GELG Vol. 51 No. (6) JUNE 2025 **DATA CENTERS & Al: ENERGY REQUIREMENTS OF THE DIGITAL AGE**

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2024

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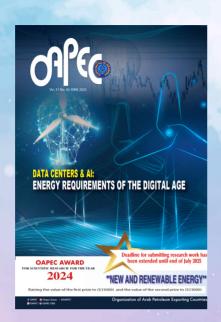
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Organization of Arab Petroleum Exporting Countries





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The Organization of Arab Petroleum Exporting Countries (OAPEC) was founded on the basis of the agreement signed in Beirut, Lebanon on 9 January 1968 between the governments of Kingdom of Saudi Arabia, the State of Kuwait and the (then) Kingdom of Libya. The agreement stipulates that the Organization shall be domiciled in the City of Kuwait.

The principal objective of the Organization is the cooperation of the members in various forms of economic activity in the petroleum industry, the determination of ways and means of safeguarding the legitimate interests of its member countries in this industry, individually and collectively, the unification of efforts to ensure the flow of petroleum to its markets on equitable and reasonable terms, and providing appropriate environment for investment in the petroleum industry in member countries.

In 1970 the United Arab Emirates, the State of Oatar, the Kingdom of Bahrain and the Republic of Algeria joined the Organization, followed by the Syrian Arab Republic and the Republic of Iraq in 1972, Arab Republic of Egypt in 1973, then the Republic of Tunisia in 1982 (its membership was suspended in 1986). Any Arab country which derives a significant share of its national income from petroleum is eligible for membership in OAPEC upon the approval of three-quarters of the member countries, including all three founding members.





OAPEC ISSUES ITS QUARTERLY REPORT ON THE GLOBAL PETROLEUM SITUATION





HE AL KAABI:
"FIRST NFE TRAIN WILL COME ONLINE MID
NEXT YEAR, OTHERS WILL FOLLOW"





BAHRAIN'S OIL MINISTER PARTICIPATES IN 18TH CEDARE MEETING

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• OAPEC-Joint Ventures:

OAPEC has sponsored the creation of four companies: The Arab Maritime Petroleum Transport Company (AMPTC), established in 1972 with headquarters in Kuwait City, the Arab Shipbuilding and Repair Yard Company (ASRY) established in 1973 with headquarters in Bahrain, the Arab Petroleum Investments Corporation (The Arab Energy Fund) established in 1974 with headquarters in Khobar, Saudi Arabia, the Arab Petroleum Services Company (APSC) established in 1975 with headquarters in Tripoli, Libva

OAPEC'S ORGANS

The Organization carries out its activities through its four organs:

- Ministerial Council: The Ministerial Council is the supreme authority of the Organization, responsible for drawing
 up its general policy.
- Executive Bureau: The Executive Bureau is composed of one representative from each of the member countries, drawing recommendations and suggestions to the Council, reviewing the Organization's draft annual budget and submitting it to the Council, it also adopts the regulations applicable to the staff of the General Secretariat. The resolutions of the Executive Bureau are issued by the majority of two-thirds of all members.
- General Secretariat: The General Secretariat of OAPEC plans, administers, and executes the Organization's
 activities in accordance with the objectives stated in the agreement and directives of the Ministerial Council.
 The General Secretariat is headed by the Secretary General. The Secretary General is appointed by resolution
 of the Ministerial Council for a tenor of three years renewable for similar period(s). The Secretary General is the
 official spokesman and legal representative of the Organization and is accountable to the Council.
- The Secretary General directs the Secretariat and supervises all aspects of its activities, and is responsible for the tasks and duties as directed by the Ministerial Council. The Secretary General and all personnel of the Secretariat carry out their duties in full independence and in the common interests of the Organization member countries. The Secretary General and the Assistant Secretaries General possess in the territories of the Organization members all diplomatic immunities and privileges.
- Judicial Tribunal: The protocol of the Judicial Tribunal was signed in Kuwait on 9 May 1978 and came into
 effect on 20 April 1980. The Tribunal is competent to consider all disputes related to the interpretation and
 application of OAPEC's establishment agreement, as well as disputes arising between two or more member
 countries concerning petroleum operations.



DATA CENTERS & AI: ENERGY REQUIREMENTS OF THE DIGITAL AGE



By: Jamal Essa Al Loughani OAPEC Secretary General



Amidst the colossal global digital transformation, artificial intelligence (AI) is emerging as one of the key drivers of the global economy, having transformed from its limited academic scope into a global industry worth trillions of dollars. This rapid growth has been accompanied by an increasing reliance on data centers, which have become the cornerstone of the development and operation of modern artificial intelligence technologies, leading to a significant hike in electricity demand in order to operate them. For example, a single data center can consume the energy equivalent of 100,000 homes. This figure could double in newer data centers, placing increasing pressure on electricity grids and requiring a rethink of energy infrastructure.

Recent years have witnessed a significant increase in investments directed towards artificial intelligence and related infrastructure, with investments reaching approximately \$500 billion by 2024. The market value of the companies involved increasing by approximately \$12 trillion. Meanwhile, energy consumption in data centers reached about 415 terawatt-hour in 2024, equivalent to approximately 1.5% of total global electricity consumption during the same year. Although this level may seem relatively limited, data center consumption has grown at an average rate of 12% annually over the past five years, more than four times the growth rate of overall electricity consumption. It is expected to double to 945 TWh by 2030 and then to 1,200 TWh in 2035, exceeding the consumption of energy-intensive industries combined.

The majority of data center electricity consumption is concentrated in the United States (45%), China (25%), and Europe (15%), with these countries expected to account for 80% of consumption growth through 2030. Strong growth opportunities also appear in Southeast Asia and some emerging markets, which still have relatively small market share despite having a large Internet user base.

Global cloud computing giants are driving the growth in energy consumption in data centers, while sectors such as media and financial services remain less impactful. At the same time, global cloud computing companies are seeking to diversify their energy sources, increasingly relying on renewable energy, which is expected to meet half of the global growth in data center demand through 2035, alongside natural gas and nuclear power, particularly in the United States, China, and Japan.

In terms of energy security, the increasing reliance on digital systems poses a challenge in combating advanced cyber threats, with attacks on energy facilities doubling in recent years. Artificial intelligence enhances the ability of cybersecurity systems to detect and predict attacks, but securing this vital infrastructure requires integrated strategies and huge capabilities.

The data center boom also faces infrastructure challenges, particularly regarding cooling and water supply, as well as a shortage of specialized human skills, which requires investment in technical education and vocational training. There are also risks of shortages of some electronic components and critical minerals on which AI chips depend. This comes in addition to significant environmental concerns, as carbon emissions from data centers could reach approximately 2.5 billion tons by 2030. This highlights the need to adopt environmental disclosure standards and enhance transparency to encourage carbon footprint reduction measures in this sector.

Data centers have become an integral part of the vital infrastructure of the global digital economy, and their role will continue to grow with the expansion of artificial intelligence and associated digital services. However, sustaining this growth requires significant coordination between technology companies, governments, and electricity suppliers to ensure clean and reliable energy sources, as well as developing innovative solutions to reduce power consumption and improve operational efficiency. The path to a sustainable digital future relies primarily on more effective, energy-efficient data centers that are more in harmony with global climate goals.



OAPEC ISSUES ITS QUARTERLY REPORT ON THE GLOBAL PETROLEUM SITUATION

The Secretary-General the Organization **Petroleum** of Arab Exporting Countries (OAPEC), HE Eng Jamal Al Loughani, stated that, as part of its periodic follow-up of developments in the global petroleum market, OAPEC Secretariat issued its first quarterly report for the year 2025 on the global petroleum situation. The report monitors developments in key indicators of the global oil market, including supply and demand, inventory movements, prices and influencing factors, oil trade movement, and the refining industry, while measuring the extent to which these developments impact the economic performance of the member countries and reviewing the future prospects for the global oil market in the near term.



The Secretary-General noted that the global economy witnessed a critical turning point during the first quarter of 2025 amidst volatile and uncertain conditions, driven by escalating trade tensions and shifting economic policy priorities in many countries. He explained that the United States announced the imposition of new tariffs, the largest in a century, on all its trading partners, who in turn took a series of countermeasures. He added that this represented a significant negative shock to global economic growth and prospects especially given the unpredictability of these measures. He said the escalation of downside risks to global economic growth prospects could lead to an escalation of the trade war and increased uncertainty regarding trade policies, leading to a further decline in economic growth rates in the near and long term. He stated that in this context, the global economy is expected to grow by 2.8% in 2025, lower than the 3.3% growth rate for 2024.

The Secretary-General said that developments

in the global oil market influenced the economic performance of the member countries during the first quarter of 2025. He went on explaining that the increase in oil revenues had a positive impact on the public finance and external account balances, despite the ongoing global challenges resulting from global trade tensions and geo-economic dispersion amid continuing geopolitical tensions. He added that the member countries' economies have remained committed to economic reforms, which have contributed to slowing inflation and strengthening investment and the labor market, explaining that the macroeconomy of member countries also received support from the growth in economic activity in the non-oil sector. He went on saying that the oil sector's growth is expected to continue improving in the near term, coinciding with the decision of OAPEC member countries in the OPEC+ group, which announced additional voluntary cuts in April and November 2023, to gradually and flexibly return to the voluntary



adiustments of 2.2 million b/d, starting 1 April 2025, and to adjust the production level in May and June 2025 by an increase of 411 thousand b/d on a monthly basis, equivalent to three monthly increases. HE Al Loughani said this will have a positive impact on oil revenues, which are among the most important sources of national income and contribute to achieving sustainable development in OAPEC member countries.

Regarding the nearterm outlook for the global oil market, the Secretary-General stated that the oil market is surrounded by uncertainty, making it difficult to determine specific level that crude prices might reach. He explained that OPEC's forecasts indicate that total oil supplies from countries not participating in the Declaration of Cooperation will rise to approximately 53.9 million b/d in the second quarter of 2025,

while total global oil demand is expected to rise to approximately 104.3 million b/d. The Secretary-General added that these forecasts are still subject to uncertainty linked to numerous doubts and concerns, the most important of which are: concerns about escalating global trade tensions, slowing economic growth, and continued geopolitical tensions in the Middle East and Eastern Europe, despite their declining pace. However, the recent trade agreement between the United States and China to reduce mutual tariffs is expected to help reduce uncertainty. In

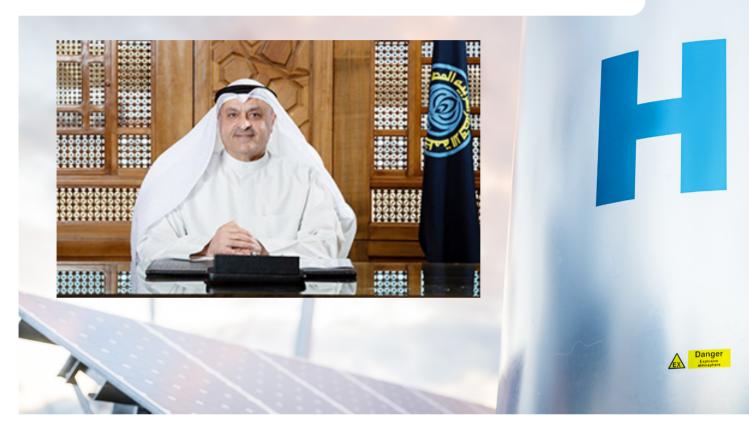


this context, the Secretary-General commended the ongoing and tireless efforts of the OPEC+ group, including six OAPEC member countries, to strengthen precautionary measures aimed at achieving balance and stability in the global oil market.

The Secretary-General concluded his remarks by saying that the OAPEC Secretariat hopes that this report, which can be viewed in full at www. oapecorg.org , will provide makers of future energy policies in the Organization's member countries with a clear and concise picture of the latest developments in the petroleum market.



OAPEC ISSUES ITS Q1/2025 REPORT ON LNG AND HYDROGEN DEVELOPMENTS



On the occasion of releasing OAPEC quarterly report on liquefied natural gas and hydrogen developments, the Secretary-General of the Organization, HE Eng Jamal Al Loughani, stated that the report reviews the most significant developments in the global liquefied natural gas (LNG) sector, the investment climate in planned LNG projects, and the latest developments in international and Arab affairs regarding the role of hydrogen in the energy transition.

In this context, the Secretary-General explained that global trade in liquefied natural gas (LNG) achieved high growth during the first quarter of 2025, reaching an annual rate of approximately 3.1%, explaining that the share of Arab countries amounted to 26.4% of total global trade. Gas prices in European and Asian markets also saw strong gains during the first quarter of 2025 due to growing concerns about the repercussions of a halt in Russian gas supplies passing through Ukraine following the expiration of the transit agreement signed between

Russia and Ukraine. This was in addition to the cold weather that swept across several European countries, which subsequently stimulated demand for gas in the heating sector.

In a related context, the Secretary-General explained that global supplies of liquefied natural gas are expected to increase by approximately 3.3% in 2025 compared to 2024 levels, reaching approximately 425 million tons. Despite this anticipated increase in supply, global demand will be able to absorb it, keeping prices higher in 2025 compared to the previous year, driven by geopolitical factors and intensifying competition between the European and Asian markets to attract LNG shipments.

Regarding hydrogen, approximately 65 countries have expressed official interest in investing in the hydrogen sector—either through the development of a national strategy or roadmap—according to OAPEC data. Together, these countries account for approximately 85% of global GDP and contribute





by approximately 80% of global carbon dioxide emissions, highlighting the significant importance of this trend in the context of global efforts to transition to clean energy.

Regarding the development of hydrogen-related policies and strategies in Arab countries, the number of Arab countries that had prepared or announced their national hydrogen strategies reached six by the end of March 2025. This rapid development in national policy formulation highlights a growing commitment by Arab countries to creating the necessary legislative and regulatory environment to enter the global hydrogen market.

The Secretary-General stressed that it is essential to emphasize that the hydrogen industry is still in its early stages of development and requires years of work and coordination to establish a mature and stable global market. Therefore, achieving the ambitious goals announced by some Arab countries remains possible, but it depends on the development of a number of factors. Foremost among these

factors are the global demand for low-carbon hydrogen, the significant reduction in production costs due to technological advancements, and the construction of a comprehensive and large-scale infrastructure that includes transportation, storage, and distribution. Enhancing regional and international cooperation in the areas of technology transfer and expertise exchange will be a pivotal factor in accelerating the pace of development and reducing the risks associated with investing in this emerging sector.

The Secretary-General concluded his statement by stating that the issuance of this report falls within the framework of the OAPEC Secretariat's efforts to periodically monitor developments in the global natural gas and hydrogen markets and highlight their implications for Arab countries, which occupy a prominent position on the global energy map.

For more information about the report, please visit the organization's website www.oapecorg.org



WORKSHOP IN COLLABORATION WITH KUWAIT FOREIGN PETROLEUM EXPLORATION COMPANY (KUFPEC)



As part of OAPEC's commitment to boosting scientific cooperation with various Arab institutions in the member countries, the Organization's Secretariat responded to Kuwait Foreign Petroleum Exploration Company (KUFPEC) invitation on Monday, 16 June 2025, to give presentations on the challenges of exploration investments in light of the energy transition, and on the OAPEC Library and its role in supporting scientific research.

During the event, Eng. Turki Hemish, a petroleum expert in exploration and production, presented a comprehensive overview of Arab and global energy sources, production and consumption models, and the changes taking place in the global energy mix. He also addressed the most prominent challenges facing investments in the exploration sector, focusing on those associated with the energy transition. Moreover, he reviewed forecasts for global oil demand and the organization's perspective on these forecasts.

For his part, Mr Mohammed Sami Moawad, OAPEC Library Cataloguer, gave an introductory presentation about the organization's library, touching on the library's history and its contents of books and periodicals, both printed and digital, as well as explaining the registration process and how to benefit from the library's services.

The event witnessed interaction from the attendees, with all questions and inquiries answered. At the conclusion of the meeting, Eng. Ahmed Al





Rahif, Director of Offshore Exploration at KUFPEC, honoured the organization's representatives and presented them with certificates of appreciation in recognition of their contributions to enriching the scientific discussion and enhancing joint cooperation.



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THORIUM... A STRATEGIC CHOICE FOR SUSTAINABLE NUCLEAR POWER GENERATION



Senior Oil Industries Expert OAPEC

By: Dr. Yasser Mohammed Boghdadi,

In light of the accelerating global shift towards clean and sustainable energy sources, thorium is emerging as a promising nuclear alternative for electricity generation, given its unique technical and environmental properties. This radioactive element is an abundant natural resource in the Earth's crust, with availability estimated to be 3-4 times greater than that of uranium, enhancing its strategic importance amid growingchallenges associated with energy security and sustainability.

Unlike uranium, thorium does not undergo fission directly upon absorbing neutrons, but rather converted into uranium-233, a fissile isotope that is an efficient nuclear fuel. From this perspective, molten salt reactors (MSR) have



emerged as one of the most compatible designs for thorium fuel. These reactors operate using a mixture of chemical salts — such as fluorides or metal chlorides — heated to high temperatures until they turn into a liquid state. In this molten medium, the nuclear fuel is dissolved, enabling its direct use within the reactor, where the molten salt serves a dual function: : as a mediator to facilitate the nuclear reaction, and as an effective coolant to dissipate the generated heat.

This type of reactor features several advanced operational characteristics, most notably its ability to operate under low pressure, which significantly reduces the risk of explosions or leaks compared to conventional reactors. Moreover,, molten salt reactors offer an innovative passive safety mechanism; when the temperature rises to unsafe levels, the molten salt expands, leading to a decrease in neutron concentration within the reactor. As a result, the nuclear reaction slows down and eventually shuts off automatically, without the need for human intervention or complex safety systems.

Recent statistics confirm that global thorium reserves are estimated at more than 6 million tons. India tops the list with approximately 846,000 tons, followed by Brazil with approximately 632,000 tons, and then Australia and the United States with similar reserves of approximately 595,000 tons each. The Arab Republic of Egypt ranks among the world's top five countries, with estimated reserves of approximately 380,000 tons (equivalent to approximately 6% of the global total), an indication of its strategic geological potential, particularly with regard to deposits rich in radioactive minerals, such as the black sands that extend along the coasts.

The presence of this strategic natural resource represents a promising opportunity for OAPEC member to diversify their options in the field of peaceful nuclear energy , especially amid the growing global trend towards ensuring energy security, achieving environmental sustainability, and reducing carbon emissions.

At the Arab level, the United Arab Emirates stands out as a pioneer in this field, with four operating nuclear reactors at the Barakah Nuclear Power Plant, the first facility of its kind in the region. Other countries, such as the Arab Republic of Egypt, are also witnessing rapid progress in implementing major nuclear projects, most notably the Dabaa nuclear power plant project. These developments reflect a growing trend toward diversifying the energy mix and advancing sustainable development initiatives.

In this context, thorium is increasingly being considered as a promising option for fueling next-generation reactors, including small modular reactors and reactors utilizing alternative fuel cycles, due to their high operational efficiency, lower radiation risks, and greater flexibility compared to uranium.

To maximize these potentials, it is important to develop an Arab roadmap that includes supporting national research and development programs, strengthening institutional and scientific cooperation, and building specialized human capabilities through training and partnerships with countries with advanced expertise, such as India, China, and Norway. Developing a stimulating and flexible legislative and regulatory environment is also crucial to accelerating the adoption of these technologies and integrating them into the region's future energy systems.

Investing in thorium is not merely an alternative to conventional nuclear fuel, but a strategic pathway toward a safer, more sustainable, and more efficient energy future. This direction contributes to expanding the diversification of energy sources in OAPEC member countries and strengthening energy independence, in line with national goals and regional energy transition plans for the coming decades.

^{*}Views expressed in the article belong solely to the author, and not necessarily to the organization.



HE AL KAABI:

"FIRST NFE TRAIN WILL COME ONLINE MID NEXT YEAR, OTHERS WILL FOLLOW"



His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs of the State of Qatar, the President and CEO of QatarEnergy, said that economic growth anywhere in the world cannot happen without fuel. Adding that "gas is the best source for fuel - that is reliable, affordable, and available to most countries.

Speaking at a leadership dialogue held during the World Gas Conference (WGC) in Beijing, His Excellency Minister Al-Kaabi reaffirmed that while we need all kinds of fuels and a wide energy mix, gas will be the backbone of growth in all economies, and it is here to stay for the next century.

Minister Al-Kaabi said each country will have a different energy mix than the other, depending on intermittency variables such as when the sun does not shine, or when the wind does not blow, or when the rain does not fall. "For us in Qatar," His Excellency added, "we have plenty of sunshine and today we are meeting 15% of our electricity demand from solar power, and we are working to double that to 30%."

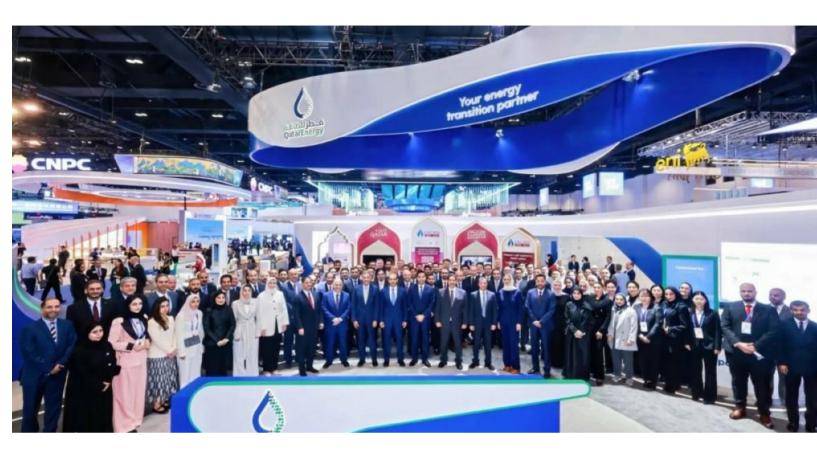
Answering a question on the net-zero as an environmental target, H.E. Minister Al-Kaabi stated that while many countries and companies announced commitment to net-zero, it is clear now that many are backtracking as people realize it is very difficult to achieve net-zero by 2050 without a real plan and without consideration to their needs for energy and for economic growth. His Excellency said: "The State of Qatar and QatarEnergy were amongst the very few countries and companies who said they would not be able to meet net zero."

Speaking on the progress of Qatar's North Field expansion, His Excellency the Minister of State for Energy Affairs, the President and CEO of QatarEnergy, said: "We will be starting the first LNG train from the North Field East development which has a 32 million ton per annum LNG production capacity by mid next year. Subsequently, other trains will come online after that. As for North Field West, it is in the engineering phase and will be going into the construction phase somewhere in 2027. We will more than double of LNG production from the current 77 million tons to 160 million including production from our Golden Pass project in Texas, which will come online later this year."

"QatarEnergy will be the largest single LNG exporter as a company. While Qatar, as a country, will be the second largest exporter of LNG after the United States for a very long time," Minister Al-Kaabi said. "We will play a very big role in helping economies around the world to flourish and to grow, with the cleanest fossil fuel available."

H.E. Minister Al-Kaabi said QatarEnergy was doubling its production capacity in many parts of the petrochemical industry and is building the world's largest ethane cracker in the United States,





which is expected to start production in the first quarter of 2027; and the largest ethane cracker in the MENA region that is being built in Ras Laffan and is also expected to begin production in early 2027.

"So, between these two projects, this is the largest single investment by one company with CPChem, our good partners in both projects," the Minister added.

On relations with China and the role it plays



The World Gas Conference is the premier



gathering of the global gas and energy industry. Themed "Energizing a Sustainable Future", WGC2025 marks the first time it is held in China. Taking place in Beijing from 19 to 23 May, the Conference is expected to attract unprecedented participation, with over 30,000 attendees from 70 countries and 300 exhibitors, domestic and international, making the Conference a unique opportunity to engage with emerging and established markets globally.





BAHRAIN'S OIL MINISTER PARTICIPATES IN 18TH CEDARE MEETING

HE Dr Mohammed bin Mubarak Bin Dainah, Minister of Oil and Environment and Special Envoy for Climate Affairs of the Kingdom of Bahrain, participated recently remotely in the 18th meeting of the Board of Trustees of the Centre for Environment and Development for the Arab Region and Europe (CEDARE).

The meeting was chaired by Abdulrahman Abdulmohsen AlFadley, Chairman of the Board and Minister of Environment, Water and Agriculture of the Kingdom of Saudi Arabia, with the participation of Dr. Khaled Fahmy, Executive Director of CEDARE and former Egyptian Minister of Environment, along with ministers, representatives from the Arab League, the Islamic Development Bank, the University of Malta, and United Nations organisations.

Dr. Bin Dainah underscored the Kingdom of Bahrain's support for regional efforts to advance joint environmental action and achieve the Sustainable Development Goals. He commended CEDARE's role in supporting joint Arab environmental work, enhancing national capacity-building, and offering strategic solutions to environmental challenges facing the region.

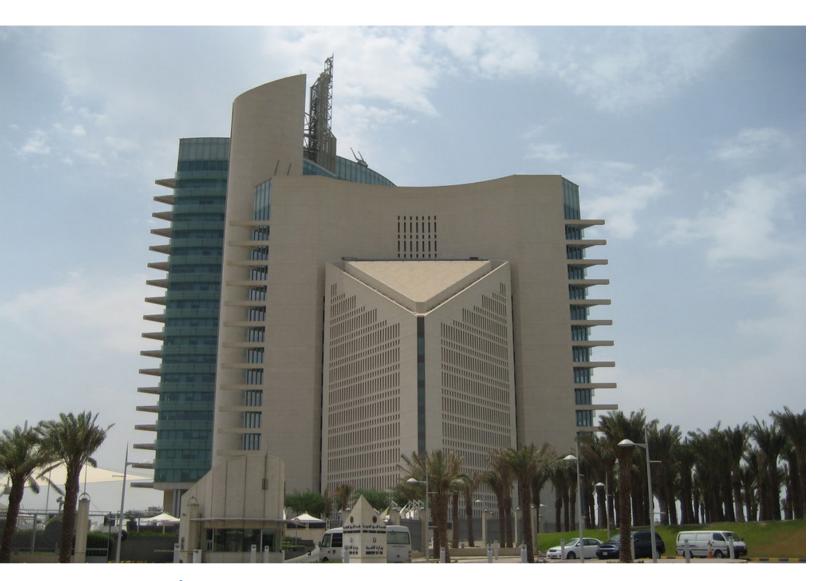
He also highlighted the importance of continuing efforts to develop the Centre's institutional capacities and respond to emerging environmental priorities in Arab countries.

The Board of Trustees was briefed on a number of administrative and financial reports and recommendations, which were discussed and approved to support the Centre's regional performance and activities.



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KUWAIT'S MINISTRY OF OIL TO HOST REGIONAL FLAGSHIP CONFERENCES ON DIGITAL TRANSFORMATION, ASSET INTEGRITY AND PROCESS SAFETY IN THE OIL & GAS SECTOR

Under the patronage of His Excellency Tariq Suleiman Al-Roumi, the Minister of Oil on the State of Kuwait, and His Excellency Sheikh Dr. Nimr Fahad Al Malik Al Sabah, the Undersecretary of Ministry of Oil, Kuwait is set to host two strategic landmark conferences this September, advancing Kuwait's vision of becoming a global benchmark for energy innovation and industrial excellence. The 2nd Digital Transformation Kuwait Oil & Gas Conference will be held from 8–9 September 2025, followed by the inaugural Asset Integrity and Process Safety Kuwait Conference, taking place from 10–11 September 2025, both at the

Jumeirah Messilah Hotel, Kuwait.

Hosted by the Ministry of Oil — Kuwait and supported by the Kuwait Oil Company and Kuwait Integrated Petroleum Industries Company, these official platforms will individually bring together over 500 senior decision-makers, 40+ expert speakers, and 50+ global and regional solution providers. Together, the conferences serve as a cornerstone for advancing Kuwait's energy future, through digital innovation and world-class integrity and process safety standards.

Official Statement from the Ministry of Oil – Kuwait: "At the Ministry of Oil, we recognize that



advancing digital transformation, asset integrity, and process safety is not only vital to the resilience of Kuwait's energy infrastructure but also to the realization of our long-term national development goals. These priorities underpin our efforts to build a future-ready oil and gas sector—one that is safe, efficient, and globally competitive. As part of this mission, the Ministry of Oil proudly hosts the 2nd Digital Transformation Kuwait Oil & Gas Conference and the Asset Integrity & Process Safety in Oil & Gas Conference Kuwait. These conferences serve as national platforms for collaboration, thought leadership, and knowledge-sharing-bringing together global and regional experts, industry leaders, and government entities to chart a collective path toward smarter, safer, and more sustainable energy systems."

The 2nd edition of the Digital Transformation Kuwait Oil & Gas Conference builds on the success of its inaugural edition and will address Kuwait's national agenda for energy digitalisation. Key themes include the deployment of artificial intelligence, automation, digital twin technology, predictive analytics, and cyber resilience across upstream, midstream, and downstream operations. In parallel, the launch of the Asset Integrity and Process Safety Kuwait Conference marks a significant milestone in the country's industrial strategy—providing a dedicated platform for addressing integrity management, process safety practices, and operational reliability across critical energy infrastructure.

Kuwait Oil Company (KOC), a key contributor to Kuwait's energy transformation, welcomed the initiative: "KOC remains committed in its dedication to driving digital transformation across the energy cycle. The 2nd Kuwait Digital Transformation Oil & Gas Conference is more than an event, it is a demonstration of our leadership in adopting cutting-edge technologies and fostering collaboration that will define the



future of Kuwait's oil and gas industry."

Mohammad Al-Abdeljalil, Deputy (Planning & Innovation), Kuwait Oil Company (KOC). Huawei shared its perspective on the importance of digital transformation within Kuwait's energy sector, underscoring continued collaboration with stakeholders to support Kuwait's evolving digital agenda: "As a global ICT leader, Huawei is committed to enabling oil and gas enterprises with secure, intelligent, and future-ready infrastructure. We look forward to contributing our expertise in AI, cloud, and 5G at this strategic conference, helping accelerate Kuwait's digital energy vision."

The Ministry of Oil in Kuwait, leads national energy policy in alignment with Vision 2035. Through strategic platforms such as the Digital Transformation Kuwait Oil & Gas Conference and the Asset Integrity and Process Safety Kuwait Conference, the Ministry facilitates cross-sector dialogue, innovation, and regional collaboration to shape a secure, sustainable, and future-ready energy landscape. Learn more at: www.kuwaitoilandgasdigitaltransformation.com, www.aipsmkuwait.com



EGPC AND IEOC CELEBRATE THE SUCCESSFUL START-UP OF NEW WELLS

On 20 May 2025, the Egyptian General Petroleum Corporation (EGPC) and IEOC celebrated a milestone production level exceeding 110,000 (bpd) through their joint ventures, Petrobel and Agiba, driven by recent successes in new well startups, rig workovers, and off-rig interventions.



Production from the Sinai Concession has exceeded its highest output since 2023 to reach 60,000 (bpd). This milestone is largely attributed to the successful start-up of the West Feran-2 well, which holds a production potential of approximately 4,000 bpd, alongside the positive impact of recent onshore and offshore maintenance campaigns. These achievements reflect the strong commitment and operational efficiency of Petrobel and its partners, IEOC and EGPC.

Agiba concession areas in the Western Desert have also experienced a significant increase in production in recent weeks, exceeding 30,000 barrels of oil per day. This growth has been driven by the operation of new wells such as Mel-123 and SMel-C4, along with successful maintenance activities and non-drilling interventions on the MWD-8 and Zahra-7 wells. These efforts have resulted in a total increase of approximately 4,000 barrels of oil per day, with associated gas production surpassing 5 million cfd.





ARAMCO ANNOUNCES COMPLETION OF \$5 BILLION BOND ISSUANCE



DHAHRAN-June 02, 2025-Aramco, one of the world's leading integrated energy and chemicals companies, announced that it has successfully completed a \$5 billion issuance of bonds across three tranches under its Global Medium Term Note Program.

The tranches include:

- \$1.5 billion senior notes maturing in 2030 with a coupon rate of 4.750%;
- \$1.25 billion senior notes maturing in 2035 with a coupon rate of 5.375%; and
- \$2.25 billion senior notes maturing in 2055 with a coupon rate of 6.375%.

The transaction was priced on May 27, 2025, and the notes were listed on the London Stock Exchange.

Ziad T. Al-Murshed, Aramco's Executive Vice President of Finance & CFO, said: "The strong demand for our new bond offering, as reflected in the diversified orderbook, is a testament to global investors' confidence in Aramco's financial resilience and robust balance sheet. Pricing the offering with no new issuance premium across all tranches clearly reflects Aramco's unique long-term credit proposition. We remain committed to our disciplined approach towards capital management as we continue to execute our growth strategy."

BOND OFFERING RECEIVED STRONG INTEREST FROM A WIDE ARRAY OF HIGH-QUALITY INSTITUTIONAL INVESTORS

THE PRICING ACHIEVED
ACROSS ALL THREE
TRANCHES UNDERSCORES
ARAMCO'S EXCEPTIONAL
CREDIT STRENGTH









ARAMCO TECHNOLOGY IS POTENTIALLY A FLEXIBLE AND COST-EFFECTIVE ENERGY SOLUTION FOR A VARIETY OF INDUSTRIAL APPLICATIONS

DEPLOYMENT PAVES WAY FOR FURTHER INTEGRATION OF RENEWABLE POWER TO SUPPORT EMISSIONS-REDUCTION AMBITION

Located in Wa'ad Al-Shamal, in western Saudi Arabia, the 1-MW/hour flow battery system is based on Aramco's patented technology and was developed in collaboration with Rongke Power (RKP), a global leader in flow batteries. It can support up to five wells over its projected 25-year lifespan, offers a robust alternative to existing solar energy solutions, and can handle variable power demands efficiently and cost-effectively. It is specifically engineered to withstand the hot climate of Saudi Arabia and achieve optimal performance under extreme weather conditions, setting it apart from other vanadium flow batteries on the market.

Ali A. Al-Meshari, Aramco Senior Vice President of Technology Oversight & Coordination, said: "The pioneering flow battery system spearheaded by Aramco's researchers represents a breakthrough for the oil and gas industry. Aramco already powers a large number of remote gas wells with solar panels connected to lead-acid battery systems, but our ground-breaking flow battery technology offers a flexible solution for diverse renewable energy storage requirements, making it an attractive option for a variety of industrial applications. This is just one example of how Aramco is developing and deploying advanced technologies with the aim of enhancing energy efficiency and reducing emissions across its operations."

Flow batteries store energy in liquid electrolytes separately from battery cells, and electrolytes pumped into the cell convert chemical energy into electricity. In addition to providing energy independence, flow batteries can be repeatedly discharged and recharged with minimal capacity loss. They also reduce fire risks compared to other types of batteries, while their modular design makes them easier and less costly to maintain.

The new (Fe/V) flow battery commissioned by Aramco aligns with the company's focus on renewables investment and energy efficiency, as part of its ambition to achieve netzero Scope 1 and Scope 2 greenhouse gas emissions across its wholly-owned operated assets by 2050. It offers enhanced electrolyte utilization and reduced vanadium consumption compared to others available, and has a broad operating temperature range of -8°C to 60°C without the need for thermal management systems. It paves the way for further integration of the technology at isolated and unmanned oil and gas sites, providing an efficient power solution that can adapt to fluctuating demands without incurring additional expenses.



ADNOC SIGNS AED6 BILLION FRAMEWORK AGREEMENTS TO MANUFACTURE CRITICAL INDUSTRIAL EQUIPMENT IN THE UAE



ADNOC announced that it has signed framework agreements valued at AED6 billion (\$1.64 billion) with 12 UAE-based companies for manufacturing of critical industrial equipment in the UAE, supporting the 'Make it in the Emirates' initiative.

The long-term agreements are for the manufacturing of cables and pressure vessels. They will potentially create up to 1,300 skilled private-sector jobs, ensure availability of these equipment across ADNOC's value chain, reduce delivery times and mitigate global supply chain risks.

The framework agreements will accelerate investment across industrial zones in Abu Dhabi, Dubai and the Northern Emirates, deepening the impact of ADNOC's In-Country Value

(ICV) program in boosting UAE manufacturing capacity, building a more resilient industrial base and enhancing business continuity. The signing of the agreements was witnessed by His Excellency Dr. Sultan Ahmed Al Jaber, UAE Minister of Industry and Advanced Technology and ADNOC Managing Director and Group CEO at the 'Make it in the Emirates' forum currently taking place in Abu Dhabi.

Yaser Saeed Almazrouei, ADNOC Executive Director, People, Commercial and Corporate

PRIVATE SECTOR ENCOURAGED TO CAPITALIZE ON ADNOC'S HUGE PIPELINE OF LOCAL MANUFACTURING OPPORTUNITIES THROUGH MAKE IT WITH ADNOC APP





LONG-TERM
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THE IMPACT OF ADNOC'S
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BUSINESS CONTINUITY

Support, said: "These frameworks agreements to manufacture pressure vessels and cables in the UAE highlight ADNOC's success in strengthening the resilience of our supply chain, expanding the UAE's manufacturing base and creating jobs in the private sector through our In-Country Value program. We are providing greater visibility into the products we intend to purchase locally and we encourage businesses to capitalize on ADNOC's huge pipeline of local manufacturing opportunities through the Make it with ADNOC app to enhance business continuity and create long-term sustainable value.

The companies within the framework agreements are located across key industrial

zones, including Industrial City of Abu Dhabi (ICAD), Khalifa Economic Zones Abu Dhabi (KEZAD), Dubai Industrial Park, Jebel Ali Free Zone (JAFZA), and industrial areas in Sharjah and Umm Al Quwain. This highlights ADNOC's commitment to enabling balanced industrial growth across the UAE and ensuring that the benefits of localization are shared nationwide.

The manufacturers include nine companies for 10 types of pressure vessels, and three companies for four types of cables. The pressure vessel manufacturers are: ADOS Engineering Industries, Arabian Industries LLC, Berg Industries LLC, Euro Mechanical & Electrical Contracting Company LLC, METALFAB Middle East FZ L.L.C, Micoda Process Systems International Company, NASH Engineering FZCO, Polar Specialized Industries (PSI), and United Metal Works Est. Factory Abu Dhabi. The cable manufacturers are: Dubai Cable Co. (PVT) Ltd, Mark Cables and National Cable Industry.

ADNOC plans to purchase AED90 billion (\$24.5 billion) worth of locally manufactured products in its procurement pipeline by 2030. The company's ICV program has driven AED242 billion (\$65.9 billion) back into the UAE economy and enabled 17,000 Emiratis to be employed in the private sector since 2018. As part of ADNOC's ICV program, the company aims to drive AED200 billion (\$54.5 billion) into the UAE economy over the next five years.



THE ARAB ENERGY FUND AND STONEPEAK

ENTER \$1 BILLION STRATEGIC PARTNERSHIP TO ADVANCE ENERGY INFRASTRUCTURE ACROSS THE MIDDLE EAST



RIYADH, Saudi Arabia & NEW YORK – May 19, 2025 – The Arab Energy Fund (formerly APICORP), an OAPEC joint venture and a leading multilateral impact financial institution focused on the MENA energy sector, and Stonepeak, the world's largest independent infrastructure firm and leading US infrastructure investor, announced that they have entered into a strategic partnership to invest in energy infrastructure across the Middle East.

The partnership will primarily focus on businesses in the energy sector, supporting efforts to build critical infrastructure in the region.

"This strategic alliance marks a defining step in our mission to mobilize global capital into the region's evolving energy landscape," said Khalid Ali Al-Ruwaigh, Chief Executive Officer of The Arab Energy Fund. "With Stonepeak as a partner, we aim to accelerate the development of resilient, future-ready energy platforms that contribute to economic growth and energy security across the Middle East."

"This partnership reinforces our long-term strategy to back high-quality energy assets

in collaboration with experienced global investors," said Maheur Mourali, Chief Investment Officer of The Arab Energy Fund. "Stonepeak brings world-class expertise and alignment with our vision to deliver both impact and value through disciplined investment in essential infrastructure."

"The Middle East has made energy diversification a key priority, with Saudi Arabia and other nations throughout the region setting ambitious targets," said Mike Dorrell, CEO, Chairman, and Co-Founder of Stonepeak. "We are thrilled to be partnering with The Arab Energy Fund to build and create businesses in the region focused on this mission-critical sector."

"This partnership will support the continued growth and evolution of the region's energy sector," added Hajir Naghdy, Senior Managing Director and Head of Asia and the Middle East at Stonepeak. "With our local presence in the region and deep expertise in the global energy sector, Stonepeak is well-positioned to contribute meaningfully to this exciting partnership."



OAPEC AWARD

OAPEC SCIENTIFIC RESEARCH FOR THE YEAR

2024

In line with OAPEC'S policy to encourage scientific research by awarding two prizes on a biennial basis (**First Prize** KD 7000 equivalent to USD \$23000, **Second Prize** KD 5000 equivalent to USD \$16000), upon the resolution number 1/169 of OAPEC Executive Bureau at its meeting dated **5 May 2024**. **The Organization of Arab Petroleum Exporting Countries** (**OAPEC**) is pleased to announce that **the research field** selected for the "OAPEC Award for Scientific Research for the Year 2024" is:

NEW AND RENEWABLE ENERGY

Research Field:

New and Renewable energy plays a pivotal role in confronting global challenges such as combating climate change, achieving energy security, and promoting sustainable development, It contributes to reducing greenhouse gas emissions and mitigating the effects of global warming. It can be relied upon as a clean fuel to meet the growing demand for energy. It also contributes to stimulating economic growth, creating diversification opportunities, and encouraging technological innovation.

Enormous resources of renewable energy sources available in the Arab countries on the one hand, and successful experiences of many countries around the world in exploiting such resources on the other hand, underline the possibility of bringing about a tangible change in how to optimally use these resources in the Arab countries.

Based on these inputs, the submitted research papers can address many main topics, including, but not limited to:

- Modern technologies for producing renewable energy, including renewable energy storage technologies and smart grid technologies.
- 2. National and international policies that promote the deployment of renewable energy, including goals, incentives, legislations, laws and regulatory frameworks.
- Economic considerations, including cost trends in renewable energy technologies, and mechanisms for funding renewable energy projects (such as subsidies, tax incentives, and green bonds).
- 4. Existing infrastructure and renewable energy projects that are planned to be executed at the Arab and international levels.
- 5. Challenges facing the deployment and use of renewable energy, such as supply chain issues facing some technologies and irregular supplies.
- 6. The future outlook for renewable energy sources, and their integration into non-electricity sectors (such as transportation, cooling, and heating).





- Research may be submitted by one or not more than two researchers. Research submitted by legal entities will not be accepted.
- 2. The submitted research must be new. It must not have been published or received any award from any Arab or foreign body in the past.
- 3. The research must provide recommendations that are applicable and contribute to providing benefit to the energy industry in the Member Countries.
- 4. Research that relies on innovative laboratory work is given preferential marks in the evaluation.
- 5. The author of the research agrees in advance to grant the organization the copyright of his work in the event that he wins one of the two aforementioned awards, while retaining all his rights to the research. The Secretariat General has the right to print and publish the winning research according to what it deems appropriate.
- 6. The researcher adheres to the principles of citation in accordance with the standards of scientific and academic research.
- 7. An electronic version of the research- in both PDF and WORD format- should be submitted to the award's email address: oapecaward@oapecorg.org
- 8. The research can be submitted in either Arabic or English.
- The participating researcher shall submit a summary of his academic and professional qualifications, in a separate file.
- Participating research works must be submitted no later than the end of May 2025. After that
 date, no research will be accepted for the purpose of the award.
- 11. Researchers of all nationalities are welcome to participate in the award.
- 12. The award will not be granted to the same researcher twice in a row.
- The research work must not contain any references or phrases indicating the researcher's name, workplace, or domicile.
- 14. Any research work that does not meet the requirements mentioned in the OAPEC Award Participants Guide attached to the announcement will be ignored.

Researchers will be notified by OAPEC Secretariat of the Award Committee's decision. The winners will be officially announced at the end of the OAPEC's Ministerial Council meeting in 2025.

For further information you may contact the OAPEC General Secretariat at:

Organization of Arab Petroleum Exporting Countries (OAPEC)
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Tel.: (+965) 24959784 - (+965) 24959763

E-mail:oapecaward@oapecorg.org



Organization of Arab Petroleum Exporting Countries (OAPEC)
OAPEC AWARD FOR SCIENTIFIC RESEARCH FOR THE YEAR 2024

In the Field of

NEW AND RENEWABLE ENERGY

Statement of relinquishment of printing and publication rights for the research

| I, the undersigned: | |
|--|-------------------|
| Hereby undertake to relinquish all printing and publication rights of the reby me entitled: | esearch submitted |
| to the Organization of Arab Petroleum Exporting Countries (OAPEC), in the event of winning one of the two prizes of OAPEC Award for Scientific Research for the year 2024. | |
| Name: | |
| Signature: | |
| | Date: / / |

Petroleum Developments in The World Markets



Petroleum Developments in the World Markets

First: World Oil Markets

1. Oil Prices

OPEC Reference Basket increased in June 2025 by 9.6% or \$6.1/bbl compared to the previous month of May, to reach \$69.7/bbl. This is mainly attributed to concerns over short-term supply availability amid escalating geopolitical tensions in the Middle East and Eastern Europe, Renewed buying interest - particularly for prompt-loading cargoes - as refiners sought to secure volumes ahead of the anticipated seasonal increase in demand for transportation fuels during the summer driving season, in addition to substantial drawdown in US crude stocks.

Weekly Average Spot Prices of OPEC Basket of Crudes, May. 2024 – June. 2025



Source: OPEC, Monthly Oil Market Reports (July 2024 – July 2025), and the website.

2. Supply and Demand

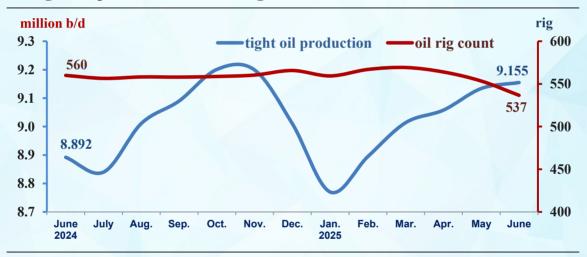
Estimates indicate that world oil demand decreased in Q2 2025 by 0.03% compared with the previous quarter, to reach 104.3 million b/d. As demand in Non-OECD countries decreased by 0.8% to reach about 58.7 million b/d, whereas demand in OECD countries increased by 1% to reach 45.6 million b/d.

Projections indicate that world oil demand is expected to increase in Q3 2025 to reach 105.5 million b/d. As demand in OECD countries is expected to increase by 720 thousand b/d to reach 46.3 million b/d, and demand in Non-OECD countries is expected to increase by 510 thousand b/d to reach 59.2 million b/d.



- Estimates indicate that **world** crude oil and NGLs/non-conventional supply in June 2025 increased by 0.6% to reach 104.7 mb/d. OPEC supply increased by 0.7% to reach about 33.1 million b/d, and Non-OPEC supplies increased by 0.6% to reach 71.6 mb/d.
 - **OPEC+**'s crude oil supply in June 2025 increased by 432 thousand b/d, or 1.2% compared with previous month level to reach about 36.1 million b/d. Supplies of OPEC-9¹, which are members in OPEC+, increased by 1.4% to reach about 21.8 mb/d. And supplies of Non-OPEC, which are members of OPEC+, increased by 0.9% to reach about 14.3 million b/d,
- ➤ US tight oil production in June 2025 increased by 21 thousand b/d compared to previous month's level to reach about 9.155 million b/d. On other developments, US oil rig count decreased by 16 rigs to reach 537 rigs.

US tight oil production and oil rig count



Source: EIA, Short-Term Energy Outlook, July 2025.

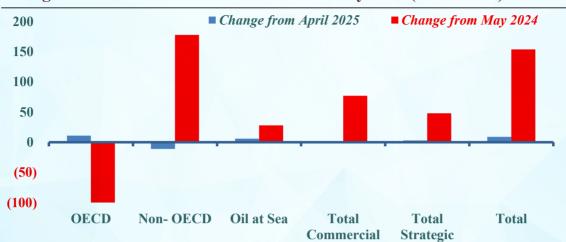
3. Oil Inventories

DECD commercial inventories at the end of May 2025 increased by 11 million barrels from the previous month level to reach 2748 million barrels. Non-OECD commercial inventories decreased by 11 million barrels from the previous month level to reach 3527 million barrels. And strategic inventories increased by 3 million barrels to reach about 1567 million barrels.

¹ It does not include Libya, Iran, and Venezuela, whose supplies of crude oil amounted to about 1.3 million b/d, 3.2 million b/d, and 910 thousand b/d, respectively, during June 2025.



Change in Global Inventories at the End of May 2025 (million bbl)



Source: Oil Market intelligence, Aug. 2024 & June 2025.

4. Oil Trade

US Oil Imports and Exports

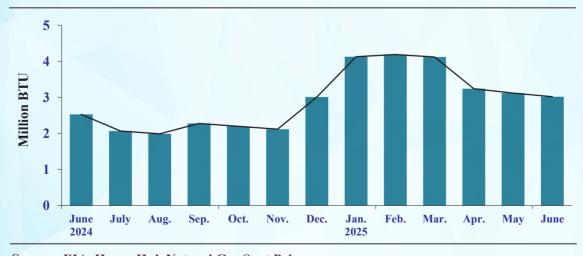
- ➤ US crude oil imports in June 2025 decreased by 0.3% from the previous month level to reach about 6.1 million b/d, and US crude oil exports decreased by 5.7% to reach about 3.6 million b/d.
- ➤ US petroleum products imports in June 2025 decreased by 4.3% from previous month level to reach about 1.7 million b/d, whereas US petroleum products exports increased by 1.9% to reach 6.9 million b/d.

Second: Natural Gas Market

1. Prices

The average spot price of natural gas at the Henry Hub decreased in June 2025 to reach \$3.02/million BTU.

Average spot price of natural gas at the Henry Hub, June 2024 – June 2025

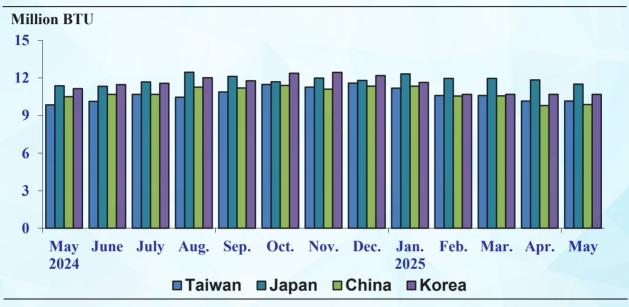


Source: EIA, Henry Hub Natural Gas Spot Price.



➤ The price of Japanese LNG imports in May 2025 decreased by \$0.33/m BTU to reach \$11.51/m BTU, whereas the price of Chinese LNG imports increased by \$0.09/m BTU to reach about \$9.88/m BTU. and the prices of Korean and Taiwan LNG imports remained stable at the same previous month level of \$10.69 and 10.16 /m BTU, respectively.

The price of Northeast Asia LNG imports, May 2024 – May 2025



Source: Energy Intelligence - WGI, Various issues.

2. Exports

Arab LNG exports to Japan, South Korea and Taiwan were about 3.630 million tons in May 2025 (a share of 24.5% of total imports).

