



# FLYING THE ROLE OF SUSTAINABLE AVIATION FUEL IN EMISSION REDUCTION



# Editor's Letter

#### **Sustainability Amid Uncertainty**

The global energy scene is currently experiencing a period of uncertainty due to increasing global economic headwinds. Recently implemented American tariffs are anticipated to decelerate economic growth, consequently impacting energy demand. Although natural gas and oil were excluded from the tariffs, a downturn in other industries is still expected to affect overall energy consumption. Furthermore, OPEC+'s decision to increase oil production starting in May has already manifested in spot oil price fluctuations.

The April issue delves into energy transition and the future of sustainability. We encourage you to read the politics article, which highlights the repercussions of American tariffs on the energy market. This issue also features an indepth research report on Egypt's potential to become a hub for green fuel production. The analysis encompasses the expansion of green fuel initiatives and discusses crucial agreements and forthcoming projects that solidify Egypt's position as a regional leader in sustainable energy. The economics article examines the role of financial institutions in funding the energy transition, while the industry insight section explores the adaptation challenges confronting the oil and gas sector.

We trust that you will find this issue both informative and engaging.

Dr. Mahinaz El Baz Content Director





Flying Green:

The Role of Sustainable Aviation Fuel in **Emission Reduction** 





Egypt's Push for Green Fuels A New Hub for Sustainable Energy



SDG Deadline Looms: Oil and Gas Industry's Sustainability Challenge



Banking on a Greener Future: The Financial Power Behind the Energy Transition



**Beyond Traditional Methods: Exploring Microbial Enhanced Oil Recovery** 

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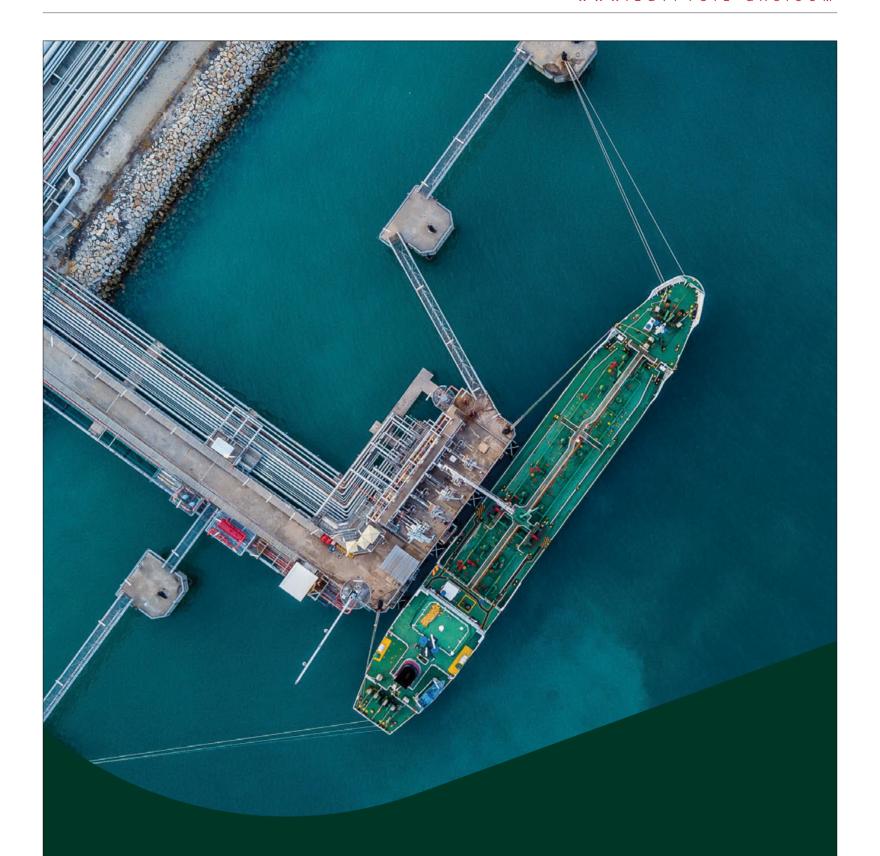
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# Egypt Offers 13 Investment Opportunities to Boost Oil, Gas Production

The Ministry of Petroleum and Mineral Resources (MoPMR) has launched a new round of investment opportunities, offering seven undeveloped fields in the Mediterranean Sea and six exploration areas in the Gulf of Suez and the Western Desert.

This initiative is part of the ministry's ongoing strategy to boost crude oil and gas production, leveraging the Egypt Upstream Gateway (EUG) platform. Bidding will remain open for two months, closing on May 4, 2025.

This move follows the ministry's recent success in closing the bidding process for 13 exploration areas and mature fields, which attracted over \$700 million in investments. These investments are expected to increase significantly if commercial discoveries are made.

# <u>Fayoum 5 Exploration Well Findings Indicate Potential Natural Gas</u> <u>Discovery by bp in Mediterranean</u>

The initial results of the Fayoum 5 exploration well located in North Alexandria, which is in the west of the Mediterranean, showed the presence of a gas-bearing layer, and electrical recordings are being made in the coming days.

The well was drilled by using the Valaris DS-12 drilling rig, which is the second discovery by bp in the western region after the King 2 well and the third in this region after the ExxonMobil well.

The company will work to link them to production as soon as possible as one connection with the promising King area, especially since the area is close to the western production facilities.

It is expected that the productivity of these wells will save about \$1 billion from the import bill every year after putting them into production.

# **Egypt Boosts Energy Sector with 61 New Investment Opportunities**

The Ministry of Petroleum and Mineral Resources (MoPMR) is accelerating efforts to attract global investments and increase oil and gas production. In August 2024, 61 investment opportunities were launched via the Egypt Upstream Gateway (EUG), reinforcing Egypt's position as a regional energy hub.

Bidding closed for 13 exploration & production blocks, with investments set to double if new discoveries are made. Investments are expected to exceed \$700 million.

The MoPMR announced that four offshore blocks received bids in the Egyptian Natural Gas Holding Company (EGAS) global round, increasing total Mediterranean exploration areas by 23%.

The ministry revealed that Cheiron enters Mediterranean exploration for the first time.

Several companies will be investing in different regions. In the Mediterranean Eni will invest in two blocks; Chevron in 1 block; and Cheiron Petroleum Corporation in 1 block. Meanwhile, in the Egyptian General Petroleum Corporation's (EGPC) and the General Petroleum Company's (GPC) brownfields Nile Energy LTD will invest in 2 blocks; Ezz Dekheila in 1 block; and Fleet Oil & Gas in 1 block.

As for Onshore Exploration Blocks for EGPC & South Valley Egyptian Petroleum Holding Company (Ganope), bp & Eni will invest in 2 blocks; Shell in 1 block; Harbour Energy in 1 block; and KUFPEC in 1 block.

# Egypt Signs Historic Deal for Liquid, Gas Bulk Facility at Dekheila Port

Minister of Petroleum and Mineral Resources Karim Badawi and Deputy Prime Minister for Industrial Development and Minister of Industry and Transport Kamel El-Wazir witnessed the initial signing of a contract to build, develop, use, manage, operate, exploit, maintain, and redeliver the superstructure of a marine and land liquid and gas bulk handling facility at Dekheila Port between the Alexandria Port Authority and Alexandria Supply Chain Company.

Commenting on the contract, El-Wazir confirmed that the project is considered one of the most important initiatives to achieve the vision of the Egyptian state to transform Egypt into a regional hub for trade and energy.

El-Wazir added that the project aims to localize the petrochemical industry in Egypt by sustainably securing the raw material needs of petrochemical companies in Alexandria to operate at full capacity and create new investment opportunities in the oil, gas, and petrochemical sectors.

El-Wazir stated that the investment cost for all phases of the project amounts to \$660 million with 100% national capital and a partnership between companies including ECHEM, SIDPEC, ETHYDCO, and GASCO affiliated with the Ministry of Petroleum and Mineral Resources. The companies further include the Holding Company for Maritime and Land Transport, affiliated with the Ministry of Transport, and a private sector company.

# <u>Energean Pulls Plug on Strategic Sale of Egypt, Italy, Croatia Portfolio After Approval Delays</u>

Energean provided an update on the proposed sale of its portfolio in Egypt, Italy and Croatia to an entity controlled by Carlyle International Energy Partners.

As noted in the company's announcements of 29 August 2024 and 17 March 2025, completion of the transaction is conditional upon customary regulatory approvals in Italy and Egypt together with antitrust approvals in Italy, Egypt and Common Market for Eastern and Southern Africa. The transaction is subject to such conditions being satisfied by a longstop date of 20 March 2025, or such other date as may be agreed by Engreen and Carlyle

As of the longstop date, certain regulatory approvals in Italy and Egypt were not obtained by Carlyle (or waived), in accordance with the terms of the binding sale and purchase agreement (SPA) signed on 19 June 2024. Additionally, the company has not been able to reach agreement with Carlyle to extend the longstop date beyond 20 March 2025.

Accordingly, the company has terminated the SPA and will no longer proceed with the transaction.

# A BLAST FROM THE PAST

In April 2007, Enap Sipetrol made a notable oil discovery at the Ghard-ST1 well in the East Ras Qattara block, located in the Alamein Basin in the Western Desert. The well, drilled to a depth of 3,436 meters, proved the presence of light oil in the lower Bahariya formation, with an initial production rate of 3,036 barrels per day (bbl/d) in addition to 2.6 million cubic feet per day (mcf/d) of gas.

The East Ras Qattara block contains nine producing fields: Shahd, Ghard, Rana, Shahd SE, Al Zahra, Diaa, Rana SE, Shebl, and Shebl East. The Upper, lower Bahariya, and Kharita formations are the main productive zones.

Since 2004, the East Ras Qattara block has been explored by a consortium formed by Enap Sipetrol (the operator) with a 50.5% participation, and the Australian company Oil Search Limited with a 49.5% participation.

Despite its history of 15 dry wells drilled by other companies, geological studies and a 3D seismic survey covering 1,500 km<sup>2</sup> were conducted to better understand the block's potential.

Sipetrol achieved early production from the Shahd, Ghard, and Rana fields in 2007. Permanent facilities constructed in the Shahd and Ghard fields in 2008 increased production to an average of 2,925 bbl/d.

By December 2014, production peaked at 27,000 bbl/d, with additional discoveries in the block, such as the Shahd SE, Al Zahra, and Diaa fields, contributing to this growth. In 2015, the focus shifted to optimizing reservoir management and exploring new potential reservoirs, including the Jurassic Wadi El Natrun sands.



Iris Field Daily Production

**8,500**BOE/D

# Accelerating the Development of Iris Discovery to Increase Production

Agiba Petroleum, in collaboration with Eni and the Egyptian General Petroleum Corporation (EGPC), has successfully expedited the development of the Iris field in the Western Desert, enabling the field's immediate integration into the company's pipeline network. This was achieved following a 3D seismic survey conducted in the Masajid Formation.

The field is currently under development through three production wells, such as the Iris 1X exploration well, which produced 2,600 barrels per day (bbl/d) of oil and 4.5 million standard cubic feet per day (mmscf/d), and the Iris 2 development well, which produced 1,500 bbl/d of oil and 1.6 mmscf/d, both of which added 3 million barrels of oil equivalent (mmboe) to the company's reserves, ensuring a stable output of equivalent oil.

Agiba Plans for an infill drilling campaign are in place, with additional wells scheduled for drilling in the coming weeks, as part of the Ministry of Petroleum's strategy to intensify exploration and production activities, according to MoPMR.



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# GUPCO Aims to Produce Up to 70,000 bbl/d in FY 2025/26

Abdul Wahab El-Maghawry, the Chairman and Managing Director of the Gulf of Suez Petroleum Company (GUPCO) announced that the company targets to increase the production rate up to 70,000 barrels per day (bbl/d) within the frame of the investment budget worth \$585 million during the fiscal year 2025/26.



El-Maghawry also explained that the plan includes drilling three new exploratory wells to add an initial production of 8,000 bbl/d, in addition to drilling three development wells with a production rate of 3,360 bbl/d.

He added that North Safa project is one of the major projects that the company is accelerating its implementation, as it works to complete the second phase of the production platform for the North Safa field, which will add 2,500 bbl/d to production.

The Chairman stressed that the company continues its efforts to accelerate production increase projects through drilling development and exploratory wells, while adhering to the highest standards of occupational safety and health, preserving the environment, and the safety of assets and the human element.

# Agiba Petroleum Plans to Produce 24,000 bbl/d During FY 2025/26

Agiba Petroleum Company Chairman Tharwat El Gendy stated that the proposed budget of his company for the fiscal year (FY) 2025/26 amounted to \$641.3 million with a plan to produce 24,000 barrels of oil per day (bbl/d) and 64 million standard cubic feet per day (mmscf/d) of natural gas.

He added that Agiba Petroleum Company's production amounted to 40,000 barrels of oil equivalent per day (boe/d), achieving 82% of the plan, through drilling 12 development wells and 59 well maintenance operations.

El Gendy noted that the company achieved zero flare gas at its oil and gas facilities, for the first time in its history.

A new water treatment plant was also added as part of the associated water treatment and reinjection strategy in Agiba, enabling the company to treat and reinject 100% of the produced water according to international standards.

In addition, Agiba successfully drilled the first deep horizontal well in the Masajid layer (North Roza-13). Agiba also achieved another achievement in the Masajid layer in which it re-completed the exploratory well (Iris 1X) from the Masajid layer, followed by the implementation of a rapid development plan that began with drilling the development well (Iris 2).

He pointed out that Agiba is planned to drill two exploratory wells in the amended budget for 2024/25 and it is planned to drill three wells in the planned budget for FY 2025/26.

# Petrobel Resumes Drilling at Zohr Field, Petroshrouk Targets Producing 144,000 boe/d

Belayim Petroleum Company (Petrobel) Chairman Khaled Mowafy affirmed the resumption of drilling at the Zohr field after the arrival of the Saipem 10000 drilling rig in Egyptian waters to carry out drilling operations and single-track 3 wells starting with well Zohr 13, then Zohr 6, followed by Zohr 9 using the modern coiled tubing technology for the first time in the world in deep water.

During the general assembly meeting of the company attended by the Minister of Petroleum and Mineral Resources Karim Badawi, he added that the company succeeded in achieving 5.5 million safe working hours.

Regarding Petroshrouk, Mowafy explained that \$320 million has been allocated for operations, including \$122 million to continue maintenance work on wells to maintain production rates, in addition to allocating part of the operating budget to carry out the necessary maintenance work on production platforms in all areas of the company.

For the production plan, the company aims to reach daily production rates to 144,000 barrels of oil equivalent (boe) and 434 million cubic feet (mmcf) of gas during the fiscal year (FY) 2025/26. This is considered a major challenge that requires concerted efforts and focus on increasing the company's activities.

Additionally, the plan for crude oil is to achieve a production rate of 58 barrels of oil, 4730 barrels per day of condensates and 130 tons per day of butane. The company also seeks to keep the unit cost at the lowest possible levels.

# EGAS to Add 1.5M New Households to Natural Gas Grid within the Next Two Years

In a significant move to fortify the nation's energy security, the Egyptian oil and gas sector is currently bolstering efforts to expand the country's growing natural gas grid.

This initiative aims to supply residential areas, power stations, industrial zones, and commercial projects across all governorates.



The national gas grid spans approximately 104,000 kilometers, utilizing cutting-edge SCADA technology through the National Gas Control Center. For the fiscal year 2025/26, EGAS plans to implement six new natural gas pipeline projects to further strengthen the grid's capabilities.

By the end of FY 2024/25, EGAS targets connecting 700,000 households to the natural gas network, bringing the total to about 15.6 million households. For FY 2025/26, the goal is to connect an additional 800,000 units.

During the first half of FY 2024/25, 66 industrial customers were connected, with another 34 in progress. This will bring the total to 100 factories for the year, and 3,768 industrial customers cumulatively since the start of operations.

As part of the Haya Karima ("Decent Life") initiative, EGAS has completed network implementation in 617 villages and supplied gas to 570 villages. Plans are underway to connect 120 more villages with 100 already completed.

# Egypt Aims to Convert 165,000 Additional Vehicles to Run on CNG for FY 2025/26

Egypt's ambitious project to convert vehicles to operate on compressed natural gas (CNG) has achieved a major milestone, thanks to strong presidential support.

In the first half of 2024/25, approximately 26,000 cars were converted to CNG, with an additional 64,000 conversions expected by the



end of the year. This will bring the total to 90,000 vehicles for the year and about 643,000 since the initiative began. For the fiscal year 2025/26, the goal is to convert another 165,000 vehicles.

Meanwhile, 17 new CNG fueling stations were established in the first half of 2024/25, with plans for 43 more, totaling 60 stations by year-end. An additional 30 stations are slated for 2025/26.

Five dual-fuel car conversion centers were set up, with plans for 15 more by June 2025, bringing the total to 20 centers for the year. This will increase the overall number of centers to 170 since the initiative started, with 30 more targeted for 2025/26.

# Egypt's Ganope Unveils Ambitious Plans for Oil Exploration, Production

Ganoub El Wadi Petroleum Holding Company (Ganope) Chairman Ashraf Bahaa announced a strategic partnership with the Egypt Upstream Gateway (EUG) digital platform to present 15 investment opportunities.

Currently, 11 agreements have been finalized, underscoring the company's commitment to attracting new investors and stimulating existing partnerships.

The company aims to drill five exploratory wells at an estimated cost of \$20 million, reflecting its dedication to expanding oil exploration activities.

Ganope targets producing approximately 14 million barrels of crude oil in the coming fiscal year, with an average daily output of about 39,100 barrels. This ambitious goal aligns with the Ministry of Petroleum and Mineral Resources' directives to enhance investment opportunities and boost production.

Additionally, Ganope continues to oversee the natural gas delivery project in Upper Egypt, aiming to connect 185,000 new domestic customers. This initiative brings the total number of customers served since 2009 to 2.3 million, highlighting the company's role in providing essential services to the region.

# ACHIEVEMENTS

# Egyptian Cabinet Approves Green Industrial Zone in Ras Shukheir, Gulf of Suez

The Egyptian Cabinet approved converting plots of land belonging to petroleum companies located in Ras Shukheir and the Gulf of Suez into a clean green industrial zone for the petrochemical industry and production of green hydrogen.

This comes to utilize the potential of this region in enhancing Egypt's position as a regional and global hub for green industries, supporting sustainable development goals in Egypt, and increasing its export and investment capacity.



In principle, approval was also given for the Ministry of Transport to proceed with the contracting procedures for the green hydrogen, its derivatives, and green ammonia production project in the vicinity of Ras Shukheir, within the Ras Shukheir green industrial logistics zone, between the Red Sea Ports Authority, the New and Renewable Energy Authority, and an alliance of several international companies.

# SUMED Boosts Paid-In Capital to \$600 Million, Showcasing Strategic Investment Vision

The Arab Petroleum Pipelines Company (SUMED) successfully increased its paid-in capital by \$400 million to reach \$600 million through conscious strategic management, meticulous planning, and an investment vision.

SUMED's Chairman and Managing Director, Mohamed Abdelhafez, indicated that the company was able to achieve a net profit of \$192 million during the year, with a return on paid-in capital of 32.1%.



Abdelhafez further mentioned achieving

8 million safe operating hours as a result of implementing all elements of the occupational health and safety system and the company's continuous dedication to providing a safe work environment free from causes of accidents and injuries.

# ETHYDCO Obtains First SKZ-certified PE80/EN1555 Polyethylene Pipes in Africa

The Egyptian Ethylene and Derivatives Company (ETHYDCO) has successfully obtained the PE80 and EN1555 certifications from German Plastics Center (SKZ) laboratories for its PE100-grade high-density polyethylene (HDPE) and medium-density polyethylene (MDPE) pipes, aligning with the Ministry of Petroleum and Mineral Resources' strategy to boost local products expansion and achieve sustainability in oil and gas industry under Egypt Vision 2030.



 $ETHYDCO's\ PE100\ pipe\ samples\ underwent\ 14\ months\ of\ intensive\ pressure\ testing\ at\ varying\ temperatures,\ complying\ with\ the\ ISO\ 9080\ and\ EN1555-1/EN1555-7\ international\ standards.$ 

With this certification, ETHYDCO emerges as one of Africa's first companies to produce SKZ-certified PE80/EN1555 plastic piping materials, boosting Egypt's competitiveness in both domestic and global markets while advancing national goals to reduce dependency on imported petroleum derivatives.

Accordingly, the product will be utilized in infrastructure and urban development projects within the major national projects implemented by the government, such as the establishment of new cities and urban communities; the Haya Karima (Decent Life Initiative) to develop Egyptian villages; the New Delta and the Toshka Projects.

# Rashpetco, Burullus Achieve Record Production, Safety Milestones

During the general assembly meeting, Rashpetco and Burullus Chairman, Mohamed Samir, clarified that the companies recorded over 21 million safe working hours without lost-time injuries during 2024.

Samir indicated that the companies succeeded in placing the tenth phase wells of the WDDM development project on the production map, with a total of three wells achieving a daily production rate of 160 million cubic feet of gas (mscf) and 2,000 barrels of condensates.

Additionally, he explained that they aim to drill three more wells and place them on the production map with a daily rate of 150 mscf of gas and 1,500 barrels of condensates.

#### **AGREEMENTS**



# EGPC Enhances HSE, Sustainability with DNV Partnership

The Egyptian General Petroleum Corporation (EGPC) has signed a memorandum of understanding (MoU) with DNV.

The MoU aims to develop an integrated governance framework that incorporates a unified management system, aligning with international standards and best practices for HSE and sustainability.

It aligns with the vision and action plan of the Ministry of Petroleum and Mineral Resources (MoPMR), which prioritizes environmental preservation, employee safety, and compliance with local and international standards.

By adopting a system similar to those used by global companies, EGPC aims to leverage lessons learned from past incidents to prevent future occurrences. This collaborative effort underscores EGPC's dedication to continuous improvement and ensuring the safety of its facilities, equipment, and supplies.

# Khalda Petroleum, Weatherford Ink Digital Transformation MoU

Khalda Petroleum Company and Weatherford Services signed a landmark Memorandum of Understanding (MoU) at EGYPES 2025.

This strategic partnership aims to propel the Digital Oil Field (DOF) project forward, focusing on the comprehensive digitization of the SCADA system across all Khalda operations in the Western Desert.

Weatherford has successfully completed the first phase of the project, deploying its advanced CygNet SCADA system across 100 wells. This deployment has demonstrated the system's reliability and scalability, setting the stage for further expansion.

With the award of the second phase, the initiative will now include an additional 150 wells, significantly enhancing operational efficiency, real-time data integration, and intelligent field automation.

# SEKEM Partners with Ministry of Petroleum, Eni to Advance Organic Agriculture in Egypt

SEKEM, a leading Egyptian social enterprise dedicated to regenerative development, has signed a cooperation agreement with the Ministry of Petroleum and Mineral Resources, Matrouh Governorate, Egyptian General Petroleum Corporation (EGPC) and IEOC Production B.V., representing Eni, to implement the Towards Organic Agriculture project.

The initiative aims to enhance organic agricultural practices in Egypt, particularly in Matrouh, by supporting 700 farmers in their transition to organic farming.

The project will enhance farmers' skills through training and capacity building, and provides essential resources such as organic inputs, composting systems, and photovoltaic units for water pumping, according to SEKEM Press release on Monday.

Moreover, the project will facilitate access to markets and organic certification, assisting farmers in obtaining certifications and connecting with premium buyers. By promoting participation in the carbon credit system, the project also empowers farmers to generate additional income and enhance their livelihoods.





Founded in 1991 in Russia, LUKOIL contributes approximately 2% of global oil production and holds around 1% of the world's proven hydrocarbon reserves.

The company operates in 14 countries at the upstream level and 19 countries at the downstream level, with a presence in over 100 countries worldwide. LUKOIL delivers essential energy products, power, and heat.

#### **LUKOIL's Activities in Egypt**

Since 1995, LUKOIL has been actively involved in Egypt's energy sector, focusing on exploration, production, and infrastructure development in key regions such as the Gulf of Suez, Western Desert, and the Mediterranean Sea. Notable projects include:

- The West Esh El Mallaha (WEEM) project in West Esh El-Mallaha, which saw production begin in 1998 and increased output by over 12 times after LUKOIL joined in 2002. This project also includes critical infrastructure, such as a 9,000 m³ tank battery and a 100 km export pipeline connecting fields to Red Sea terminals.
- The WEEM Extension in the Northeast Desert (launched in 2009), where exploration efforts led to pilot operations in 2010 and secured a 20-year development license.
- The Meleiha project in the Eastern Desert (joined in 1995), resulting in significant discoveries like North Nada & Gavaher (2007), Arkadia (2010), and others

# **KEY PROJECTS IN EGYPT**

Project	Shares	
The West Esh El Mallaha	EGPC (50%)	
(WEEM)	LUKOIL (50%)	
=	LUKOIL (50% operator)	
WEEM Extension		
	Tharwa Petroleum (50%)	
	ENI (76% operator)	
Meleiha	LUKOIL (24%)	

Source: LUKOIL Website

# TAQA Arabia Announces Strong 2024 Results, Driven by Growth Across All Divisions

TAQA Arabia, Egypt's leading private sector energy group, announced exceptional financial results for the year 2024, demonstrating resilience and robust growth despite a complex operating environment. The company reported a 40.4% surge in revenues, reaching EGP 18.905 billion, while EBITDA increased by 34.6% to EGP 2,003.3 million, and net income rose by 26.7%.

The Petroleum division saw a 33.6% revenue increase, driven by higher fuel sales volumes and price adjustments. The Gas Division achieved a 30.7% revenue increase year-onyear, boosted by CNG network expansion, price hikes, and regional operations.



Revenue in the Power division jumped 47.7%, fueled by price hikes, new photovoltaic (PV) projects, and increased consumption.

Expansion into Tanzania, Mozambique, and Saudi Arabia contributed to strong growth in gas regional business revenues.

# Vaalco Energy Reports \$272.613M in Oil Sales in Egypt in 2024

In 2024, Vaalco Energy's oil sales from Egypt dropped by around 7.9% year-on-year (YoY), reaching \$250.946 million, compared to \$272.613 million in 2023. Net revenues decreased by about 9.37% recording \$145.966 million in 2024, compared to \$ 161.049 million in 2023.

In the three months ending December 31, 2024, oil sales from Egypt reached \$59.01 million, compared to \$63.431 million in the preceding quarter. The net revenues from Egypt, however, started to enhance as it grew by around 12.8% in Q4, reaching \$38.981 million, compared to 34.544 million in Q3 2024.

The fourth quarter 2024 drilling campaign started with Arta-92 and Arta-93, in December 2024. The Arta-92 well successfully increased production levels, achieving an initial 30-day average rate of 428 barrels of oil per day (bbl/d) and

the Arta-93 has recently come online with an initial 30-day average rate of 95 bbl/d

Vaalco

Vaalco Energy focused on enhancing production in 2024 through a series of planned workovers, as well as

through interventions using the OGS-10 rig. Two additional workover recompletions were completed in the fourth quarter of 2024. With the low cost of workovers, the well economics are strongly positive.

The company reported full year 2024 net income of \$58.5 million (\$0.56 per diluted share) and net cash from operating activities of \$113.7 million from its overall portfolio. Vaalco Energy generated record Adjusted EBITDAX of \$303.0 million in 2024.

# ADNOC Signs 15-Year LNG Supply Deal with Japan Osaka Gas for Ruwais LNG Project

ADNOC has signed a 15-year Sales and Purchase Agreement (SPA) with Japan's Osaka Gas for the delivery of up to 0.8 million tons per annum (mtpa) of Liquefied Natural Gas (LNG) from Ruwais LNG project in the UAE.

The SPA, the fourth signed for Ruwais LNG, converts a previous Heads of Agreement into a definitive agreement and marks the first long-term LNG sales agreement between ADNOC and Osaka Gas.

The LNG will be primarily sourced from the Ruwais LNG project, which is under development in Al Ruwais Industrial



City, Abu Dhabi, and is scheduled to start commercial operations in 2028.

To date, up to 8 mtpa of the Ruwais LNG project's 9.6 mtpa production capacity has been committed to international buyers across Asia and Europe through long-term arrangements.

# Sonatrach Signs \$850M New Hydrocarbon Contract with Sinopec

Sonatrach signed on February 25 with Sinopec International Energy Investment (HK) Holding Ltd, a hydrocarbon production sharing contract for the Hassi Berkane Nord (HBAN) field.

The contract, worth \$850 million, involves Sonatrach and Sinopec to carry out a minimum research and assessment work program to enhance and develop the hydrocarbons

in the Hassi Berkane Nord field located 80km Southwest from Hassi Messaoud.



The contract follows the Memorandum of Understanding (MoU) signed between the two companies on March 3, 2024 to strengthen hydrocarbon cooperation.

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# Aramco Reports 12% Profit Decline in 2024 Amid Lower Crude Prices

Aramco has reported a 12.4% decline in net income in its fiscal year results of 2024, reaching 398.4 billion riyals (\$106.25 billion), from 454.8 billion riyals (\$121 billion) recorded in 2023 due to lower realized crude oil prices and sales revenues.

Aramco's board of directors announced a dividend for the fourth quarter of 2024 worth 79.3 billion riyals (\$21.1 billion), which will be paid in the first quarter of this year, an increase of 4.2% year-on-year. The company expects total dividends of \$85.4 billion to be declared in 2025.





Aramco's board

announced base dividend of 79.3 billion riyals (\$21.1 billion) for the fourth quarter of 2024, to be paid in the first quarter of 2025. This is a 4.2% increase compared to the same period last year

# **Equinor Announces New Gas Discovery in Norwegian Sea**

Equinor announced a gas and condensate discovery in the Mistral Sør exploration well located in the Halten area in the Southern part of the Norwegian Sea, with preliminary estimates of 3-7 million standard cubic meters of recoverable oil equivalent (19-44 million barrels of recoverable oil equivalent.

Mistral Sør was drilled to a water depth of 256 meters by the Deepsea Atlantic, Odfjell Drilling rig in production license 1119. The objective of the well was



to prove petroleum in Middle Jurassic sandstone in the Garn Formation, with a secondary target in the Ile Formation, Equinor said. The discovery was made in the Åsgard and Kristin area in the Norwegian Sea. Besides, Mistral Sør is situated just a short distance north of Linnorm, the largest gas discovery on the Norwegian continental shelf (NCS) that has yet to be developed. Equinor took over the operatorship for Linnorm in 2023. A discovery was also made in 2024 in the Lavrans

field. Lavrans is currently being developed with a tie-back to the Kristin Sør field.

# TotalEnergies Signs with German RWE 15-Year Green hydrogen Supply Deal to Decarbonize Leuna Refinery

TotalEnergies has signed an agreement with the German developer RWE to supply 30,000 tons a year (tpy) of green hydrogen to the German Leuna refinery for 15 years, marked as the largest quantity of green hydrogen ever contracted from an electrolyzer in Germany.

TotalEnergies said that green hydrogen will be produced by a 300 MW electrolyzer, built and operated by RWE in Lingen, and its storage will be provided locally.

Then, it will be transported through a 600 km pipeline straight to the refinery, ultimately preventing around 300,000 tpa of

CO2 emissions from the site starting in 2030.



# Petronas Enters Agreement with Sabah Energy to Supply Natural Gas Supporting Steel Industry

PETRONAS announced that it, through Malaysia Petroleum Management (MPM), has formalized an agreement with Sabah Energy Corporation Sdn Bhd (SEC) for supplying

additional 104 million standard cubic feet per day (mmscfd) of natural gas to support Sabah's industrial and energy needs.

With this increase, the total supply of natural gas provided to SEC now stands at 370 mmscfd. Of this volume, SEC will

allocate 150 mmscfd to Esteel Enterprise Sabah Sdn Bhd, supporting its steel production operations and efforts to adopt greener and more sustainable practices.



# ExxonMobil Australia Invests \$200M in Kipper 1B Project to Boost Gas Supply

ExxonMobil announced a nearly \$200 million investment for the development of the Kipper 1B Project, aimed to bring online much-needed additional gas supply from the Gippsland Basin to the market ahead of 2026.

Approved by ExxonMobil Australia subsidiary, Esso and its co-venturers Mitsui and Woodside, the project involves drilling and installing one subsea well into the Kipper field using the VALARIS 107 jack-up rig and upgrading the West Tuna platform.

Drilling into the Kipper field is set to begin later this year, with upgrades to the West Tuna platform happening simultaneously, said ExxonMobil.



# Sinopec Launches 500-Ton Bio-Aviation Fuel Shipment to Hong Kong

Sinopec has started its bio-aviation fuel shipment to Hong Kong, marking the first-ever among Chinese companies outside the Chinese Mainland.

The Sheng You 238 vessel, loaded with 500 tons of bioaviation fuel, set sail from Sinopec Zhenhai Refining & Chemical Company (ZRCC) on February 26, heading straight for Hong Kong International Airport.

The bio-aviation fuel, considered a Sustainable Aviation Fuel (SAF), is derived from renewable resources of animal fats, vegetable oils, and used cooking oil. It reduces emissions by

more than 50% across its life cycle.



# DNO Acquires 100% of Sval Energi' Shares with Costs \$450 Million

DNO ASA, the Norwegian oil and gas operator, announced it has reached agreement to acquire 100% of the shares of Sval Energi Group AS from HitecVision for a cash consideration of \$450 million based on an enterprise value of \$1.6 billion.

The Sval Energi assets are complementary to DNO's North Sea portfolio and will add scale and diversification to solidify the Company's position as a leading listed European independent oil and gas company.

The acquisition will be financed from existing liquidity including available credit facilities. The Company will set in place the optimal capital structure prior to completion.



# McDermott Completes EPCIC at Shell's Whale Development Project, to Begin Oil Production

McDermott has completed the engineering, procurement, construction, installation, and commissioning (EPCIC) activities in the Gulf of Mexico to begin oil production at Shell's Whale development.

The project, awarded in 2021 and completed last month, leveraged McDermott's marine assets, including the North

Ocean 102 vessel and the newly upgraded Amazon, to perform complex pipelay operations at depths of nearly 2.800 meters.

This included the installation of approximately 50 kilometers of pipeline and 15 kilometers of umbilicals, connecting five

subsea drill centers to the new Whale floating production platform.



# Eni, Petronas to Jointly Combine Upstream Assets in Indonesia, Malaysia

Eni has signed a Memorandum of Understanding (MoU) with Petronas to progress discussions on establishing a joint venture holding company to oversee selected upstream assets in Indonesia and Malaysia.

This venture aims to boost growth opportunities in Indonesia and Malaysia, positioning both companies as key players in the LNG in the region while delivering in the medium term

a sustainable production of 500,000 barrels of oil equivalent per day (kboe/d), Eni said.

The new company will also combine approximately 3 billion barrels of oil equivalent (boe) in reserves, with an additional 10 billion boe in exploration potential.

It will prioritize investments in new gas development projects, aligning with both companies' commitments to

energy transition and addressing the increasing regional demand for domestic gas.



A comprehensive business plan will be developed to capture future opportunities in exploration, development, and potential portfolio growth, said Eni.

# SLB Launches EWC™ Electric Well Control Technology for Cost-Efficient, Safe Drilling Operations

SLB has launched its new EWC $^{\infty}$  electric well control technology, which aim to lower costs and enhance the safety of drilling operations.

Traditionally, well control systems have relied on hydraulic systems, which involve a complex network of hoses, valves, and actuators, making them expensive to install and requires costly routine maintenance over their lifetime.

The EWC technology replaces these hydraulic systems with a simpler electric power system, significantly cutting costs and providing real-time data and continuous power to well control components under any operating conditions.

The EWC technology allows for instant and precise control and monitoring of BOPs onshore and offshore, leveraging industrial internet of things (IIoT) components to provide real-time pressure readouts without conventional gauges.

This will help customers make betterinformed decisions about the operation and maintenance of the well control system, reducing nonproductive time and minimizing opex,



# **Egypt's Push for Green Fuels**A New Hub for Sustainable Energy

By Mariam Ahmed & Mahmoud Yasser

As the global energy transition accelerates, green fuels have emerged as a cornerstone of sustainability, offering solutions for carbon reduction and energy security. At the crossroads of Africa, Europe, and the Middle East, Egypt is leveraging its abundant renewable resources, strategic location, and strong government backing to establish itself as a regional hub for green fuel production.

With ambitious plans to scale up green hydrogen and ammonia projects, Egypt aims to attract foreign investments and integrate sustainable energy into industrial processes. By expanding its green fuel sector, the country is advancing its low-carbon future and strengthening its role in the global energy transition.

This report delves into Egypt's expanding green fuel sector, key agreements, projects' trends, and strategic initiatives that reinforce its growing role in the global clean energy landscape. Additionally, the report explores the key targets of the national strategy for green hydrogen and recent progress in emerging green fuels.

# The Significance of Green Fuels Expansion in Egypt

Expanding green fuel usage in Egypt can play a crucial role in addressing both local and global challenges related to energy, the environment, and the economy.

#### **Economic Benefits**

Securing a significant share of the global green hydrogen market could add an estimated \$10–18 billion to Egypt's gross domestic product (GDP) by 2040. This growth would be driven by increased investments, job creation, and higher export revenues, strengthening Egypt's role in the global energy transition, according to Egypt's National Low Carbon Hydrogen Strategy.

# **Reducing Carbon Emissions**

Green hydrogen produces no greenhouse gas emissions during production or use. By utilizing renewable energy sources like solar and wind power for its production, green hydrogen can significantly reduce global CO2 emissions, contributing to climate change mitigation efforts.

Egypt's Low Carbon Hydrogen Strategy Decarbonization Targets

**Annual CO2 Emissions Reduction** 



40 mm

## **Attracting Foreign Investments**

The Egyptian government has introduced favorable policies to attract foreign investments in green fuel projects. International companies have partnered with Egypt to develop large-scale green fuel infrastructure. Egypt has signed 30 memoranda of understanding (MoUs)

to localize the green hydrogen industry in the Suez Canal Economic Zone (SCZONE). Of these, 14 MoUs have been activated, with 12 transitioning into framework agreements (FWA), according to the Egyptian Cabinet.

# Projected Production & Investments from Agreements

18 mmt	\$64 billion	
Expected Green Hydrogen Annual Production	Projected Investment from FWA	

# **Creating Job Opportunities**

The expansion of green fuel projects in Egypt will create more employment opportunities across several sectors. As investments in green fuels grow, specialized jobs will emerge, providing skilled employment for local workers. This rise in green jobs will support economic development and help reduce unemployment. For instance, the National Low-Carbon Hydrogen Strategy expects to generate 100,000 jobs by 2040, according to the Egyptian Cabinet.

#### **Green Fuels Transforming Role in Industry**

The industrial sector currently relies on fossil fuels, particularly in oil refining, ammonia, methanol production, and steel manufacturing. The use of green hydrogen (GH2) as a high-quality thermal fuel could play a significant role in decarbonizing these industries by reducing their carbon footprint and enhancing sustainability. Moreover, GH2 can serve as a crucial feedstock for various industrial applications, including chemicals and advanced manufacturing processes, further supporting the transition to a low-carbon economy, according to the State Information Service (SIS).

# Green Hydrogen, Green Ammonia Highlights in Egypt

Several corporations are strategically positioned to invest billions of dollars in green ammonia and green hydrogen initiatives within Egypt, with the potential to generate millions of tons of green fuel. These agreements have been formalized between international companies and key Egyptian institutions, including the General Authority for the SCZONE, the Sovereign Fund of Egypt (TSFE), the Egyptian Electricity Transmission Company (EETC), and the New and Renewable Energy Authority (NREA).

# Mega Agreements at Egypt-EU Investment Conference 2024

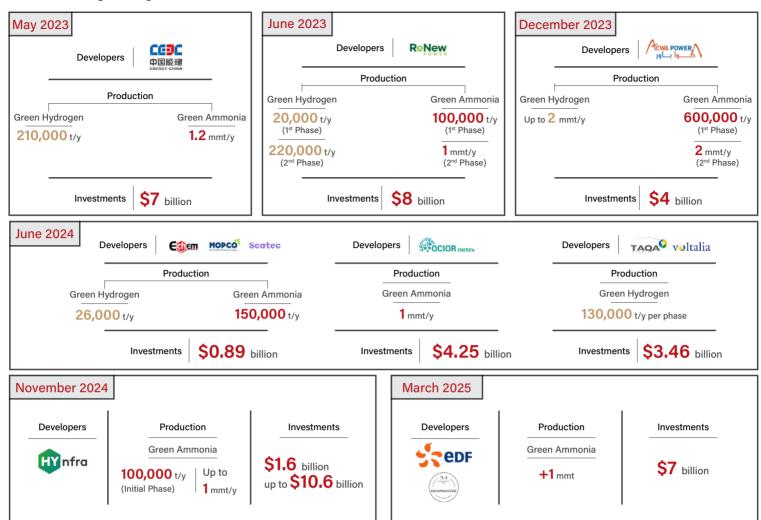






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# **Prominent Signed Agreements**



# **Recent Signed MoUs**



# **Operating & Upcoming Projects**

Several key projects highlight Egypt's commitment to green hydrogen and ammonia production, which are pivotal in driving the country's energy transition and economic growth. These projects not only reduce dependence on fossil fuels, but also attract foreign investment, create jobs, and position Egypt as a regional leader in sustainable energy.

# "Egypt Green" Plant

Commissioned in November 2022, Fertiglobe's Ain Sokhna facility produces green hydrogen, converts it into green ammonia, and operates on solar and wind energy projects, solidifying Egypt's role in renewable hydrogen. In November 2023, it exported the world's first green ammonia shipment to India.

Building on this momentum, the project secured a €397 million contract in the H2Global auction to supply the EU with renewable ammonia at €1,000 per ton until 2033, starting with 19,500 tons in 2027 and potentially reaching 397,000 tons, according to the SCZONE.

## Globeleg's Green Hydrogen Facility

In collaboration with Egyptian authorities, Globeleq is developing a large-scale green hydrogen facility in the SCZONE. The project will be executed in three phases, integrating electrolyzer capacity with solar and wind power generation to ensure sustainable production, and its first phase is expected to start operations by 2026/27.

# Establishing 1<sup>st</sup> Digital Company for Green Ammonia Production

In August 2023, Damietta Green Ammonia Production Company was established as the first digitally-established company to increase green ammonia production. This company aims to enhance the state's plans for creating an attractive investment climate and utilizes its efforts to shift towards clean and sustainable energy by fully leveraging its abundant natural resources, as stated by the Egyptian Cabinet.

### **Project's Production Capacity**



# Key Project's Figures

Electrolyzer Capacity 3.7 GW First Phase Capacity 0 Green Ammonia

#### Masdar & Hassan Allam's SCZONE Project

Masdar, in partnership with Hassan Allam, is working on a green hydrogen initiative spanning SCZONE. The project aims to develop a series of plants to enhance Egypt's position as a regional hub for green hydrogen production. It is expected to reach full capacity by 2030.

#### Project's Overview

Location	Capacity by 2030	Green Hydrogen Production	Green Ammonia Production by 2030	First Plant Expected Operational Date
SCZONE	<b>4</b> gw	Up to <b>480,000</b> t/y	2.3 <sub>mmt</sub>	2026

### **Egypt's Green Hydrogen Vision**

Egypt has strategic plans to underscore its ambition in the green hydrogen sector. The hydrogen market potential indicates two potential and credible scenarios: the Central Scenario and the Green Scenario; with the Green Scenario being the more ambitious one.

#### **Green Scenario**

A more ambitious scenario envisions Egypt capturing a larger share of global hydrogen demand by 2040, with green hydrogen becoming fully competitive with grey.

Policy mechanisms, such as carbon pricing, would accelerate the shift from natural gas. Refineries and ammonia/methanol plants would transition entirely to green hydrogen, most steel production would adopt hydrogen-based direct reduction, and hydrogen blending into the gas grid would expand to meet industrial demand. Additionally, half of the heavy-duty transport sector would convert to hydrogen.

#### **Central Scenario**

By 2030, Egypt will produce 1.5 MTPA of green hydrogen and derivatives, supported by 19 GW of renewable energy. Production will further increase by 2040, with a significant portion allocated for export. Green hydrogen will also become more competitive, gradually replacing grey hydrogen in key industries such as refineries, ammonia/methanol production, steel, and heavy-duty transport.

**Production Scenarios in the National Low Carbon Hydrogen Strategy** 

#### Production & Export Capacity by 2040

	Domestic (mmt/y)	Export (mmt/y)	Targeted Global Market Share (%)
Central Scenario	2	3.75	5
Green Scenario	3.6	5.6	8

# **Other Emerging Green Fuels**

Egypt is committed to positioning itself as a leader in the manufacturing and export of green chemical products, thereby establishing itself as a key destination and hub for supplying green fuel to international shipping lines.

# **SAF**

Egypt has made significant strides in establishing a foundation for the development of Sustainable Aviation Fuel (SAF). The country is committed to complying with international regulations that mandate global airlines to blend sustainable alternatives into their fuel mix within European Union (EU) airspace. These regulations set ambitious targets, with a requirement for a 2% blend of sustainable fuels by 2025, escalating to 70% by the year 2050.

Recently, Egypt announced the establishment of a sustainable aviation fuel company (ESAF) to produce SAF by converting locally sourced materials. The project's ownership structure comprised an 85% stake held by Egyptian public oil and gas sector companies and a 15% stake owned by the private sector, according to the Ministry of Petroleum and Mineral Resources (MoPMR).

ESAF Project Overview	
Production	_ <b>120,000</b> t/y
Investments	_ <b>\$530</b> million
Co <sub>2</sub> Emissions Reduction	_ <b>400,000</b> t/y

Furthermore, Honeywell has completed a feasibility study for a proposed SAF production facility in Egypt in partnership with the European Bank for Reconstruction and Development (EBRD), according to the MoPMR.

# **Green Methanol**

The Egyptian oil and gas sector has witnessed the signature of several agreements as a step towards implementing green energy projects and low-emissions fuel, in cooperation with leading international oil companies (IOCs). Egypt has made a step towards establishing the country's first green methanol production project.

## The 1st Green Methanol Project of its Kind in Egypt & the Middle East

Agreement Signing Date May 2023	Partners  NRPC Scatec SEBIOL	Investments \$450 million
Location  Damietta	Targets - Providing high-quality sustainable green fuel at competitive prices	
Production Target 40,000 t/y	Putting Egypt on top of the countries manufacturing and exporting green chemicals     Becoming a hub for green fuel supply for global navigation lines	

## Signing FWA for a Large Scale Green Methanol Project in the SCZONE



The SCZONE achieved another milestone in August 2023 when the zone announced the arrival of the first container ship powered by green methanol in the world. The vessel started its path from Asia, passing to Africa, through the Arab Republic of Egypt, and from there to Europe. It was supplied with 500 tons of green methanol at the Suez Canal Container Terminal, the main operator of SCZONE's East Port Said port, according to the SCZONE.

The adoption of green fuel in Egypt marks a significant step toward sustainable energy solutions and environmental conservation. As the nation clashes with the challenges of energy demand and climate change, the development of green fuel sources offers a viable path to reducing carbon emissions and enhancing energy security. Egypt's government initiatives, coupled with private and international investments, have begun to reshape the energy landscape, fostering innovation and technology transfer.



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# SDG DEADLINE LOOMS:

# OIL AND GAS INDUSTRY'S SUSTAINABILITY CHALLENGE

#### **BY** RANA AL KADY

he oil and gas industry is facing mounting pressure to align with the United Nations' Sustainable Development Goals (SDGs). As the world moves toward sustainability and climate-conscious policies, companies in this sector must improve their strategies to comply with strict environmental, social, and governance (ESG) standards within specific timeframes. The challenge lies in finding a balance between maintaining economic viability and shifting toward a cleaner, low-carbon energy model.

The industry has long been a key player in the global economy, providing energy to power industries, businesses, and households. However, its significant contribution to greenhouse gas (GHG) emissions has raised concerns about environmental degradation and resource depletion. As a result, there is increased scrutiny from governments, investors, and the public, urging oil and gas companies to adopt sustainable practices and contribute to SDG objectives, particularly those related to clean energy, responsible consumption, and climate action. The transition to sustainability is now essential rather than a choice. Major corporations in the sector have committed to reducing their carbon footprint, investing in renewable energy alternatives, and implementing cleaner technologies. However, reaching these goals demands substantial financial investments, regulatory support, and continuous advancements in technology.

The industry is navigating multiple pressures from various stakeholders. Governments are tightening regulations on emissions, implementing carbon pricing systems, and enforcing renewable energy targets to accelerate the transition to greener energy sources. Investors and shareholders are demanding greater transparency regarding ESG commitments and expect companies to align their strategies with global climate goals, such as those set by The Paris Agreement. Additionally, the rise of alternative energy technologies, including hydrogen, carbon capture, and biofuels, is pushing traditional oil and gas companies to innovate or risk losing market relevance. Simultaneously, consumers and environmental advocates are calling for tangible efforts to mitigate the sector's environmental impact. Achieving net-zero emissions will require fundamental changes in energy production and consumption patterns, requiring the industry to overhaul existing processes. As suggested by a renewable energy specialist, "[Egypt] is on the correct path and has a lot of pressure from all sides to turn the oil and gas industry into a more environmentally friendly sector by pushing for targets and making sure there is a case-by-case action plan to achieve the SDGs."

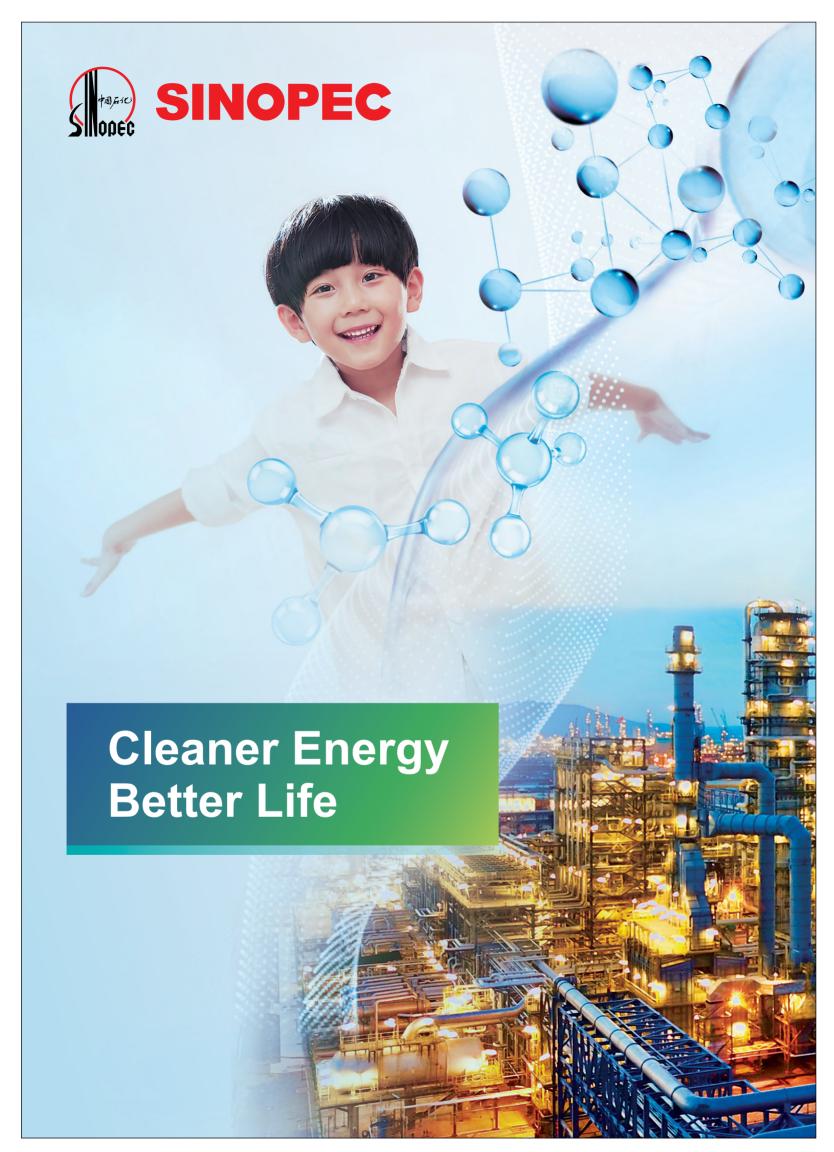
To adapt to these challenges, oil and gas companies are implementing various strategies aimed at promoting sustainability. Many firms are focusing on improving energy efficiency, electrification, and deploying carbon capture, utilization, and storage

(CCUS) to lower emissions from their operations. There is also a growing trend of diversification, with many companies expanding their investments into renewable energy sources, such as wind, solar, and biofuels. This transition helps mitigate the risks associated with fluctuating fossil fuel demand while advancing cleaner energy solutions. Addressing methane emissions, a particularly potent greenhouse gas produced during oil and gas extraction, has become a key focus. Companies are employing advanced leak detection and prevention technologies to minimize methane releases, as well as improving gas flaring reduction measures.

Sustainable resource management is also a critical aspect of the industry's evolution. Firms are adopting more efficient water management techniques, implementing waste reduction initiatives, and integrating circular economy principles to reduce environmental impact. Collaborations with technology firms, academic institutions, and policymakers are fostering the development of innovative clean energy solutions, allowing companies to accelerate the shift toward a sustainable future. To ensure accountability, businesses are increasingly adopting ESG reporting frameworks, such as the Global Reporting Initiative (GRI) and the Task Force on Climate-related Financial Disclosures (TCFD), which provide transparency regarding their sustainability efforts and progress.

In conclusion, the oil and gas sector's commitment to sustainability must be demonstrated through measurable progress. While efforts have been initiated, there is still significant work to be done. As the 2030 deadline for achieving SDG targets approaches, companies will need to intensify their efforts to implement scalable sustainability practices, enhance their accountability measures, and transition toward a more resilient and sustainable energy system. The industry's transformation is not solely about regulatory compliance; it is also about securing long-term energy stability and remaining competitive in an increasingly environmentally conscious world. By embracing innovation, strategic investment, and collective action, the oil and gas industry can redefine its role in the global energy transition, ensuring a cleaner and more sustainable future for generations to come.





# FLYING GREEN:

# THE ROLE OF SUSTAINABLE AVIATION FUEL IN EMISSION REDUCTION

#### **BY** SARAH SAMIR

he aviation sector plays significant role global greenhouse gas emissions, accounting for a notable portion of the transportation industry's carbon footprint. As the world strives to meet the ambitious targets set by the Paris Agreement, it becomes increasingly clear that transformative changes are essential within this challenging sector. One of the most promising developments in this arena is the establishment of the Sustainable Aviation Fuel Company (ESAF) in Egypt. This initiative underscores the country's commitment to supporting global climate change mitigation efforts through the



production of SAF, a biofuel that mirrors the properties of traditional jet fuel while significantly reducing carbon emissions.

## **Decarbonizing the Aviation Sector**

The aviation sector significantly contributes to greenhouse gas emissions, requiring substantial changes to meet Paris Agreement goals. Key strategies for reducing these emissions include improving efficiency, transitioning to alternative fuels, adopting new technologies, and implementing carbon removal methods.

The Insurance Federation of Egypt (IFE) revealed in July 2024 that the aviation sector's CO2 emissions from fuel make up 12% of the whole transportation sector's CO2 emissions. Although the aviation sector represents a relatively small share of global emissions, it is one of the most difficult sectors to decarbonize, because it requires low-carbon technologies that are expensive. Nevertheless, the sector has committed to achieving net-zero emissions by 2050, according to the IFE.

# The Role and Benefits of SAF and Establishment of ESAF in Egypt

The Egyptian petrochemicals sector is working to support Egypt's decarbonization targets through several projects, including the production of sustainable aviation fuel (SAF).

SAF is a biofuel used to power aircraft that has similar properties to conventional fossil jet fuel, but with a smaller carbon footprint. It is also defined as renewable or wastederived fuel that meets environmental sustainability criteria by significantly reducing greenhouse gas emissions throughout the life cycle compared to conventional fossil

fuel. SAF can be produced from a number of sources, including vegetable oils, animal fats, as well as organic or plastic waste.

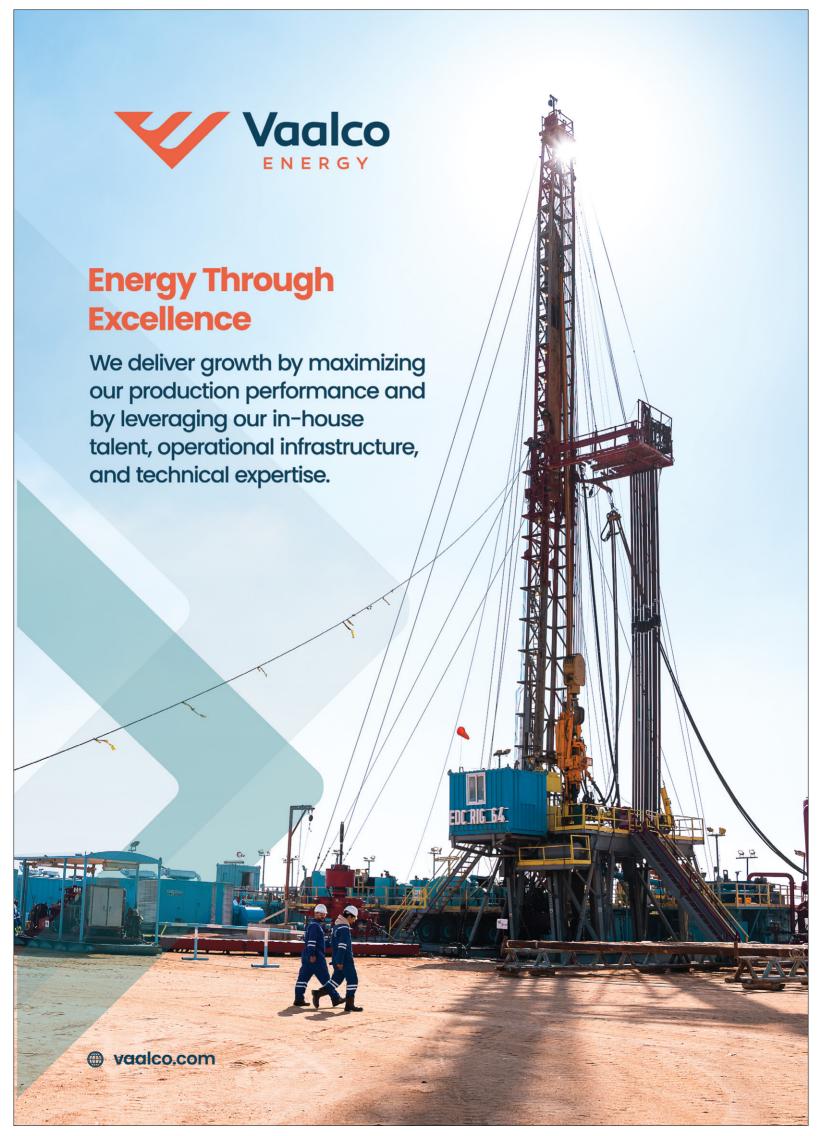
In November 2024, Minister of Petroleum and Mineral Resources Karim Badawi inaugurated the Sustainable Aviation Fuel Company (ESAF). The company supports global climate change mitigation efforts by developing environmentally friendly and renewable energy sources for aviation. ESAF also advances Egypt's green economy transition, fostering sustainable energy investment, technology localization, and economic growth.

ESAF's ownership is structured with 85% held by Egyptian public petroleum sector companies and 15% by private sector partners.

The project, with an estimated \$530 million investment, will utilize advanced global technology to convert locally sourced waste into 120,000 tons of sustainable aviation fuel annually. This is projected to reduce carbon dioxide emissions by up to 400,000 tons per year. The ESAF company is established in a strategic location in Alexandria, as it is expected to integrate with existing petroleum infrastructure, enhancing efficiency and promoting sustainable energy development.

The Establishment of ESAF in Egypt marks a pivotal step toward addressing the significant greenhouse gas emissions generated by the aviation sector. As this industry grapples with the challenges of decarbonization, the innovative production of SAF emerges as a crucial strategy for reducing its carbon footprint.

THE ESTABLISHMENT OF ESAF IN EGYPT MARKS A PIVOTAL STEP TOWARD ADDRESSING THE SIGNIFICANT GREENHOUSE GAS EMISSIONS GENERATED BY THE AVIATION SECTOR



# THE FINANCIAL POWER BEHIND THE ENERGY TRANSITION

#### **BY FATMA AHMED**

he global shift toward sustainable energy is crucial for combating climate change, ensuring energy security, and fostering economic resilience. However, this transition requires significant financial investment. Adequate financing is essential to support the development of clean energy infrastructure, enhance energy efficiency, and drive technological innovation.

Investing in sustainable energy also allows economic benefits such as creating jobs, reduces long-term energy costs, and strengthens global competitiveness in the evolving energy landscape. Financing the energy transition requires private and public sector to work together to close the investment gaps especially in the developing countries.

## **Importance of Investing in Energy Transition**

A report released by Deloitte stated that achieving net-zero greenhouse gas emissions by 2050 will require annual global investments ranging from \$5 trillion to over \$7 trillion in the energy sector. The firm stressed the importance of innovative financing mechanisms to mobilize private capital, thereby accelerating the development and adoption of green energy technologies.

Additionally, the International Energy Agency (IEA) highlighted the necessary steps needed to increase investments in the clean energy especially in the developing world. It stated that such investments in the "emerging and developing economies declined by 8% to less than \$150 billion in 2020, with only a slight rebound expected in 2021. By the end of the 2020s, annual capital spending on clean energy in these economies needs to expand by more than seven times, to above \$1 trillion, to put the world on track to reach net-zero emissions by 2050."

The Energy Transition Commission also mentioned that the annual investments in the high-income economies and China needs to be doubled by 2030 compared to the current levels to build a net-zero economy. It added that investment in the middle- and low-income countries require a 4-fold increase from today's levels to around \$900bn a year by 2030.

# Banks As Key Financiers of the Energy Transition

Recently, banks and financial institutions have new businesses to engage in. Decarbonization goals opened new opportunities for financing. According to an article published by CFA Institute, funding the establishment of the renewable energy projects is the direct method for banks to help accelerate the energy transition. This can be done through offering instruments like green loans and green bonds, which support green projects. CFA stated this type of funding is growing as it reached \$4.2 trillion by the end of 2023.

Also, banks can provide capital through sustainability-linked loans and bonds, which allow companies their operations more sustainable, including through emissions reduction. It can be provided to businesses who do not have green assets. The report mentioned other methods for financing green projects such as leveraged finance, trade finance and treasury management noting that these tools have been later to the sustainability concept. Moreover, there is the blended finance, which is the use of public sources of capital to attract private investment in developing countries. The report said that this instrument is small but growing in the field of climate finance.

In the same context, an article published by the Banker citing a quote by Marc Borghans, Head of Sustainable Structured Finance at ING, explained that banks may be interested in any promising new technology or business model in clean energy.

He elaborated that the scalability and potential for impact, level of maturity determine their engagement. "Companies involved in this may be corporates or innovative small and medium-sized enterprises (SMEs), where partnerships between the two can improve bankability with investments by corporates validating a SME's business proposition," Borghans quoted. He also noted that banks can help in de-risking the small innovative companies which are in early stage of development.

However, investing in energy transition faces various challenges including high upfront costs, increased risks, inflation, supply chain constraints and high interest rates. An article posted on World Economic Forum (WEF) highlighted "each region faces unique barriers, particularly developing economies, which receive just 15% of global energy transition investment."



#### **Banks Feuling Energy Transition in Egypt**

Responding to stimulating energy transition projects, the Central Bank of Egypt (CBE) released guidelines for sustainable financing in Egypt's banking sector in July 2021 to facilitate financing of environmentally friendly projects especially in the energy sector. An article published by the American Chamber of Commerce in Egypt explained that the principles of these guidelines, which include building the necessary capabilities and knowledge, enhancing sustainable finance, involving stakeholders, managing climate change risks, applying sustainability principles to internal activities and operations, and reporting.

Egyptian banks innovated more than 24 products and financing programs within the environmental and social sectors, including energy efficiency, renewable energy, agriculture, healthcare, and digital transformation.

Islam Mansour, an expert in the banking sector stated that Egyptian banks launched a small decreasing return of 5% for industrial and service activities and liberal professions "according to the initiative of the CBE. "The amount of the loan ranges from EGP250,000 to EGP8 million for financing existing and new projects," he elaborated.

Also, "banking sector has shown its dedication to implementing Principles for Responsible Banking issued by the United Nations Environment Programme Finance Initiative (UNEP FI), where the compliance rate of the banking sector reached 75% of the sector's total portfolio," CBE elaborated.

Mansour added that, "banks in Egypt are financing all types of individual projects, companies of persons, companies, and all activities, as well as environmentally friendly projects and technologies for the purpose of switching to clean energy especially natural gas and solar energy".

However, he highlighted that the dependence on fossil fuels in emerging and developing countries can consider a challenge for increasing investments in green energy. "For Egypt, the contribution of fossil fuels to electricity production was about 89% in 2023, according to the Egyptian Electricity Holding Company (EEHC). Hence, there is a lack in financial resources for green economy which requires significant investments in areas such as renewable energy, environmental efficiency improvement and waste management. The public sector may have difficulty in providing funding for such projects," the expert discussed.

INVESTING IN ENERGY TRANSITION FACES VARIOUS CHALLENGES INCLUDING HIGH UPFRONT COSTS, INCREASED RISKS, INFLATION, SUPPLY CHAIN CONSTRAINTS AND HIGH INTEREST RATES.

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# **BEYOND TRADITIONAL METHODS:**

# EXPLORING MICROBIAL ENHANCED OIL RECOVERY

#### **BY** DOAA ASHRAF

n the past years, oil and gas companies sought means to increase production efficiently to address concerns about depleting natural reserves, rising world energy demand, and fluctuating oil prices. In order to optimize production from mature oil and gas fields, Enhanced Oil Recovery (EOR) emerged as a method to extract additional oil from reservoirs after conventional recovery methods, such as natural pressure and water flooding, become less effective. Typically, primary and secondary recovery techniques leave behind a significant portion of the oil in the reservoir; up to 50-70%. EOR was developed to tackle this challenge, improving oil recovery rates and extending the life of reservoirs.

It was first introduced in the 1920s, utilizing thermal methods like steam injections to reduce oil viscosity for better flow. Then the  $\rm CO_2$  flooding method became more widely adopted in the 1970s during the global energy crisis when maximizing oil extraction became a priority.

As the energy sector shifted toward more sustainable practices over time, advanced methods such as microbial enhanced oil recovery (MEOR) were explored. This method utilizes microorganisms and their biodegradable bio-products, which are less toxic than synthetic surfactants and other traditional methods, including thermal and chemical injections.

MEOR requires less energy and infrastructure compared to thermal methods like steam injections, which involve high operational costs. Unlike chemical flooding, MEOR relies on naturally occurring or introduced microbes, which minimizes the need for expensive chemical additives. Besides, MEOR has a significantly lower carbon footprint compared to  $\rm CO_2$  flooding, as it does not rely on large-scale  $\rm CO_2$  injection or transportation.

Egypt produces most of its oil from matured oil fields. One of the main challenges for the Egyptian oil sector is to fulfill the rising energy demand in the coming years via improving oil recovery from these mature reservoirs. Thus, MEOR presents a viable solution by leveraging indigenous bacteria from oil reservoirs, which enhances oil recovery and minimizes environmental impact.

In this respect, researchers from the British University in Cairo explored the potential of creating biosurfactants by indigenous bacteria isolated from Egyptian oil fields in the western desert for MEOR.

They collected four crude oil samples and one formation of water from El-Fayoum in the Western Desert of Egypt to examine the capability of extracting the indigenous bacteria from these samples and to produce a biosurfactant-producing bacteria to enhance the oil recovery for these reservoirs.



Following this, nine bacterial strains were isolated and screened for biosurfactant production using different assays. Screening assays showed three promising bacterial strains that exhibited significant performance and ability to produce effective biosurfactants namely A-LB, C-LB2, and B-YM2.

These three promising bacteria strains were selected for further studies and identified through the 16S rRNA gene sequencing in Sigma Labs. 16S rRNA gene sequencing results showed that A LB, C-LB2, and B-YM2 were identified as Bacillus massiliigabonensis, Pseudomonas nitritolerans, and Aninetobacterseohaensis, respectively.

Furthermore, core flooding tests were performed and the results showed that the biosurfactant produced by Bacillus massiliigabonensis could recover 69.96% of additional oil, whereas 68.11% and 63.34% of additional oil were recovered using biosurfactants produced by Pseudomonas nitritolerans, and Aninetobacterseohaensis, respectively.

Finally, the researchers compared the biosurfactant to the chemical synthetic surfactants (Dodecyl Benzene Sul- phonic Acid Sodium Salt Purified) which showed the lowest additional oil recovery over the water flooding residual oil saturation by (61.78%), which gives validation to the produced biosurfactant over synthetic surfactants emphasizing their potential as sustainable and cost-effective alternatives for enhanced oil recovery in Egyptian oil fields.

MEOR REQUIRES LESS ENERGY AND INFRASTRUCTURE COMPARED TO THERMAL METHODS LIKE STEAM INJECTIONS, WHICH INVOLVE HIGH OPERATIONAL COSTS. UNLIKE CHEMICAL FLOODING, MEOR RELIES ON NATURALLY OCCURRING OR INTRODUCED MICROBES, WHICH MINIMIZES THE NEED FOR EXPENSIVE CHEMICAL ADDITIVES. BESIDES, MEOR HAS A SIGNIFICANTLY LOWER CARBON FOOTPRINT COMPARED TO  ${\rm CO_2}$  FLOODING, AS IT DOES NOT RELY ON LARGE-SCALE  ${\rm CO_2}$  INJECTION OR TRANSPORTATION.

# TRUMP'S TARIFFS:

# A TERRIFYING ROLLER COASTER RIDE WITH OIL, GAS MARKETS REMAINING **STRONG**

# **BY** NADER RAMADAN

laying politics with oil and gas is nothing new in the global arena, but the recently inaugurated US President Donald Trump has taken this to a new level, signing a slew of earthshaking executive orders that have turned America upside down, stimulating everything landsliding government opposition to widespread federal layoffs. Radical new economic policies and trade relations have also become a defining element in this new administration. Powering up his presidential term with stinging tariffs on some of the most influential forces in the oil and gas market, Trump's economic strategy is one that can be defined by a nationalistic sense of isolationism, seeking to empower the local US economy by increasing trade barriers to jumpstart the potential of local industry. These tariffs are often viewed as potentially harmful to the global oil and gas industry, but understanding their effects requires a closer look at how they may impact trade relations.

Contrary to what many political economists may find unnerving, many experts believe that Trump's tariff tantrum should not alarm stakeholders that much, with Goldman Sachs' forecasts from early February proving to be optimistic about the coming two years despite imminent turbulence.

During the coming period, Trump has no plans to pull his punches on other competing oil and gas nations imposing stinging tariffs on America's neighbors, Canada and Mexico, both of which are OPEC members. Yet, according to Goldman Sachs, the new tariffs implemented by the Trump administration on imports from Canada, Mexico, and China are not expected to significantly alter global oil and gas prices in the short term.

The bank further stated that the potential decrease in US natural gas imports from Canada, resulting from the tariffs, would have a minimal impact on US natural gas prices. Overall, Goldman Sachs maintained their oil price predictions for 2025 and 2026, anticipating little immediate change due to consistent global oil production and consumption. They also factored in the existing Canadian oil tariff, suggesting its impact is already reflected in current

Trump's new tariffs on Canada, Mexico, and China have caused Saudi Arabia's stocks a slight slip, while Qatar's market saw gains ahead of earnings. The Gulf region faces potential economic risks from these tariffs, including a slowdown in trade, reduced oil exports, and losses in international investments. Though some negative consequences have been predicted, when examining the impact of these tariffs on energy markets in the MENA region, some experts beg to differ, arguing that oil-rich Gulf Cooperation Council (GCC) markets will remain immune from the fallout to a limited extent. This is attributed to the US enjoying a trade surplus with them as well as their minimal value-added tax (VAT).

Some credible forecasts indicate that oil prices will follow a downward trend for the coming period. After maintaining restricted output since 2022 to keep prices high, the OPEC+ alliance, led by Russia and Saudi Arabia, plans to boost daily oil production starting in April. This increase aims to inject 2.2 million additional barrels into the global market by 2026, despite some projections indicating an existing oil surplus. This is because Saudi Arabia has been under consistent pressure from Washington to increase output, a move that will drive oil prices down.

AFTER MAINTAINING RESTRICTED OUTPUT SINCE 2022 TO KEEP PRICES HIGH, THE **OPEC+ ALLIANCE, LED BY RUSSIA AND** SAUDI ARABIA, PLANS TO BOOST DAILY OIL PRODUCTION STARTING IN APRIL.

Diving deeper into natural gas, tariffs could drive the global market to unchartered waters, but at the same time create opportunities and new trade relationships between the Middle East and Beijing. China is also an important factor in the brewing trade wars that have begun to flare up, with Beijing issuing its own package of retaliatory tariffs against Washington. The immediate impact of China's tariffs on US LNG has been minimal, given the low percentage of current contracted sales. Despite being a major LNG exporter, the US was only China's fourth-largest supplier in 2024, with Australia, Oatar, and Russia leading the market, Experts point to the fact that though it may be a loss for the US it could be a gain for the Middle East as China begins to search for alternative trading partners, particularly for LNG.

Trump's unorthodox tariffs have raised many eyebrows all over the world, yet many economic indicators show that oil and gas is still set up to perform well in the long term, even with the nail-biting tactics that some may assume could put the future of oil and gas in serious doubt. As highlighted by Goldman Sachs, turbulent times may be ahead, but they will not ultimately define the outlook of energy and hydrocarbon markets, even with the increasing appeal of renewable alternatives. Though political fault lines continue to push a divisive agenda and exacerbate the negative economic fallout on energy markets, it is up to policymakers to have an independent view of sound energy strategies for the future, unfettered by the illusions of political loyalty or affiliation.



# THE IMPACT OF CARBON EMISSION LAWS ON GLOBAL ENERGY MARKETS

n recent decades, the global push to combat climate change has led governments, corporations, and international bodies to implement stringent carbon emission laws. These regulations, designed to reduce greenhouse gas emissions and mitigate global warming, have had profound ripple effects across industries, none more so than the global energy markets. As nations strive to meet ambitious targets, such as those outlined in The Paris Agreement, the interplay between carbon laws and energy production, pricing, and innovation has reshaped the economic landscape. This article examines how carbon emission laws influence energy markets worldwide, exploring their impact on fossil fuels, renewable energy adoption, market dynamics, and geopolitical relationships.

#### The Decline of Fossil Fuels Under Regulatory Pressure

Carbon emission laws typically impose caps, taxes, or trading systems (like the European Union's Emissions Trading System) to penalize high-emission industries. The fossil fuel sector coal, oil, and natural gas has borne the brunt of these regulations. For instance, coal, historically a cheap and abundant energy source, has seen a steep decline in demand in regions with aggressive carbon policies. In the FU, coal-fired power generation dropped by nearly 40% between 2015 and 2023, driven by carbon pricing and subsidies for cleaner alternatives, Similarly, in the United States, despite political fluctuations, states like California have imposed strict emission standards, pushing utilities away from coal and toward natural gas or renewables.

This shift has disrupted traditional energy markets. Coal exporters, such as Australia and Indonesia, have faced shrinking markets in Europe and parts of Asia, forcing them to pivot to less regulated regions. Meanwhile, oil producers, particularly in the Middle East, have seen mixed outcomes. While demand for oil remains robust in transportation and manufacturing, carbon taxes and electric vehicle (EV) incentives in countries like Norway and China threaten long-term profitability. OPEC nations, heavily reliant on oil revenues, now face pressure to diversify their economies as global demand forecasts adjust to a low-carbon future.

#### The Rise of Renewables and Market Transformation

Conversely, carbon emission laws have turbocharged the renewable energy sector. Solar, wind, and hydropower have become economically viable alternatives, thanks to subsidies, tax credits, and declining technology costs spurred by regulatory support. In 2024, the International Energy Agency (IEA) reported that renewables accounted for nearly 35% of global electricity production, a figure projected to exceed 50% by 2035 if current policies persist. Countries, like Germany and Denmark, with aggressive carbon reduction targets, have become leaders in wind and solar deployment, setting a precedent for others to follow.

This transition has altered energy market dynamics significantly. Traditional utilities, once reliant on centralized fossil fuel plants, are now investing heavily in decentralized renewable infrastructure. Energy storage solutions, such as lithium-ion batteries and green hydrogen, have also gained traction to address the intermittency of solar and wind power. Companies like Tesla and emerging hydrogen startups have seen their valuations soar as investors bet on a carbon-constrained future. However, the rapid shift has strained supply chains, rare earth minerals for batteries and turbines are in high demand, driving up prices and sparking concerns over resource monopolies, particularly in China.

#### **Economic Implications: Costs and Competitiveness**

The economic impact of carbon emission laws on energy markets is a double-edged sword. On one hand, carbon pricing mechanisms, such as taxes or cap-and-trade systems, increase the cost of energy production for high-emission sources. In the short term, this raises electricity prices for consumers and operational costs for industries like manufacturing and shipping. For example, in 2023, European industries faced energy cost hikes of up to 15% due to tightened emission allowances, prompting debates over "carbon leakage", and the relocation of businesses to less regulated regions.

On the other hand, these laws foster innovation and long-term cost savings. Renewable energy, once considered expensive, is now cheaper than coal or gas in many markets due to scale and technological advancements. A 2024 Bloomberg NEF report noted that the levelized cost of solar energy fell below \$30 per megawatt-hour in sunny regions, undercutting fossil fuels even without subsidies. Countries that invest early in green infrastructure gain a competitive edge, attracting investment and creating jobs. The U.S. Inflation Reduction Act of 2022, for instance, funneled billions into clean energy, positioning American firms as leaders in nextgeneration technologies.

Yet, disparities remain. Developing nations, reliant on cheap fossil fuels for growth, argue that stringent carbon laws disproportionately burden them. India and South Africa, for example, have resisted rapid coal phase-outs, citing energy poverty and industrialization needs. International climate finance pledges like the \$100 billion annual commitment from developed nations have fallen short, exacerbating tensions in global energy markets as poorer countries struggle to

### **Geopolitical Shifts and Energy Security**

Carbon emission laws have also redrawn geopolitical fault lines. Historically, energy markets were dominated by oil-rich states and fossil fuel exporters. Today, nations with abundant renewable resources or advanced green technologies are gaining influence. Chile, with its vast solar potential, and Morocco, a leader in concentrated solar power, are emerging as key players. Meanwhile, China's dominance in renewable manufacturing, producing over 70% of the world's solar panels, has given it leverage in energy negotiations.

Fossil fuel-dependent states, however, face existential challenges. Russia, a significant gas supplier to Europe, saw its market share erode as the EU accelerated its shift to renewables and LNG imports following the 2022 Ukraine invasion. Saudi Arabia, anticipating a post-oil era, has poured funds into its Vision 2030 plan, including the ambitious NEOM green city project. These shifts underscore a broader trend: energy security now hinges not just on resource ownership but on technological and regulatory adaptability.



# Challenges and the Road Ahead

Despite their transformative potential, carbon emission laws face hurdles. Enforcement varies widely, while the EU and UK have robust systems, enforcement in parts of Asia and Africa remains lax, creating uneven market pressures. Additionally, the energy transition requires massive infrastructure investment, estimated at \$125 trillion globally by 2050 by the IEA. Grid upgrades, storage solutions, and workforce retraining demand coordinated policy and funding, which remain inconsistent.

Moreover, public and political resistance persists. In 2024, protests erupted in France and Canada over rising energy costs linked to carbon taxes, highlighting the delicate balance between climate goals and economic stability. Policymakers must navigate these tensions to maintain momentum

#### Conclusion

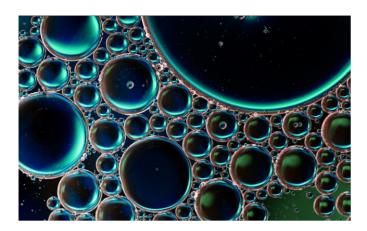
Carbon emission laws have undeniably reshaped global energy markets, driving a seismic shift from fossil fuels to renewables while reconfiguring economic and geopolitical realities. They have spurred innovation and competitiveness in some regions while straining others, exposing the complexities of a global transition. As the world races toward net-zero targets, the success of these laws will depend on their ability to balance environmental imperatives with economic equity and energy security. The stakes are high, but so are the opportunities for markets, nations, and the planet itself.

# **BY**ENG. MOHSEN AHMED FARHAN ALI

Oil & Gas Well Drilling Specialist - Kuwait Oil Company (KOC) Consultant -Oil & Gas Industry Trainer & Coach

# HOW THE US IS RESHAPING RELATIONS IN THE MIDDLE EAST AFTER

# ACHIEVING HYDROCARBON INDEPENDENCE



he United States has significantly increased its domestic oil and natural gas production over the last decade, primarily due to advancements in hydraulic fracturing and horizontal drilling. By 2020, the U.S. achieved near energy independence, becoming a net exporter of oil and natural gas for the first time in decades. This shift is fundamentally changing its approach to foreign policy and relationships in the Middle East. Here are some key ways in which the U.S. is reshaping its relations in the region:

- 1. Strengthened Ties with Aligned Countries: The U.S. has strengthened its ties with countries in the region that align with its values and interests, such as Israel and certain Gulf nations. For example, the support for the Abraham Accords (2020–2021) marked a historic shift in Middle Eastern geopolitics, as the UAE, Bahrain, Morocco, and Sudan normalized relations with Israel. Leveraging Israel's economy and U.S. backing can be used to deepen influence over Arab states.
- 2. Reduced Emphasis on Oil-Related Alliances: With hydrocarbon independence, the U.S. is placing less emphasis on oil-related alliances, allowing for a broader focus on other economic, geopolitical, and security interests.
- **3. Repositioning of Military Forces:** There might be potential drawdowns or repositioning of U.S. forces, allowing the country to focus on emerging threats in regions like the Indo-Pacific while maintaining vigilance regarding developments in the Middle East.
- **4. Strategic Engagement with Rivals:** The U.S. can engage more strategically with rivals such as Russia and Iran, operating with less fear of energy interdependence influencing its actions. This shift enables the U.S. to focus on diplomatic pressures or sanctions without the constraint of energy needs dominating its policy.
- **5. Countering China's Influence:** As China increases its influence in the Middle East, the U.S. can strengthen partnerships with like-minded nations to counterbalance that influence. By supporting economic initiatives and security frameworks, the U.S. seeks to maintain its geopolitical foothold in a changing landscape.
- **6. Impact of Gaza War:** The October 7<sup>th</sup> conflict highlighted critical vulnerabilities in U.S.-Israeli regional planning. Arab nations, recognizing the importance of distancing themselves from complicity in Gaza's humanitarian crisis, are confidently forging stronger ties with China and Russia.

#### Conclusion

The U.S.'s achievement of hydrocarbon independence is reshaping its relationships in the Middle East by redefining its role in the region. As priorities shift, the focus is on collaborative economic and security partnerships.

## Dr. Nabih Nabih

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# THE IMPACT OF THE GAZA WAR ON GEOPOLITICS, ENERGY MARKETS

he recent conflict in Gaza has once again highlighted the complex interplay between geopolitics and energy markets. While the immediate focus is on humanitarian aid and rebuilding efforts, the war's repercussions are likely to reverberate throughout the energy sector for some time.

#### A summary of the short-term impacts includes

Oil Price Volatility: The conflict initially triggered a surge in oil prices due to fears of supply disruptions. Although prices have somewhat stabilized, the potential for renewed escalation or wider regional instability remains a concern, which could lead to further price fluctuations.

Natural Gas Disruptions: Israel's suspension of operations at the Tamar gas field during the conflict caused a temporary disruption in natural gas supplies to Egypt, highlighting the vulnerability of regional energy infrastructure to geopolitical events.

Energy Infrastructure Damage: The war has likely caused damage to Gaza's already fragile energy infrastructure, including power plants and distribution networks. This will require significant investment and time to repair, further exacerbating the electricity crisis in the region.

#### On the other hand, long-term implications include:

Renewed Focus on Energy Security: The conflict underscores the need for countries in the region to diversify their energy sources and reduce reliance on imports. This could accelerate investments in renewable energy projects, such as solar and wind power, to enhance energy independence.

Geopolitical Considerations in Energy Deals: Future energy agreements and pipeline projects in the Eastern Mediterranean will need to factor in the heightened geopolitical risks highlighted by the Gaza war. This could lead to delays or cancellations of planned projects.

Impact on Investment: The conflict may deter foreign investment in the region's energy sector due to increased perceptions of risk. This could hinder the development of new energy projects and limit access to financing for existing ones.

Palestinian Energy Needs: The war has further worsened the dire energy situation in Gaza, where residents already suffer from chronic power shortages. Addressing the energy needs of the Palestinian population will require a concerted effort from international actors and could involve investments in renewable energy and grid improvements.

#### **Uncertainties and Challenges:**

Egyptian Significant role: Egypt's government is exerting significant efforts to reach a balanced situation to return a peaceful situation to the Middle East and secure sufficient energy resources for the country and region, in addition to the urgent necessity to put a clear and reliable plan to provide and rebuild a reliable energy resources and infrastructure in Gaza.

Duration of Ceasefire: The fragile ceasefire in Gaza could collapse at any time, leading to renewed violence and further disruptions to energy markets.

Regional Stability: The conflict has further destabilized the region, with potential implications for energy security in neighboring countries.

Global Energy Landscape: The Gaza War is unfolding against a backdrop of global energy challenges, including the transition to cleaner energy sources and rising energy costs. These factors could further complicate the energy outlook for the region.

In conclusion, the Gaza War has created a new level of uncertainty in the energy landscape of the Eastern Mediterranean. While the immediate focus is to stop this war immediately, addressing the humanitarian crisis and rebuilding damaged infrastructure, the conflict's long-term implications for energy security, investment, and geopolitical dynamics are significant. Moving forward, a comprehensive approach that considers both the immediate and long-term challenges is needed to ensure a sustainable and secure energy future for the region.

# Mohamed Kamal Gaber

Section Head at Process Department, Engineering Affairs, PETROJET

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# Impact in Numbers





Rigs Served Daily



Successful Pipe **Recovery Operations** 



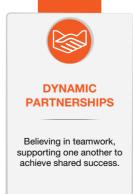
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# **QUARTERLY INDICATORS**

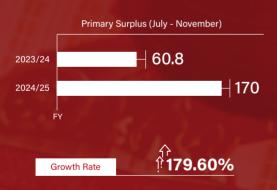
**GDP Growth Rate** 



Egypt's GDP growth rate surged by 86.96% in Q2 2024/25 compared to the same quarter last year, driven by key sectors. Non-oil manufacturing grew by 17.7%, supported by streamlined customs processes, while the ICT sector contributed 10.4% due to digital infrastructure investments. Private investment rose by 35.4%, exceeding 50% of total investments, as public investment contracted by 25.7%, reflecting the government's shift toward private-sector-led growth.

In the same context, notable highlights from Q2 include robust growth in financial intermediation 11.6%, transportation and storage 9.4%, construction 4.8%, and social services 4.6%. Net exports positively contributed 1.75 percentage points to GDP growth, reinforcing export-driven diversification.

# **FISCAL RESILIENCE**



Egypt's primary surplus surged to EGP 170 billion in the first four months (July-November) of FY 2024/25, up from EGP 60.8 billion a year earlier, reflecting a 179.6% YoY growth rate. By February 2025, it reached EGP 330 billion, showcasing strong fiscal discipline.

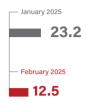
This growth was fueled by a 38.4% rise in tax revenues, indicating stronger economic activity. Health and education spending increased by 29% and 24%, respectively, while subsidies, grants, and social benefits grew by 44%, ensuring support for vulnerable groups. Efficient resource allocation and reduced non-essential spending balanced fiscal consolidation with critical services, advancing sustainable economic stability.

# **MONTHLY INDICATORS**

# Annual Inflation Headline CPI (%)

Egypt's annual inflation rate fell sharply to 12.5% in February 2025, down from 23.2% in January, significantly easing price pressures. This decline was driven by the base year effect, as comparisons with last year's high prices following the pound's devaluation reduced the annual figure, despite elevated current prices. Government interventions and liquidity injections alleviated dollar-crisis pressures, while a stable exchange rate lowered import costs.

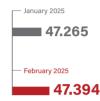
Falling prices of some local commodities, such as 8.2% in vegetable prices and 0.2% in coffee, tea, and cocoa further contributed to this trend. However, price hikes in many products, such as education, which surged by 10%, along with increases of 10.7% in newspapers, books, and stationery, 3% in fruit prices, and 3.2% in meat and poultry, partially offset the slowdown.





#### Net International Reserves (\$ billion)

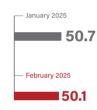
In February 2025, Egypt's net international reserves (NIR) rose slightly by 0.27%, reaching \$47.394 billion. This increase of approximately \$128 million marked a notable improvement compared to the previous months. Gold remained the largest component of foreign reserves, valued at \$11.851 billion, while foreign currencies accounted for \$35.524 billion. Additionally, net international reserves increased by 34.3% compared to \$35.3 billion in February 2024, reflecting a significant year-on-year (YoY) improvement in Egypt's external financial position.





# Non-Oil Private Sector PMI (Point)

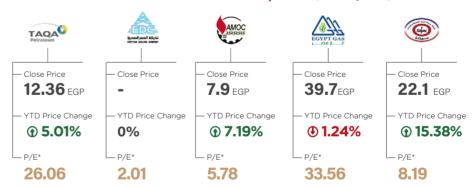
Egypt's PMI fell to 50.1 in February 2025 from 50.7 in January 2025. The rate of expansion slowed from January and remained modest, but still indicating growth for the second consecutive month. Despite the dip, business conditions in the first two months show the strongest start to a year since late 2020. New orders and business activity continued to improve, driven by stronger domestic demand and muted inflationary pressures. While manufacturing struggled with declining orders, sectors like construction, wholesale, and retail saw solid sales growth. Employment fell for the third time in four months, and input costs rose modestly.



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# **EGX HIGHLIGHTS**

# Performance of Listed Petroleum Companies (February 2025)



\*Price-Earnings Raito (P/E): the ratio of a company's share price to the company's earnings per share

### **Capital Market Indicators**





#### **Egypt Offers New Exploration Investment Opportunities**

On March 3, the Ministry of Petroleum and Mineral Resources (MoPMR) launched a new bid round for 13 oil and natural gas opportunities, including 2 groups of undeveloped discoveries in the Mediterranean and exploration areas in the Gulf of Suez and Western Desert. The bidding, available through the Egypt Upstream Gateway (EUG), will remain open until May 4, 2025

Offered Opportunities by Region





# **MoPMR Announced New Natural Gas Discovery** in West Mediterranean

On March 6, the Ministry of Petroleum and Mineral Resources (MoPMR) announced a new natural gas discovery in the North Alexandria concession, located in the West Mediterranean. This represents by's second discovery in the western area. The ministry plans to accelerate development by connecting these wells to the King area, utilizing nearby production facilities to reduce import costs by approximately \$1 billion per year.



bp's Discoveries in the Western Mediterranean

Total Discoveries in the Western Mediterranean

2<sup>nd</sup> Discovery (after King-2)

3 (including ExxonMobil well)

# Signing an Agreement for Liquid, Gas Bulk Terminal at Dekheila Port

On March 6, the Ministry of Transport announced the signing of an initial agreement for the development, management, and operation of the liquid and gas bulk terminal at Dekheila Port between the Alexandria Port Authority and Alexandria Supply Chains Company (ASCC), in the presence of the Minister of Petroleum and Mineral Resources, Karim Badawi. The project's phase one is expected to commence commercial operations in 2027, with an initial handling capacity of 350,000 tons per year. The total capacity will gradually increase, reaching 4 million tons (mmt) annually upon completing the third phase.



Foreign Currency Revenues Over Project Lifespan

\$660 million

\$500 million

Project's Components

Marine Berth



Minimum Navigational Depth **20** m

Vessels Reception Capacity

2 vessels simultaneously, up to 250,000 t per vessel

**Onshore Facilities** 



# PRICING HIGHLIGHTS Average International Prices BRENT OIL OPEC BASKET 72.82 72.75 73,42 70,36 70.05 77.52 75.38 73,79 NATURAL GAS **RBOB GASOLINE** GAS OIL **HEATING OIL** NYMEX) (\$/MT) 694.9 656.5 648.6 654.3 2.3



# Optimize Your Well Performance and Ensure Safety with Setcore



At Setcore, we specialize in delivering reliable and innovative Well Integrity and Intervention Solutions, designed to enhance performance, reduce risk, and keep your operations running safely and efficiently.

# **Our Services Include:**

- Cased Hole Logging Services
- Mechanical Intervention Services
- Formation Evaluation & Production Logging Services

- Pipe Recovery
- Perforation Services
- Data Interpretation & Analysis Services