount of carbon dioxide produced by other sources worldwide.

3- Papers

1. Hydrogen & its Role in Energy Transition
2. Reducing Methane Emissions for the Sustainability of the Oil & Gas Industry
3. The Impact of Oil Prices Decline (due to the Covid-19 Pandemic) on Exploration & Production in the Petroleum Industry
4. Plastic Waste Recycling: Investment Opportunities & Environmental Solutions
5. The Challenges of Hydrogen Transport & Storage in the Arab Countries
6. Success Factors & Challenges for Building the Hydrogen Sector in the Arab World
7. Developments in the Commercial Structure of LNG Export Projects & their implications for the Global Market
8. Liquefied Natural Gas in the Arab Region: An Empowering Factor in Energy Transition
9. Potential Strategy to Accelerate the Construction of the Hydrogen Economy in the Arab Countries
10. The Current Situation, Challenges & Future Steps to Build a Hydrogen Economy in the Arab Countries
11. Developments of the Oil Refining industry in the Arab Countries
12. The Petrochemicals Industry in the Arab Countries
13. Most Prominent Developments in the Natural Gas Industry in the Arab World and Globally
14. The Use of Liquefied Natural Gas as a fuel for Vessels: Current Status & Future Prospects

4: Seminars & Conferences organized by the Secretariat General

1. OAPEC Secretariat General Meeting with its Joint Ventures, 23 February 2021
2. Seminar on Hydrogen & its Role in Energy Transition, 12 July 2021
3. Seminar on Plastic Waste Recycling & Circular Economy Concept, 28 July 2021
4. The 9th Meeting of Petroleum Training Institutes Officials in OAPEC Member Countries, 21-22 September 2021
5. First Meeting for Downstream Industries Experts, 9 November 2021
6. The 20th Meeting of Experts on Cooperation Potentials in Natural Gas Investment in OAPEC Member Countries, 30 November 2021
7. Joint Workshop on LNG in Marine Transport: Current Situation & Future Prospects, 1 December 2021

5: Conferences & Meetings OAPEC Secretariat General Participated In

1. The Virtual Discussion Session on “Prospects for Energy Investment in the Middle East and North Africa Region 2020-2024”, 14 January 2021
2. Launching Ceremony of the Fifth Edition of the Global Gas Outlook 2050 of the Gas Exporting Countries Forum, 24 February 2021 (via videoconferencing)
3. Paris Energy Club Event, 30 March 2021
4. A panel discussion on “Free Gas in the State of Kuwait”, organized virtually by Kuwait's Oil Ministry, 6 April 2021
5. Saudi Energy Meet, 7-8 April 2021
6. Petrochemicals & Refining Conference- Europe 2021 (Helsinki), 17-19 May 2021
7. Workshop on “The Economic & Industrial Impacts of Artificial Intelligence Applications in the Arab Countries”, organized by Arab Organization for Industrial Development, Standardization and Mining, on 2 June 2021

8. A Panel Discussion on “The Impacts of the Decline in Oil Prices (due to Covid-19 Pandemic) on Exploration & Production in the Petroleum Industry”, organized by Kuwait’s Oil Ministry, 7 June 2021
9. International Workshop on Cutting Methane Emissions, organized by Gas Exporting Countries Forum, Doha, Qatar, 16 June 2021
10. Video Interview on the “Impact of COVID-19-Driven Oil Prices Decline on Exploration & Production” for Kuwait’s Oil Ministry Platform, 17 August 2021
11. Virtual Panel Discussion on Kuwait Liquefied Gas Project, organized by Kuwait’s Oil Ministry, 24 August 2021
12. Middle East Green Hydrogen Conference, Dubai, UAE, 24-25 August 2021
13. The 2nd Middle East & North Africa Energy Conference, organized by Oman’s Energy & Minerals Ministry, Oman, 30-31 August 2021
14. The Second Coordination meeting of the Joint Working Committee between OAPEC & the Kuwait Institute for Scientific Research, 19 September 2021 (under the umbrella of the memorandum of cooperation concluded with the Kuwait Institute for Scientific Research)
15. Workshop on Gas Sales Contracts, 21-23 September 2021 (under the umbrella of the memorandum of cooperation concluded with the Kuwait Institute for Scientific Research)
16. Panel Discussion on “The Clean Fuel Project & its Latest Developments”, organized by Kuwait’s Oil Ministry, 28 September 2021
17. OAPEC & OPEC Joint Meetings:
 - The launch event of version 15 of the OPEC report on “Global Oil Prospects 2045”, which was launched on 28 September 2021
 - The launch event of the 65th edition of the “Annual Statistical Bulletin” on 30 September 2021
 - OPEC’s First Technical Workshop with Energy Companies,
 - on 11 October 2021
 - “The Eighth Joint Workshop between OPEC, the International Energy Agency and the International

- Energy Forum”, organized by OPEC on 21 October 2021
- The second high-level meeting of the Energy Dialogue between OPEC and the Gas Exporting Countries Forum, organized by the Gas Exporting Countries Forum “GECF” on 27 October 2021
 - “The Fifth High-Level Meeting of the Energy Dialogue between OPEC and India”, organized by OPEC on 29 October 2021
18. International Workshop on “Strengthening the Demand for Gas”, organized by Gas Exporting Countries Forum, 29 September 2021
 19. High-profile Political Dialogue on Hydrogen Technologies, organized by RCREE and FES, 4 October 2021
 20. Inspirational Sustainable Energy Projects Initiative, organized by the UAE’s Energy and Infrastructure Ministry, UAE, 7 October 2021
 21. The Petroleum Economist’s LNG to Power in the Middle East Forum, London, UK, 11 October 2021
 22. Hydrogen Developments in the MENA Countries Conference, organized by Leader Associates, Shanghai, China, 18 October 2021
 23. Workshop on the Heavy Oil project in Kuwait & its latest Developments, organized by Kuwait’s Oil Ministry, 4 November 2021
 24. Workshop on the Role of Emerging Technologies in Serving the Sustainable Development Goals, organized by Arab Organization for Industrial Development, Standardization and Mining, 8 December 2021
 25. A meeting between the Organization of African Petroleum Producing Countries (APPO) and OAPEC, 12 April 2021
 26. Workshop on “International Negotiation Skills in the Energy and Related Fields”, GCC Secretariat General, 12 January 2021
 27. Meetings of the 107th Session of the Economic and Social Council (Virtual), 31 January- 4 February 2021
 28. The First Session of the Arab-Indian Energy Cooperation Forum, 8-9 June 2021
 29. The Ninth Meeting of the Arab Committee to Follow-up on

the Implementation of the 2030 Sustainable Development Goals in the Arab Region (virtual), 30 June 2021

30. Joint Meeting on Boosting Cooperation between the Economic and Social Commission for Western Asia (ESCWA) and OAPEC Secretariat General, 26 August 2021.

The Secretariat General also participated as “Observer” in the meeting of 13th virtual session of the Energy Committee organized by ESCWA, which was held from 20-21 September 2021.

31. Joint meeting on Boosting Cooperation between the Oxford Institute for Energy Studies and OAPEC Secretariat General, 8 September 2021
32. The Second Coordination Meeting of the Joint Working Committee between OAPEC and the Kuwait Institute for Scientific Research (KISR), 19 September 2021
33. Preparatory Meeting on the Joint Arab economic Report for the year 2022, Cairo, Egypt, 20-22 December 2021

6: Follow-up on Environment & Climate Change

In implementation of the directives of the Honorable Council of Ministers, the Secretariat General followed up on the developments of the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement, as well as the meeting of the Arab Negotiating Group and the coordination meeting of environmental experts in the member countries.

The following is a brief review of matters related to this topic during 2021:

1. Subsidiary bodies SBI and SBSTA meeting from 31 May 31 to 17 June 2021 where the topic of climate finance, carbon markets, losses and damages, adaptation and transparency were discussed.
2. Meetings of the Arab Negotiating Group on Climate Change: The Arab Group held several meetings during the year 2021 via video communication technology in order to crystallize the Arab position on all the elements under negotiation and to emphasize the historical responsibility and national conditions of each member country. The energy transition must be comprehensive, just and equitable in accordance with the principles of the United Nations Framework Convention on Climate Change (UNFCCC) and the role of energy and its contribution to the process of a sustainable environment.
3. The first ministerial round table meeting on energy, climate and sustainable environment hosted by OPEC via video conference on 6 September 2021. The meeting emphasized the importance and necessity of using all energy sources and all available technologies such as CCUS and the circular carbon economy.
4. The 28th Coordination Meeting of Environment and Climate Change Experts in Member Countries, held by the Secretariat General on 13 October 2021. The participants emphasized the importance of the elements of the Arab position agreed upon within the Arab negotiating Group.

5. The 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 26), which was held from 31 October to 12 November 2021. The Secretariat was represented at this meeting as an observer.

7: MEDIA ACTIVITY

The Secretariat General continued its media activities in 2021 on both Arab and international levels through the Information and Library Department. The department supervises all publications and periodicals prepared by the Secretariat General in collaboration with other concerned departments. It follows up the Arab and international petroleum industry's developments, energy affairs, and their economics. The department keeps a close eye on whatever published in this connection in the media. It is also in charge of documentation, bibliography, current affairs reporting, and providing references and journals to researchers from inside and outside the organization.

7-1 Editing, Printing, Publishing and Distribution

The Secretariat General continued to issue all OAPEC publications, including books and periodicals. This action involved all matters relating to editing, proofreading, translation, designing, printing, publishing and distribution.

7-2 Press and Media Activity

A number of press releases were issued by the Secretariat General, covering the various activities of the organization, such as the meetings of OAPEC Council of Ministers, and the meetings of the Executive Bureau. On the other hand, local and Arab newspapers highlighted OAPEC activities, its role in coordinating between its member countries, and its efforts towards supporting the joint Arab action. The Secretariat General continued to monitor the contents published by local, Arab and foreign newspapers on energy affairs, and collected and archived the top oil, economic and environmental stories, as well as, other topics that are relevant to member countries in general.

7-3 Website

The Secretariat General's electronic website continued usual activities by covering the latest OAPEC and its member countries' news and activities. It also provides the latest data on the oil and gas industry in the member countries and other Arab countries through a link to the organisation's databank and book lists at the library.

A summary of the organisation's latest economic and technical studies is also provided.

7-4 Social Media

In order to facilitate direct communication with its audience, OAPEC Secretariat General has continued to improve its Twitter and Facebook accounts, where the latest news and activities are highlighted. There has been good feedback and interaction so far from followers and those interested in the energy and petroleum industry.

7-5 Information and Library Services

7-5-1 Information and Documentation

Work in progress to update and digitise paper index cards containing information on Arabic and non-Arabic publications and references available at the library.

7-5-2 Indexing and Classification

The Library continued to provide technical services related to indexing and classifying and fed the data of all books and documents into the Library's Oracle database. Entries for old books and documents have also been made into the Library's e-database.

The number of references increased from 31000 to 31500 books; and from 5750 to 5850 documents.

7-5-3 Acquisition

The Library's acquisition focuses on:

- Providing the Library with new books as proposed by the Secretary General's Office and relevant departments.
- Following up on the subscriptions and renewal of Arabic and foreign periodicals.
- Monitoring official publications of the governmental authorities and departments, as well as oil companies
- Monitoring and downloading the electronic periodicals and studies received on the Secretariat General's intranet and make them available on the Secretariat General's e-Library.

7-5-4 Public Services

The Library continued to provide in-house services for the Secretariat General's researchers, visitors, and external delegates through the following:

- In-house borrowing (e-borrowing made available to facilitate the process)
- Responses to researchers' inquiries
- Readers' guiding
- Reference services
- Photocopying (limited)

7-5-5 E-Library

The library works continuously on expanding its collection of electronic references, especially on energy, petroleum, petrochemicals, environment, and other relevant topics; in order for the e-library to integrate with the paper library.

E- copies of printed references are downloaded whenever available; a step towards full digitalising of the library in the future.

In coordination with the IT manager, the library works on developing Oracle used in classifying references to better serve the researcher.

8- Databank

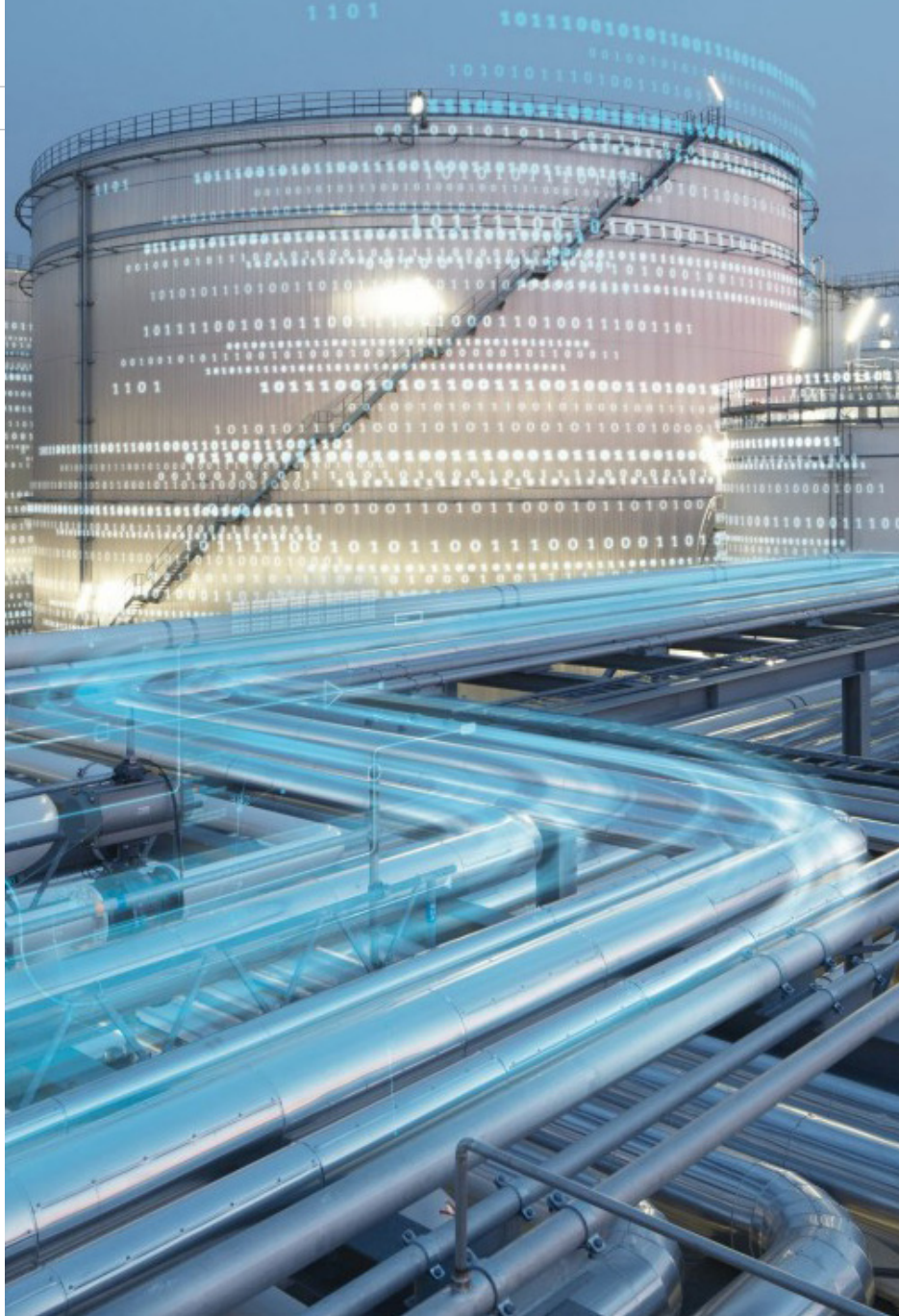
Within the framework of developing the databank and activating its role within the OAPEC's comprehensive plan to activate and develop the organization's role, the following steps have been taken:

- A coordination meeting was held between the Secretariat and the Information and Statistics Department team in the Ministry of Energy and Infrastructure of the United Arab Emirates remotely on 22 March 2021
- Organizing a training course entitled "Building National Capacities in Member Countries on Preparing Oil and Energy Statistics", 23-24 June 2021
- The 10th Coordination Meeting of Member Countries' Liaison Officers was held remotely, 22-23 November 2021. During the meeting, energy data collection forms, whose data had been completed by member countries' liaison officers, were discussed. The experiences of some member countries in preparing their own energy balance were also reviewed
- The databank has prepared a publication of energy data according to international groups for the period (1980 - 2020) based on the database of the British Petroleum Company. This publication is updated annually, and the report has been forwarded to the member countries of the organization
- The databank has prepared the annual statistical report for the year 2021, which covers the period (2016-2020)
- The databank prepares a series of separate reports on oil and energy statistics for each member country. The report covers the period (1985-2020), and includes data and statistics related to reserves, production, consumption and trade, as well as some other indicators related to oil and natural gas.

9- ADMINISTRATIVE AND FINANCIAL ACTIVITIES

Evolution of the Administrative Structure

By the end of 2021 there were (31) employees working at the Secretariat General, (18) of whom were of the professional staff and (13) of the general staff.



OAPEC JOINT VENTURES' ACTIVITIES

- ARAB MARITIME PETROLEUM TRANSPORT COMPANY (AMPTC)
- THE ARAB SHIPBUILDING AND REPAIR YARD COMPANY (ASRY)
- THE ARAB PETROLEUM INVESTMENTS CORPORATION (APICORP)
- THE ARAB PETROLEUM SERVICES COMPANY (APSCO):
 - THE ARAB DRILLING AND WORKOVER COMPANY (ADWOC)
 - THE ARAB WELL LOGGING COMPANY (AWLCO)
 - THE ARAB GEOPHYSICAL EXPLORATION SERVICES COMPANY (AGESCO)

OAPEC Joint Ventures

The report observes the challenges and opportunities to access financial and banking services, and the funding in the Arab countries. The report exhibits the Arab and International developmental aid about \$6.3 billion in 2011, in the framework of highlighting the importance of the joint Arab economic cooperation. The report includes a chapter on Arab cooperation in the area of anti-desertification. In conclusion the report comprises a chapter on the Palestinian economy.

In spite of the current oil market challenges and their impacts on the Arab petroleum projects, OAPEC joint ventures (JVs) have carried on with their activities during 2020 and the first half of 2021. For years, the JVs have been facing aggressive competition from international companies of similar business that are working in the region, as well as, difficulties to enter some Arab markets due to administrative and regulatory measures.

The JVs have put great efforts into boosting their activities and presence depending on their own potentials and resources, in addition to member countries' support. This has resulted in posting good financial revenues for some JVs.

OAPEC JVs enjoy full administrative and financial independence. Their General Assemblies (formed by their owning member countries) and Board of Directors draw up their strategic plans and make necessary decisions for their business development.

The Secretariat General on its part plays a coordinative role between these joint ventures by organising an annual official meeting to discuss means for boosting cooperation and to review common challenges in light of the Arab and international developments.

The JVs are aspiring for more support and assistance from the member countries in the next phase, and that more investment opportunities will be available to them in the Arab market on a competitive or preference basis.

Summary of OAPEC Joint Ventures' Activities

ARAB MARITIME PETROLEUM TRANSPORT COMPANY (AMPTC)



Activity during the first quarter of 2020 was normal in the tanker leasing markets in terms of rental demand and prices which were at good levels. However, as of April 2020, the negative impact of the COVID19 pandemic began to appear on the activity of tanker leasing in the petroleum marine transport markets. Many oil exporting and importing countries began implementing a gradual closure until almost complete lockdown during 2020, which led to a drop in demand for tankers, as the demand for oil declined as a result of the saturated ground tanks as a result of the closure.

This also resulted in many tankers laden with their cargo remaining parked outside the ports. Nevertheless, it was possible to continue to charter the company's tankers, pay off the bulk of the financing loans and cancel bank mortgages on most of the tankers.

As for the first half of 2021, the company suffered from the stagnation of the petroleum maritime transport markets, which were severely affected by the almost complete lockdown around the world. Despite the continued operation of all the company's tankers, the rental prices were too low to cover operating expenses, which resulted in operating losses.

Despite these difficult circumstances, the company continued with its policy of upgrading and developing its fleet, as the Board of Directors recently decided to proceed with the contract to build 4 new tankers for clean petroleum products, in addition to an optional right to build two additional tankers (4 Firm units plus 2 optional units of 114,000 DWT class Product Carrier) that of the advanced generation of this type of tankers with low fuel consumption, at a cost of about \$320 million, will be fully funded from the company's own resources. It is planned to receive these tankers during the third and fourth quarters of 2023 and the first and second quarters of 2024.

It is worth noting that all the company's tankers are accepted by all international oil companies, and are currently chartered on individual trips system in the oil marine transport markets for major oil companies such as (Shell, BP, Total) and at the same time, communication is constantly being made with all oil marketing institutions in the company's member countries to inform them of the company's readiness to place all its new tankers to serve their marketing purposes at competitive transportation prices compared to the prices of the shipping markets.

Financial Results 2020

| | |
|---------------------------|-------------------------|
| Net Profit (2020) | \$32.181 million |
| Net Loss (H1/2021) | \$12.283 million |

The Arab Shipbuilding and Repair Yard Company (ASRY)



The year 2020 saw many infrastructure and operational improvements which translated into improvements in profit margins and revenues. Despite the drop in total revenues compared to 2019 due to the COVID19 pandemic, the distribution of the total percentage of revenues in 2020 remained similar to previous years, where ship repair represented about 43% of revenues, offshore platform repair 42%, warship repair 13%, and engineering and construction about 2%. The distribution of the total percentage of revenues was almost equal in the first half of 2021 between the revenues of ships and drilling rigs.

The most interesting trend in terms of revenue was the ratio of global revenue to regional revenue, which gave a clear indication of the actual reason for the decline in revenue resulting from the pandemic, namely the restrictions imposed on logistics in obtaining specialized labour (such as technicians from contractors) to travel and work on projects. Several innovative initiatives by the company, such as requesting government exemptions from quarantine, have contributed to reducing the negative impact, despite its tangible impact in general.

In 2019, before the pandemic, the ratio between global and regional revenues was about 50% each, but by the end of 2020, the regional market represented only about 34% of ship repair revenue, due to the constraint of regional fleets due to the consequences of the pandemic, and the fact that shipowners resorted to local reform so that they can provide specialized labour that does not have to travel.

It is worth noting that many of ASRY's regional clients continued to work with the company throughout the year, such as the "Bahri" company in Saudi Arabia. Marketing and regional business development operations since the beginning of the year have also resulted in attracting new customers, and the return of some old customers, such as the Arab Maritime Petroleum Transport Company AMPTC, the Libyan National Company for General Maritime Transport and others.

The company's plan for modernization in 2020 included the acquisition of new equipment and infrastructure that led to the speedy completion of ship repair projects, including the repair of oil rigs and the repair of military and commercial ships with a total of 136 projects in 2020, which is equal to the number of completed projects in 2019.

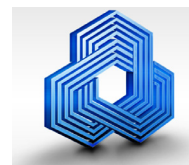
These upgrades included the construction of a new fleet of mobile cranes, advanced lathes, modern welding machines, and new LED lights to ensure the company's uninterrupted business day and night. In addition, the company benefited from its initiative to rationalize electrical energy, which reduced energy consumption by the equivalent of \$50 thousand in the first six operating months without affecting productivity.

Financial Results 2020 & H1/2021

In 2020, the company achieved total revenues of about \$141 million, compared to 2019 revenues, which amounted to about \$181 million. The decline is reflected as a result of the pandemic in addition to the drop in oil prices. Despite this situation, the company was able to run businesses and projects successfully. In 2021, the company embarked on achieving its financial goals, despite the outbreak of the pandemic.

During the first half of the year, it focused on improving projects' profit margins and achieving cash flow (in addition to the company's work, where profits before interest, taxes, depreciation and amortization from the beginning of 2021 until August of the same year amounted to \$ 5.2 million compared to \$ 3.6 million in last year). The company also succeeded in reducing the number of sales cash collection days in 2021, which was a success in this aspect in terms of financial liquidity.

THE Arab Petroleum Investments Corporation (APICORP)



APICORP achieved a strong financial performance during the year 2020, which is a testament to the strength of the financial foundations and the resilience of the operations of the various sectors of the company. This is primarily due to the growth of the project finance and trade portfolio with an annual increase of 6% to reach \$3.9 billion at the end of the year, and the growth of the Treasury and Securities departments portfolio by 13% year-on-year, which resulted in capital gains of \$46 million, nearly 6-fold increase compared to the previous year.

On the balance sheet front, the company's financial resilience contributed to an asset volume growth of 7.5% year-on-year to \$7.9 billion, higher than the five-year compound annual growth rate of 5%.

The growth in the size of the balance sheet is due to the company's continuous ability to offer financing solutions by providing a variety of innovative services, which was reflected in the company's allocation of \$500 million as part of a support package to overcome the cyclical fluctuations witnessed by member countries and strategic partners. The full amount will be disbursed during the month of December 2020.

On the other hand, the company's main financial indicators witnessed a remarkable improvement during the year 2020, as it succeeded in recording the highest liquidity rate ever by 349% by the end of the year. In addition, the capital adequacy ratio increased to 31%, while the financial leverage ratio was stable at 2.2 times, which is less than the acceptable level determined internally at 2.5 times.

During the year 2020, Moody's affirmed APICORP's credit rating at (Aa2), thanks to the company's financial strength. APICORP has also received an inaugural (AA) credit rating from Fitch Ratings with a stable outlook for 2020. APICORP is the only financial institution in the Middle East and North Africa region that receives two high ratings (AA), which is a strong testimony to the outstanding financial performance, exceptional flexibility and professionalism shown by the company in the face of challenges and turmoil in the region and the world in general, which led to the downgrading of the credit rating standing of many institutions and countries around the world.

APICORP increased its capital during the year 2020, as it successfully completed the increase of the authorized capital from \$2.4 billion to \$20 billion, and by increasing the subscribed capital from \$2 billion to \$10 billion, and the paid-up capital from \$1 billion to \$1.5 billion, and callable capital from \$1 billion to \$8.5 billion. The approval of the General Assembly to carry out the capital increase is clear evidence of the great support and confidence of the shareholders of the company.

In terms of operational operations, APICORP showed great flexibility in dealing with the Corona virus (Covid-19), which was reflected in the precautionary measures it took to face the challenges resulting from the spread of the epidemic. These measures included allowing employees to work remotely in order to continue providing distinguished and high-quality services, as well as strengthening relationships with customers by successfully facing challenges.

Financial Results 2020 & H1/2021

- APICORP generated a net profit for the year 2020 of \$115.072 million. It also managed to achieve a net profit during the first six months of 2021 amounting to \$31.1 million.
- The company's total assets amounted to \$7,893 million on 31 December 2020. On 30 June 2021, the assets amounted to \$7,728 million. The company's total shareholders' equity increased to \$2,494 million on 30 June 2021, compared to \$2,441 million on 31 December 2020.

THE ARAB PETROLEUM SERVICES COMPANY (APSCO)



Throughout the year 2020, APSCO has been focused on following up and supporting specialised companies to lend a hand in the current conditions and reach out to mitigate challenges as much as possible.

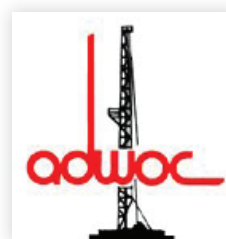
As for the company's activity during the first half of 2021, the Arab Petroleum Services Company continued to follow up and support the three existing companies in light of the current difficult conditions experienced by the parent company and specialized companies.

Financial Results 2020 & H1/2021

The company's net loss for the year 2020 amounted to 137,747 Libyan dinars. The company's loss for the first half of 2021 amounted to 1,143,377 Libyan dinars.

1- THE ARAB DRILLING AND WORKOVER COMPANY (ADWOC)

During the year 2020, the company was able to operate (9) drilling rigs and (4) maintenance rigs. The operating rate of the rigs was 92%. The operating rate was affected by the exit of the rig No. (20) due to the completion of the contracted wells, as well as the suspension of a number of rigs from time to time due to suspected cases of COVID19, which led to the closure of some sites and the suspension of work there.



The percentage of time lost for fault repairing during work was 1.35%. Working hours amounted to 52,887 hours, and repair time was 713.5 hours, noting that the time allowed and paid for contractually is 4%, which is a very good indicator of the level of the company's efficiency.

The year 2020 also witnessed some developments related to the recovery and sale of the company's headquarters and equipment, as the company's former headquarters was received in the "Valley of Spring" area, and many equipment and spare parts were recovered and re-written in the company's records as profits with a total value of 16,741,898 Libyan dinars.

The company's management also addressed the legislative and executive authorities in the State of Libya, and made several contacts, which resulted in the issuance of a decision from the Council of Ministers to retrieve the company's former headquarters in the "Falah area". The procedures are being completed for registering the headquarters in the name of the Arab Company for Drilling and Well Maintenance in the state departments.

Financial Results 2020 & H1/2021

The company was negatively affected by the increase in expenses and the suspension of excavators from time to time as a result of the precautionary measures for the Covid-19 pandemic, in addition to some security conditions. Nevertheless, the company made significant profits from the net sale of the company's headquarters in the "Valley of Spring" area, in addition to the revenues resulting from the recovery of many spare parts and equipment that were previously recorded as losses.

Accordingly, the revenues for the year 2020 amounted to 62,806,666 Libyan dinars, and after deducting all expenses, the company achieved a net profit of 11,306,254 Libyan dinars. The company also made a great effort to collect and settle some debts, as the company was able to pay two instalments of the loan with interest during 2020, bringing the total amounts that were paid to \$7,868,665.76. The rest of the loan principal amounted to \$15,690,213.77.

2- THE ARAB WELL LOGGING COMPANY (AWLCO)

In total, the company accomplished several projects during the year 2020, where the total of its interpretation of rock and fluid sensors amounted to about 7,760 metres, in addition to the interpretation of the results of 15 of the wells that the company surveyed during the same year. In the first half of 2021, the length of the interpreted blocks was about 2540 metres, in addition to the interpretation of the results of 9 production wells.



The company also continued to carry out maintenance operations for devices and equipment in its workshops, whether in the north or south, as 311 maintenance operations were carried out, lasting 2,140 hours during 2020 and the first half of 2021.

Financial Results 2020 & H1/2021

| | |
|----------------------------|--------------------|
| Revenues (2020): | \$3,152,020 |
| Loss (2020): | \$384,125 |
| Revenues (H1/2021): | \$2,999,034 |
| Profits (H1/2021): | \$68,713 |

3- THE ARAB GEOPHYSICAL EXPLORATION SERVICES COMPANY (AGESCO)

The company won the bid of the Sirte Oil and Gas Manufacturing and Production Company at the beginning of 2020 for a three-dimensional seismic survey project for a total of 684 square kilometres in concessions 16 and 17 in the Sirte Basin. Procedures were completed for signing the contract, and the implementation was planned to be during the first quarter of 2021.



Also, seismic survey continued on plot A82-4 in the Ghadames Basin, western Libya, affiliated with the Russian "Tatneft" company. The program was completed, surveying a total of 73 square kilometres. The technical and financial offer of a three-dimensional seismic survey project for a total of 2,843 square kilometres was also approved for the Sirte Company, in concession NC216 in the Ghadames Basin near the Libyan-Tunisian border. The contract was signed in early 2020, but work did not start due to some logistical difficulties.

As for the first half of 2021, the company's (second) seismic division did not carry out any activities as a result of the spread of the Covid-19 pandemic, but the final maintenance work continued at the division's site to ensure that its equipment and mechanisms were kept in a state of complete readiness to start work on implementing the contract concluded with Sirte Company for the manufacture and production of oil and gas.

It was also agreed with OMV to implement the contract signed in October 2019 after the completion of the programs of the Sirte Oil and Gas Production Company, which is expected to be at the end of 2021. As for the company's (third) seismic division, the division was transferred to Block 216 of the Ghadames Basin for a 3D seismic survey, a total of 145 sq. km were surveyed until the end of June 2021.

Financial Results 2020

The company's revenues during the year 2020 amounted to about \$1,648,000. After deducting all expenses, the company will have incurred losses of \$3,112,000, as a result of the company's inability to implement the contracts concluded due to the spread of the pandemic, and the consequent closure of most airports and borders and the inability of technicians to travel to Libya, as well as the deteriorating security situation in the city of Tripoli.

Financial Results H1/2021

Revenues amounted to \$1,691,000. After deducting expenses, the company has incurred losses of \$196,000 for not being able to implement the contracts of Sirte Company and OMV Company as a result of the deteriorating security situation in the country, the closure of all oil fields and ports, and the inability to provide the necessary fuel for the division. This is in addition to the spread of the pandemic. It is noteworthy that the company's management followed an austerity policy at all levels to reduce expenses.

ORGANIZATION OF ARAB
PETROLEUM EXPORTING
COUNTRIES (OAPEC)

