EGYPT OIL&GAS NEWSPAPER

EGYPT 2028 2031

ALIGNING FOR A SUSTAINABLE FUTURE

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EDITOR'S LETTER

Dear Reader,

As we mark another edition of our monthly oil and gas newspaper amid global Labour Day celebrations, we are reminded of the unwavering dedication and resilience of our industry's workforce. These are the men and women who drive the progress and innovation that power our world, often in challenging and demanding environments. This issue is dedicated to celebrating their invaluable contributions and highlighting the critical efforts to equip them for a future marked by rapid technological advancement and global shifts.

In this special issue, we cast a spotlight on the Ministry of Petroleum's commendable initiatives to bridge skill gaps and upskill its cadres, preparing them for the future of the industry. These efforts are crucial as we navigate an era where digitalization and advanced technology are becoming integral to our operations. Companies must invest in equipping their workforce with the necessary skills to not only keep pace with but lead the charge in this digital transformation. By doing so, they lay the groundwork for continued success and innovation in the industry.

Our Research and Analysis team presents an in-depth look at the modernization and expansion of Egypt's refining sector. This comprehensive review showcases how strategic developments and investments are shaping the future of this industry in the region.

In our political section, we delve into the recent developments in the Middle East, analyzing the implications of the near confrontations between Israel and Iran. Understanding these geopolitical dynamics is crucial for our industry, given their potential impact on global energy markets.

Meanwhile, our technology section explores innovative solutions to managing offshore drilling waste, highlighting how advancements in this area can lead to more sustainable and efficient operations.

As we navigate this dynamic landscape, one thing remains constant: the dedication of our workforce. This month, we celebrate them, while looking towards a future fueled by innovation, skill, and collaboration. Their hard work and commitment are the bedrock upon which we build a more prosperous and sustainable industry.

Ihab Shaarawy

MANAGING EDITOR

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EGYPT'S **LEADING** OIL & GAS
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TOP 5

Shell, Partners Agree to Develop Phase 11 in WDDM Concession

Shell Egypt, and its partners; the Egyptian Natural Gas Holding Company (EGAS), the Egyptian General Petroleum Corporation (EGPC) and Petronas agreed to commence the 11th development phase in Egypt's Nile Delta offshore West Delta Deep Marine (WDDM) concession in the Mediterranean Sea.

The Phase 11 development project includes the drilling of three development wells using the Scaraboe 9 offshore drilling rig. The rig is already drilling three wells in Phase 10 development project which the WDDM partners have sanctioned in 2023 and where drilling started in March 2024. Drilling Phase 10 and Phase 11 consecutively represents a significant operational and cost optimization opportunity as it maximizes the value of the rig mobilization at the site.

Dalia Elgabry, Shell's Vice President & Country Chair for Egypt, said: "Shell is proud to continue its long-standing collaboration with the Egyptian government and our partners to unlock the full potential of the West Delta Deep Marine concession. Phase 11 represents a significant investment to secure additional gas supply into Egypt's energy system, and we are committed to delivering this project efficiently and safely."

It is worth noting that Shell and partners have developed the WDDM concession across 11 development phases. The concession comprises 17 gas fields, located at water depths ranging from 300 meters to 1,200 meters and spanning approximately 90-120 kilometers from the shore.

Cargas Revenues Reach EGP 4B for First Time

Minister of Petroleum and Mineral Resources Tarek El Molla has witnessed the 29th general assembly meeting of the Natural Gas Vehicles Company (Cargas) to discuss and approve the business results for the year 2023.

During the meeting, the company's Chairman Khaled Gamal stated that the company achieved for the first-time total activity revenues of approximately EGP 4 billion, and profits from total activities doubled to reach EGP 518 million, recording a growth of 115% over 2022.

Gamal reviewed the company's business results during the year 2023, which showed unprecedented performance indicators, after achieving 504 million cubic meters of natural gas sales, a growth rate of 21% over the previous year. This resulted in an annual saving in liquid fuel consumption of about 408,000 tons, creating an added value to the national economy worth approximately $286 million.

During the year 2023, the company operated and opened 45 new filling stations, bringing the total of the company's stations to 314 stations, in addition to 53 transfer centers distributed in 23 governorates. Oil sales also reached 3,267 tons, with a growth rate of 18% over the previous year.

The company also converted 242,000 cars and sold natural gas supplies of around 4.5 billion cubic meters since the start of activities, which contributed to reducing carbon emissions by 321,000 tons.

During the meeting, El Molla praised the business development and successes achieved during the year 2023, expressing his appreciation for the role played by the company within the framework of implementing the strategy of the Ministry of Petroleum and Mineral Resources for the energy transition.

El Molla further praised how the company's activity achieves added value to the national economy by reducing pressure on the consumption of petroleum products and reducing the import bill.

IDM Annual Revenues Reach $98M in 2023

The International Drilling Material Manufacturing Company (IDM) has held its general assembly meeting to approve the results of the company's work for the year 2023, with the participation of Minister of Petroleum and Mineral Resources Tarek El Molla.

During the meeting, IDM Chairman of the Board of Directors and Managing Director Karim Hammam gave a presentation, during which he explained that the company achieved unprecedented financial results and indicators during the year in its history.

This comes as the company's annual revenues reached $98 million, with a growth rate of 38% over the year 2022. Additionally, new contracts were obtained during the year. The total contracts reached $400 million for implementation until 2027 as a result of the company's application of the VMI system for the first time in the Egyptian oil and gas sector, with Belayim Petroleum (Petrobel), and the application of the Consignment system with Khalda Petroleum Company.

El Molla praised the current successes that have been achieved and the ability to face the challenges and rapid transformations over the past two years.

The minister highlighted the provision of full support from the Ministry, the Egyptian General Petroleum Corporation (EGPC) and shareholders to enhance its strategic role with the technical capabilities and human cadres it possesses, while thanking all the company's employees for their efforts during the year.

El Molla Witnesses Signing of Two Agreements for Brownfields in Gulf of Suez

Minister of Petroleum and Mineral Resources Tarek El Molla and ADES Drilling Company CEO Mohamed Farouk have witnessed the signing of two agreements for exploratory and production services in some areas of the brownfields in the Gulf of Suez.

The agreements were sealed between the alliance of ADES Drilling Company, Gharib Oil Company, and the two companies Suez Oil Company (SUCO) and Offshore Shukeir Oil Company Company (OSOCO).

The two agreements are the result of the first global auction of its kind proposed by the Egyptian General Petroleum Corporation (EGPC) for brownfields in 2023 in the Gulf of Suez.

The two agreements were signed by Ahmed Mohy, Regional Director of ADES Company; Hossam Awadallah, President of Gharib Oil Company; and Mohamed El Khayat, President of SUCO in the first agreement in the areas of Ras Badran and Gulf el Zeit, and with El-Aasar, President of OSOCO in the second agreement in the areas of Shuqair, Jazurina, Ras El Ash, East Zeit, and Ashrafi.

Following the signing, El Molla confirmed that the two agreements aim to achieve the maximum benefit from brownfields by selecting the best companies that possess advanced capabilities, especially since these areas are still full of promising potential.

El Molla stated that maintaining and increasing production rates in obsolete fields improves economic performance and reduces the import bill, in addition to exploiting the distinguished infrastructure that the two companies possess in their regions.

MPED: Petroleum Sector Targets Investments of EGP 99.6B during FY 2023/24

Egypt's Ministry of Planning and Economic Development (MPED) outlined a significant investment plan for the petroleum sector in its fiscal year (FY) 2023/24 report. The plan allocates EGP 99.6 billion for extraction development, with a focus on natural gas (EGP 65.4 billion) followed by oil (EGP 22.4 billion) and other extractions (EGP 11.8 billion). Notably, the private sector is expected to contribute 84% of the total investment, demonstrating strong private sector involvement.

In terms of production targets, the report states that the plan aims to increase production at current prices from 939 billion Egyptian pounds (EGP) in FY 2022/23 to 1.09 trillion EGP in FY 2023/24, representing a growth rate of 16%. Production is projected to reach 1.288 trillion EGP by FY 2025/26, with an average annual growth rate of 18.5%.

At stable prices, production is estimated to reach 664 billion EGP in FY 2023/24, compared to 655 billion EGP in FY 2022/23, representing a growth rate of 1.4%. Production is expected to reach 692.5 billion EGP by FY 2025/26, with an average annual growth rate of 1.5% during the plan period.

The report states that the plan aims to increase the GDP of the extraction sector at current prices to 960 billion Egyptian pounds (EGP) in FY 2023/24, compared to 826 billion EGP in FY 2022/23, representing a growth rate of 16.2%. GDP is projected to reach 1.14 trillion EGP by the end of the plan period, with an average annual growth rate of 20%.

At stable prices, GDP is estimated to reach 573 billion EGP in FY 2023/24 and 598 billion EGP in FY 2025/26, representing an annual growth rate of 1.2% for the first year and an average annual growth rate of 1.25% for the period up to FY 2025/26.

A BLAST FROM THE PAST

May 2014 marks Egypt's signing of a contract to rent the first floating ship to receive the imported liquefied natural gas (LNG). EGAS has penned a Letter of Intent with the Norwegian company Hoegh LNG, for the charter of one of Hoegh's Floating Storage and Regasification Units (FSRU), which will act as an LNG importer terminal in the port of Ain Sokhna, located in the Red Sea's Gulf of Suez.

The contract entitled Egypt to rent the FSRU for five years to store and re-gasify imported LNG, providing over 500 million cubic meters of natural gas per day to the national network.

To satisfy growing domestic demand at the time Egypt had to divert its natural gas supply away from exports to the domestic market and rely on liquefied natural gas (LNG) imports to address the rise in consumption.

Accordingly, Egypt signed deals for LNG imports with different oil and gas companies along with expanding gas exploration and production activities, which was evident through the discovery of Zohr, Atoll, and Nour fields.

Egypt acquired two floating storage and re-gasification units (FSRUs) in 2015. However, plans for a third FSRU were canceled in 2016 because of higher anticipated domestic production. In this year, Egypt produced approximately 4.0 billion cubic feet per day (Bcf/d) (0.1132Bcm/d) of dry natural gas and imported 1.0 Bcf/d (0.028Bcm/d). In 2018, Egypt achieved self-sufficiency in natural gas.

UNDER THE LIMELIGHT

Oil and Gas Sector's GDP increase in H1 2023/24

18% YOY

Oil and Gas Sector's Gross Domestic Product (GDP)

In the first half (H1) 2023/24, the oil and gas sector's Gross Domestic Product (GDP) increased from EGP 465,658 million to EGP 549,173 million. This had a significant impact on the sector's share in the country's GDP, increasing from 1.8% in H1 2022/23 to 8.5% in H1 2023/24.

Among the sector's GDP, crude oil extraction activities showed remarkable growth, with a notable increase of 28.85%. This accounts for a significant share of 41.9% of the sector's GDP.

Similarly, natural gas and petroleum refining saw significant increases. Natural gas extraction activities rose by 12%, while petroleum refining grew by 10.5%. Their combined contribution in the sector's GDP was 58.1%, according to the Ministry of Planning and Economic Development.

ACHIEVEMENTS

Petromaint's Net Profits Grow by 165% YoY

Alexandria Petroleum Maintenance Company (Petromaint) has held its general assembly meeting to approve the results of the year 2023.

During the meeting, Petromaint's Chairman Ibrahim Motawea reviewed the most important performance indicators for the fiscal year 2023, amid unprecedented financial indicators.

Motawea stated that the contracts' value jumped to EGP 7 billion, an increase of 65% over the previous year, and revenues also increased to EGP 5.2 billion, compared to EGP 3.7 billion in 2022, an increase of 41%. Additionally, the company's net profit rose to EGP 342 million, compared to EGP 129 million, an increase of 165% year on year (YoY).

The company has achieved these astonishing results despite the circumstances and successive events that the world is witnessing, which have directly affected the economies of many countries in the world and supply chains.

Motawea said that Petromaint succeeded in obtaining the ISO 37000 certificate for corporate governance, and it is the first company to obtain it in the oil and gas sector and in Egypt.

This comes as the company was interested in applying the laws and standards of corporate governance,

which strengthens its position externally, as 25 of the company's human cadres were trained on the third edition of the Egyptian Guide to Corporate Governance.

The European Certificate of Conformity (CE Mark) was also obtained, and out of the company's management's belief in the sustainability policy of the company's activities during the year 2023, six trainees obtained the Sustainability Implementation Certificate from the American International Certification Institute (AICI).

Motawea further explained that Petromaint is striving to open foreign markets, as it has partnered with Modern Gas with a 20% stake in a company in the Kingdom of Saudi Arabia and is seeking to strengthen its presence within the Iraqi market.

Wadico Total Activity Revenues Reached EGP 712M in 2023

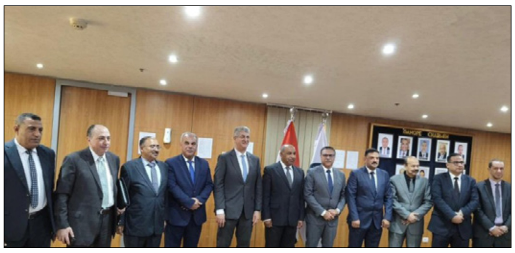
The New Valley Company for Mineral Resources and Oil Clay (Wadico) has held its general assembly meeting to approve the results of the work for the year 2023.

During the meeting, Minister of Petroleum and Mineral Resources Tarek El Molla commended all employees of the company for their achievements and encouraged them to persist in their efforts to attain greater progress and development.

Wadico's Chairman Amgad Ghoniem presented its most prominent achievements and activities during the year 2023, and that it was able to achieve the entire marketing plan for the year, as the total activity revenues amounted to EGP 712 million, with a total profit amounting to EGP 433 million.

Meanwhile, the net profit amounted to EGP 341 million, it drilled 700 exploratory wells in an area of 7 square kilometers, which resulted in the confirmation of a mining reserve of 2.5 million tons with an average concentration of 24%-30%, and that area for extracting phosphate ore for an amount of 900,000 tons were offered.

Additionally, 700,000 tons of coarse phosphate raw materials and 490,000 fine raw materials were



produced, and 580,000 fine raw materials were sold. The company also produced and marketed 155,000 tons of sandy kaolin raw materials.

Ghoniem highlighted the achievement of 500,000 hours without wasted time during the year and about social responsibility. Ghoniem further pointed to Wadico's participation in the development of the village of Naga al-Arab – Luxor, which was opened in January 2024.

Ghoniem noted that during the year 2024, Wadico is implementing a business plan based on several axes to develop and sustain the business through expanding operations (exploration – extraction – production), increasing Wadico's share of the Egyptian market, and business development.

Pharos Energy's Oil Production from Egypt Reaches 1,381 bbl/d in 2023

Pharos Energy plc has announced that it produced 1,381 barrels per day (bbl/d) of oil in Egypt during 2023, according to results submitted to the London Stock Exchange.

This comes as three wells were put on production and injection in 2023. A new era of oil production began in Egypt in December 2023 with the North Beni Suef (NBS) exploration well, NBS-SW1X, being declared a commercial discovery and brought online.

Meanwhile, exploration in El Fayum yielded positive results in July 2023 with the success of the first commitment well targeting the Abu Roash G and Upper Bahariya formations. The well is prepared for further evaluation in 2024.

In September 2023, the Egyptian General Petroleum Corporation (EGPC) granted approval for a 20-year development lease for NBS-SW1X.

Pharos delivered on several fronts in 2023, laying the groundwork for significant momentum going into 2024. The Group had drilling success both in Vietnam, with the CNV production well coming in strongly, and in Egypt, with two discoveries from exploration wells on NBS and El Fayum.

Pharos Energy CEO's Jann Brown noted that on Block 125, parallel discussions with several potential farm-in partners are ongoing and we are actively working with another operator in the region to enhance our efforts in securing a suitable rig.

Brown stated that the company has ended the year in a strong financial position with net debt down to $6.6 million and cash balances of $32.6 million, from revenues of $168.1 million. Moreover, the company has now received $10 million from EGPC, as they resume payments to foreign oil companies on the back of the substantial support packages committed to Egypt, putting Pharos into a net cash position today.

FOLLOW UP

Petroleum Minister Follows Up on the Latest Developments of Natural Gas Delivery Projects

Minister of Petroleum and Mineral Resources Tarek El Molla has taken measures to review the implementation of projects to deliver natural gas to homes and the activity of supplying cars with gas during the current fiscal year 2023/2024 until the end of last March.

El Molla stated that the Ministry is continuing the initiative to pay customers' contributions to the delivery cost in installments, as the cost is currently paid in installments over seven years without down payment and without interest at a rate of EGP 40 per month for new areas that natural gas enters for the first time and operates under the project system.

The minister pointed to the success of the petroleum sector in delivering natural gas to about 14.7 million housing units since the start of activity until the end of March 2024, which led to the provision of about 265 million butane gas cylinders annually and the support corresponding to this number.

El Molla explained that during the year, natural gas was delivered to 118 new areas that natural gas entered for the first time until the end of March, and gas was delivered to about 3,905 bakeries within the first and second phases of the initiative to deliver to subsidized municipal bakeries.

In the field of fueling cars with compressed natural gas (CNG), in implementation of the presidential directives, the Ministry developed an ambitious plan that resulted in the establishment of 58 car fueling stations to operate with CNG during the year until the end of March. The rest of the stations are being implemented, bringing the total number of stations to approximately 1,000 stations distributed throughout the Republic. About 39,500 cars have also been converted to operate on dual fuel (liquid fuel/natural gas), bringing the total number of cars that have been converted since the start of activity to about 550,000 cars.

Additionally, 19 conversion centers were also operated, bringing the total since the start of activity to 149 transfer centers to serve customers nationwide.

Petroleum Minister Monitors Progress of New Petrochemical Projects

Minister of Petroleum and Mineral Resources Tarek El Molla has reviewed the progress of new petrochemical projects, emphasizing that the investment map for these projects took into account the addition of new green and environmentally friendly products that would increase total production, which reached more than 4.3 million tons during the last fiscal year.

New production facilities and materials provide some of what is imported from abroad, such as soda ash, silicon derivatives, methanol, and green energy projects with their economic and environmental dimensions, such as the wood technology project and its manufacture from rice straw, bio-methanol, and green ammonia, which supports the goals of the bio-petrochemical industry in achieving sustainable development and promoting economic growth.

Within the framework of updating the national plan for the petrochemical industry until 2040, in accordance with the market's requirements and needs for petrochemical products and exporting the surplus, the Silicon and Derivatives Complex and Soda Ash Production Projects were put into operation on the land of the Egyptian Petrochemical Holdings Company in the industrial zone in New Alamein City.

The Egyptian Soda Ash Company was also established with the aim of producing sodium carbonate (Soda Ash) and its derivatives with a production capacity of about 600,000 tons annually, which contributes to maximizing the added value of the mineral resources available locally.

COOPERATION

Egypt, Ecuador Explore Joint Cooperation in Oil, Natural Gas

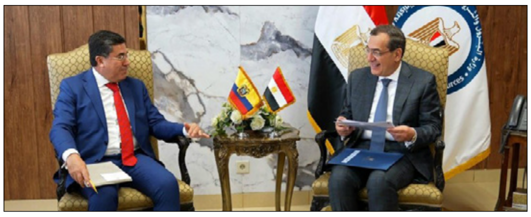
Minister of Petroleum and Mineral Resources Tarek El Molla has met with Denys Toscano Amores, the Ecuadorian Ambassador to Cairo.

The meeting reviewed ways of cooperation between the two countries in all fields of the oil and gas industry.

During the meeting, El Molla stated that the opportunities for joint cooperation between the two countries are many and promising, especially in the field of oil and gas. He added that the Egyptian petroleum sector is fully prepared to cooperate with Ecuador in the field of research, exploration, and production in light of the great expertise possessed by both sides.

For his part, Amores expressed his appreciation and respect for Egypt as a pivotal country in the region and the world, pointing to the strong friendly relations and mutual respect between the two countries.

Amores expressed his country's aspiration to cooperate with Egypt in the various fields of petroleum and exchange experiences, given that Egypt enjoys great experience in the field of research and exploration for oil and gas, especially in marine areas.



Moreover, Amores pointed out the desire of several oil companies from Ecuador to come to Egypt and review the investment opportunities available in the field of oil and gas.

The meeting witnessed a review of the final preparations for signing a memorandum of understanding between the Egyptian Ministry of Petroleum and Mineral Resources and the Ecuadorian Ministry of Energy and Mining for cooperation in various fields. The meeting also discussed the possibility of Ecuador seeking Egyptian expertise in the field of delivering natural gas to homes, converting cars to run on gas, and establishing stations to supply cars with compressed natural gas (CNG).

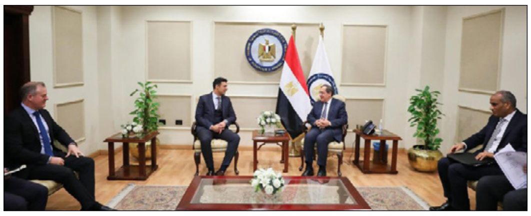
El Molla, Honeywell Explore Cooperation in Green Fuel, Emissions Reduction, Capacity Building

Minister of Petroleum and Mineral Resources Tarek El Molla has met with a delegation from Honeywell International, headed by Khaled Hashem, the company's President for the Middle East and Africa region.

The meeting reviewed the possibility of implementing several joint projects between the oil and gas sector and Honeywell Company in the fields of green fuel, emissions reduction, and cadre training.

During the meeting, El Molla stated that the petroleum sector is currently studying the implementation of several value-added projects that will achieve a significant return on the national economy.

El Molla confirmed that the project to produce sustainable aviation fuel (SAF) would put Egypt at the forefront of countries implementing it in the region and aims to meet the growing demand for sustainable aviation fuel.



For its part, the company delegation confirmed that work is underway to implement a feasibility study for the SAF fuel production project in Egypt in partnership with the European Bank for Reconstruction and Development (EBRD), and that work on the feasibility study will be completed within the next few months.

The delegation extended an invitation to receive a team from the Ministry of Petroleum and Mineral Resources in some of the units already producing SAF fuel in Italy and the US to learn about the different stages of production.

Egypt, Bahrain Study Available Opportunities to Collaborate in Petroleum Projects

Minister of Petroleum and Mineral Resources Tarek El Molla has met with the Bahraini ambassador to Egypt Fawzia Zainal and they agreed to prepare a study about the capabilities of the Egyptian companies and the available opportunities to cooperate in petroleum projects in Bahrain.

El Molla stressed the deep historical relations with Bahrain which can achieve the aspirations of the two brotherly peoples for progress, construction, and development.

For her part, Zainal expressed her pleasure for working in Egypt and for what she found of cooperation and support, affirming the necessity of continued work to enhance cooperation and coordination.

She noted that a number of agreements are under preparation to be signed to enhance cooperation in this field.

Egypt, Eni Sign Two CSR Agreements to Support Healthcare in Matrouh, Port Said Governates

Minister of Petroleum and Mineral Resources Tarek El Molla and Khaled Abdel Ghaffar, Minister of Health and Population, have witnessed the signing of two corporate social responsibility agreements, which demonstrate the petroleum sector's significant role in supporting healthcare in the Matrouh and Port Said governorates in cooperation with Italian energy giant Eni.

The first agreement signed between Eni and the Ministry of Health and Population and Matrouh Governorate aims to cooperate in implementing the community health project in the governorate.

The second agreement aims to start construction work through Petrojet, a subsidiary of the petroleum sector, on the project to renovate and develop the burns treatment department at Al Salam Hospital in Port Said, which is supported by Eni.

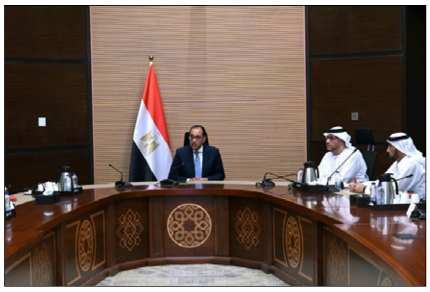
The first agreement was signed by Khaled Shuaib, Governor of Matrouh, and Mohamed El-Tayeb, Assistant Minister of Health and Population for Governance and Technical Affairs, with Mattia Campanati, Managing Director of IEOC (Eni's subsidiary in Egypt).

The second agreement was signed by Wael Lotfy, Petrojet Chairman, and Filippo Uberti, Eni's Health Manager and Secretary General of the Eni Foundation.

El Molla stated that supporting the health field comes at the forefront of the axes of the unified strategy for social responsibility in the petroleum sector, which worked to identify the priorities and actual needs of the utmost importance in the local communities in the petroleum work areas and direct the efforts of petroleum companies to support them through concrete initiatives on the ground.

MEETINGS

Madbouly, UAE Officials Talk Initial Agreement with Borouge Company



Prime Minister Mostafa Madbouly has met with Mohammed Saeed Al Dhanhani, Director of the Fujairah Emiri Diwan in the United Arab Emirates (UAE) to review future expansion plans in the Egyptian market in the field of oil and gas.

At the beginning of the meeting, Madbouly expressed his appreciation for the depth of the distinguished bilateral relations between Egypt and the UAE, stressing the Egyptian government's keenness to deepen cooperation with the UAE in various fields, especially in the field of economic cooperation, which has witnessed remarkable development recently.

Meanwhile, Al Dhanhani reviewed future expansion plans in the Egyptian market in the field of oil and gas, especially the signing of the initial agreement between the Egyptian government, the Emirate of Fujairah and the Borouge Investments and Gas Company.

Al Dhanhani expressed his thoughts that this agreement will contribute to strengthening relations in the field of oil and gas in terms of implementing infrastructure and service projects in the petroleum sector in the Arab Republic of Egypt. Including the production, storage, trading, import, export, re-export and refining of petroleum and its derivatives

Moreover, Al Dhanhani stated that the Emirate of Fujairah is a global strategic center in the field of storage and trading of oil and its derivatives and occupies a distinguished position among the three largest storage centers in the world, and there is a serious desire from the company to transfer its experience in this field to its brothers in the Arab Republic of Egypt.

Meanwhile, Suhail Al Mazrouei, Member of the Board of Directors of Borouge Company, explained that the UAE and Egypt have strong and strong fraternal and bilateral relations, strengthened by the vision of the two brotherly countries to achieve progress and growth in various sectors, the most important of which is the economic sector.

Al Mazrouei noted that this initial agreement will make the company move at a steady pace to establish and develop a giant project that will support the oil sector in Egypt, in light of the potential of this sector, which has succeeded in making Egypt the most attractive destination for investments, especially from the UAE.

COMPANY OF THE MONTH

ExxonMobil, was founded in 1870, as an American multinational oil and gas corporation. It is one of the world's largest publicly traded energy providers and chemical manufacturers that develops and applies next-generation technologies to meet the needs for sustainable energy and high-quality chemical products.

ExxonMobil's Activities in Egypt

ExxonMobil Egypt builds on more than 120-year history of partnership in Egypt's growth dating back to 1902. In 2000, ExxonMobil Egypt was created as the result of a merger between ESSO Standard Near East and Mobil Oil Egypt. The company has an extensive network in Egypt, participating in various activities such as downstream projects, including stations and diverse industrial products. Additionally, it is involved in upstream projects, with concessions in the offshore areas of the Mediterranean Sea.

Source: ExxonMobil's Website.

ExxonMobil's Concessions

Concession	Awarding Year	Share (%)	Area (km²)
North Marakia	2020	60	4,847
Masry and Cairo	2023	100	11,000

EXXONMOBIL MAKES NEW DISCOVERY OFFSHORE GUYANA

ExxonMobil Guyana has announced a new discovery at Bluefin in the Stabroek block, located offshore Guyana, marking the company's first discovery of 2024 and adds to the more than 30 discoveries already made on the Stabroek block since 2015.

The Bluefin well, drilled by the Stena Drillmax drillship, encountered approximately 197 feet (60 meters) of hydrocarbon-bearing sandstone in 4,244 feet (1,294 metres) of water.

This discovery is located approximately 8.5 kilometers southeast of the Sailfin-1 well in the southeastern portion of the Stabroek block.

SLB SURGES IN PROFIT BY 14% IN Q1 2024 RESULTS

SLB has announced its first quarter results, achieving year-on-year 14% rise in profits, driven by higher oil and gas drillings in the Middle East and Asia which had offset decline in North America.

SLB has recorded first-quarter revenue of $8.7 billion, with a year-on-year increase of more than 10% when excluding the impact of the Aker subsea acquisition, stated Stephane Biguet, Executive VP and CFO of SLB.

International revenue surged by 18% year-on-year, predominantly driven by a 29% growth in the Middle East. However, North America revenue saw a 6% decline, primarily due to lower rig counts in US land and the impact of reduced gas pricing affecting projects in Canada.

In the Middle East and North Africa, year-on-year growth was supported by continued investments on long-cycle developments and capacity expansion projects, in both oil and gas, across Algeria, Egypt, Iraq, Libya, Qatar, Saudi Arabia, and the United Arab Emirates, Olivier Le Peuch, CEO of SLB stated during the conference call.

In Asia, we saw strong activity across the region led by offshore, notably in China, Indonesia, Malaysia, the Philippines, and India, Le Peuch added.

SLB has achieved a companywide adjusted EBITDA of $2.06 billion, a 15% year on year, aligning with the guidance for mid-teen adjusted EBITDA growth for the full year of 2024.

Additionally, SLB generated $327 million in cash flow from operations during the quarter. Free cash flow was negative at $222 million, showing a slightly better turnover from the same period last year.

For the company's outlook, Le Peuch forecasts that international revenue is expected to grow at a mid-single digit percentage rate in the second quarter from the first, while North America revenue could rise at a low-single digit rate.

ADES AWARDED $93.3M DRILLING CONTRACT

ADES Holding Company (ADES) in Saudi Arabia has been awarded a one-year firm jack-up drilling contract in Qatar by a major International Oil Company (IOC), with optional extensions of up to 18 months. The total contract value, including firm and optional terms, amounts to approximately SAR 350 million ($93.3 million).

The contract entails a firm one-year term plus three optional six-month extensions. Operations are expected to commence in the second half of 2024 utilizing one of ADES' jack-up drilling units.

The award by IOC will maintain ADES' market share in Qatar with a three-rig operation after the planned relocation of its Emerald Driller to Indonesia, which is expected to happen in second half of 2024.

CHEVRON TO INVEST $500M IN LOW CARBON TECHNOLOGIES

Chevron's venture capital arm has announced its third fund, the Future Energy Fund III, with a $500 million commitment aimed at investing in renewable energy technologies, according to Reuters.

The Future Energy Fund III will focus on innovations in industrial decarbonization, emerging mobility, energy decentralization, and expanding circular carbon economy, according to Chevron Technology Ventures.

The fund will also extend to investing in novel low carbon fuels, advanced materials, and technologies that transform carbon into higher value products.

Notably, Chevron Technology Ventures launched the first Future Energy Fund in 2018, followed by a second fund in 2021 for a total of $400 million commitment. To date, it has invested in over 30 companies.

PETROBRAS ANNOUNCES OIL DISCOVERY IN ULTRA-DEEP WATERS OF POTIGUAR BASIN

Petrobras has announced an oil discovery in the ultra-deep waters of the Potiguar Basin. The discovery, located in the Anhangá exploratory well of Concession POT-M-762_R15, marks the second oil find in the Potiguar Basin in 2024. This follows the confirmation of hydrocarbons in the Pitu Oeste Well in the BM-POT-17 Concession.

Petrobras, holding a 100% stake and operating both concessions, is focused on further assessing these discoveries. The new campaign was executed in line with Petrobras' history of excellence and absolute safety, without any incidents, reinforcing the company's commitment to respecting people and the environment, Petrobras stated in a press release.

Besides its activities in the Brazilian Equatorial Margin, Petrobras has expanded its presence by acquiring blocks in the Pelotas Basin and stakes in exploration blocks in São Tomé and Príncipe in 2023.

The confirmation of oil-bearing Albian-age turbidite reservoirs is unprecedented in the Potiguar Basin and was carried out through electrical profiles and oil samples, which will later be characterized through laboratory analysis. The company will continue exploratory activities in the POTM-762_R15 Concession to assess reservoir quality, oil characteristics, and the accumulation's technical-commercial viability.

Petrobras plans to invest $7.5 billion in exploration by 2028, of which US$ 3.1 billion in the Equatorial Margin, which stretches from Amapá to Rio Grande do Norte. It plans to drill 50 new exploratory wells in the period, 16 of them in the Equatorial Margin region.

TOTALENERGIES EXPANDS US NATURAL GAS PRODUCTION WITH ACQUISITION IN TEXAS

TotalEnergies has acquired 20% interest of Lewis Energy Group in the Dorado leases managed by EOG Resources in the Eagle Ford shale gas region.

Situated in Texas, the Dorado field will boost TotalEnergies' net US natural gas production by 50 million cubic feet a day (mcf/d) in 2024, with potential growth up to an additional 50 mcf/d by 2028. The field maintains an emission intensity of approximately 10 kg CO2e/boe. In 2023, TotalEnergies achieved a net US natural gas output of around 340 mcf/d, with a technical production of 450 mcf/d.

With over 10 million tons (Mt) in 2023, TotalEnergies was the number one exporter of US LNG, thanks to its 16.6% stake in the Cameron LNG plant in Louisiana and several long-term purchasing agreements, the company stated in a press release.

The company anticipates its LNG export capacity to reach to 15 mtpa, by 2030, following the start of the first phase of the Rio Grande LNG project in Texas, currently under construction.

ARAMCO AWARDS $7.7B CONTRACTS TO INCREASE FADHILI GAS PLANT CAPACITY BY 1.5 BSCF/D

Aramco has awarded engineering, procurement, and construction (EPC) contracts totaling $7.7 billion for a substantial expansion of the Fadhili Gas Plant in Saudi Arabia's Eastern Province. The contracts aim to boost the plant's processing capacity from 2.5 to 4 billion standard cubic feet per day (bscf/d).

Aramco awarded EPC contracts for the Fadhili Gas Plant increment project to SAMSUNG Engineering Company, GS Engineering & Construction Corporation, and Nesma & Partners.

The additional surge of 1.5 bscf/d in processing capacity aligns with Aramco's target to raise gas production by over 60% by 2030, compared to 2021 levels.

Anticipated for completion by November 2027, the Fadhili Gas Plant extension is poised to enhance sulphur production by an additional 2,300 metric tons per day.

PETRONAS, JERA PARTNER TO ASSESS CCS VALUE CHAIN BETWEEN JAPAN, MALAYSIA

Petronas, through its subsidiary Petronas CCS Solutions Sdn Bhd (PCCSS), has signed a joint study agreement (JSA) with JERA Co., Inc to evaluate the feasibility of an entire carbon capture and storage (CCS) value chain.

This evaluation encompasses the separation and capture of carbon dioxide (CO2) emitted from JERA's operations in Japan, cross-border CO2 transportation, and subsequent storage in Malaysia.

This agreement will strengthen the collaboration and contribute towards building a global network for cross-border CO2 transport and storage, Petronas stated in a press release.

The JSA represents a notable stride forward in efforts to reduce greenhouse gas emissions in the Asia Pacific region, especially in Malaysia and Japan, the company added.

ADNOC STARTS FIRST OIL, GAS PRODUCTION FROM BELBAZEM OFFSHORE BLOCK

Abu Dhabi National Oil Company (ADNOC) has announced the start of crude oil production from its Belbazem offshore block set to ramp up to 45,000 barrels per day (bbl/d) of light crude and 27 million standard cubic feet per day (mmscfd) of associated gas, contributing to ADNOC's target of reaching 5 million bbl/d by 2027 and enabling UAE gas self-sufficiency for the UAE.

The Belbazem offshore block is operated by Al Yasat Petroleum, a joint venture between ADNOC and China National Petroleum Corporation (CNPC).

Al Yasat is pioneering the implementation of AI modelling and analysis tools across its offshore concession area, ADNOC stated in a press release.

The Belbazem block uses WellInsight, an AI tool developed by AIQ, to analyze reservoir data and manage operations for enhanced safety and performance. The block will also integrate advanced technologies already deployed at Al Yasat's Bu Haseer offshore field, to optimize production and reservoir management.

The Belbazem block is leveraging operational synergies by utilizing the facilities of Satah Al Razboot (SARB), an offshore field operated by ADNOC Offshore, resulting in cost savings and reduced environmental impact. Located 120 kilometers northwest of Abu Dhabi city, the Belbazem Block consists of three offshore fields: Belbazem, Umm Al Salsal and Umm Al Dholou.

QATARENERGY SIGNS 25 LNG VESSELS TCP AGREEMENTS WITH QATARI NAKILAT

QatarEnergy has signed time-charter party (TCP) agreements with Qatar Gas Transport Company Limited (Nakilat) for the operation of 25 conventional-size LNG vessels as part of the second ship-owner tender under QatarEnergy's historic liquified natural gas (LNG) Fleet Expansion Program.

This Expansion Program aims to expand the company's LNG production capacity to 142 million tons per annum by 2030, ensuring additional cleaner and reliable energy supplies to the world, stated Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs and the President and CEO of QatarEnergy during the signing ceremony on Sunday in Doha.

Out of the 25 LNG vessels, 17 are being constructed at the Hyundai Heavy Industries (HHI) shipyards in South Korea, while the remaining eight are being constructed at Hanwha Ocean (formerly Daewoo Shipbuilding & Marine Engineering) also in South Korea.

Each of the 25 vessels will have a capacity of 174,000 cubic meters and will be chartered out by Nakilat to affiliates of QatarEnergy pursuant to the 15-year TCP agreements.

ENERGEAN REVENUES SURGE BY 93% YOY IN 2023

Energean has reported its full-year revenues of $1,420 million, representing a 93% increase from 2022, and adjusted EBITDAX of $931 million, marking a 121% increase from the previous year.

Accordingly, the company reduced its leverage ratio by 50% to 3x and declared a Q4 2023 dividend of 30 US cents/share, returning approximately $370 million to shareholders since the inaugural payment in Q3 2022.

The company has also made progress in reducing its emissions intensity, achieving an 86% reduction from its original 2019 baseline.

The company's Chief Executive Officer Mathios Rigas expressed his satisfaction with the company's performance, stating that 2023 was another transformational year for Energean.

Energean grew production by 200% year-on-year, reached c. 150 thousand barrels of oil equivalent per day (kboed) peak production and brought NEA/NI (North El Amriya and North Idku) online on time and on budget.

The company is focused on backfilling the Energean Power FPSO, meeting growing gas demand in Israel and the region, and pursuing new areas of development, including the Morocco farm-in project and unlocking previously restricted acreage in Italy.

CNOOC ANNOUNCES OVER 100M TONS OF OIL FIELD DISCOVERY IN BOHAI SEA

CNOOC has announced a major oilfield discovery in the north-central waters of the Bohai Sea, producing medium-heavy crude oil.

The Qinhuangdao 27-3 Oilfield (QHD27-3-3) has an average water depth of 25 meters and is primarily located in the Minghuazhen Formation of Neogene.

The well, which was drilled and completed at a depth of 1,570 meters and encountered a total of 48.9 meters of oil pay zones, has been tested to produce approximately 742 barrels of crude oil per day. Through continued exploration, the proved in-place volume of QHD27-3-3 Oilfield has reached 104 million tons of oil equivalent.

CNOOC has been continuing to make new discoveries in the Bohai Sea, which further expand the resource base for offshore oil production growth.

Moreover, CNOOC Limited plans on increasing reserves and production to enhance our energy supply capacity, thereby contributing to the sustainable development of the economy and society, he noted.

MOBILAWY "EXXONMOBIL'S LOYALTY PROGRAM" WINS THE BEST B2B LOYALTY PROGRAM IN 2024 INTERNATIONAL LOYALTY AWARD!

ExxonMobil Egypt's loyalty program – Mobilawy - won Best B2B program at the 2024 International Loyalty Awards conference held in Dubai, U.A.E. The program is designed and managed in collaboration with Dsquares – a tech savvy loyalty solution provider, who have been working on it since its birth in 2020.

Now, with this prestigious award sitting on its shelf a few feet from the marketeers behind Mobilawy at ExxonMobil Egypt Cairo Office, Egypt Oil & Gas sheds light and insights into this program – how it all started, what challenges were overcome, and how both ExxonMobil and Dsquares continue to work together to take 'loyalty' to the next level.

AN INTERVIEW WITH **AHMED ABDELDAYEM,**

Africa Middle East Chief Marketing Officer at ExxonMobil Egypt

What does this award mean to you?

For me, this prestigious international award is a recognition of the program's ability to foster strong, rewarding relationships with our valued channels and reflects on the hard work, passion, and commitment to exemplifying excellence & innovation for the Mobilawy trade loyalty program after shortlisted with 9 contenders for the B2B category.

Overall, we are very proud of our integrated digital ecosystem that helps us fulfill our brand promise and delivers on ExxonMobil Egypt aspirations… and that's only the start!

How did it all start?

To answer that, I have to take you back more than 120 years when ExxonMobil Egypt was established. We have been and continue to be a leading provider of lubricants and fuels with almost 400 Mobil Service Stations, 240 Mobil 1 Centers, and Mobil Autocare. We have always worked hard to meet the rising needs of our channels and customers and proudly play a significant role in driving Egypt's Economic growth, which has been key to our continued success. In 2020, we initiated the Mobilawy loyalty program with the aim of revolutionizing our B2B and consumer experience. Mobilawy – the name inspired by the fact that we wanted our customers to belong, to feel empowered, and to be part of something big that adds value to them and to their business. Starting off with an SMS-based system, we soon afterwards developed an app. on both Appstore and Google Play, and eventually, Mobilawy employed a digital platform that transcended into an evolving and continuously improving powerful tool enabling an overarching eco-system.

> We have always worked hard to meet the rising needs of our channels and customers and proudly play a significant role in driving Egypt's Economic growth, which has been key to our continued success.

How did ExxonMobil become a leader in the digital transformation that led to the success of this unique trade program?

Our journey towards digital transformation began five years ago with a market-back approach and adopting a customer-centric roadmap for both B2C & B2B channels. The brand consumer experience (BCX) is the foundation of everything we do, tracking the customers' journey, understanding their needs, and above all, what they expect of the "Mobil" brand. Understanding all of this enabled us to uncover actionable insights to construct a holistic digital strategy.

We have transactional loyalty programs, which have always been key to developing our relationships with consumers, but 'good' became 'better' when we managed to combine those with non-transactional loyalty programs that develop affinity, attachment, and trust. Since its inception in 2020, "Mobilawy" has been a remarkable success rapidly gaining market penetration by offering rewards on fuels and lubricants. Mobilawy has continually evolved gaining more fulfilling features along the way to enhance usability and transitioning from an SMS system to an enhanced app available on both the AppStore and Google Play.

What were the challenges that Exxonmobil encountered during the digital transformation implementation and how were they addressed?

I can go on for days just to mention a few of the challenges, but if I am to be specific, there were really 3 main ones in the end:

A. there's the market dynamics: Critical factors like technological advancements, economic fluctuations, and shifting consumer behaviors lead to the rapid evolution of Markets. Let's not forget the unprecedented challenge back then facing the entire world with a global pandemic, and so to be able to maintain customer loyalty, we had to remain resilient, agile, proactive – and more importantly positive – in responding to these changes.

B. Keeping consumers engaged. We cannot afford to lose their attention nor their interest and involvement. In today's dynamic landscape, customer disengagement can occur swiftly if they perceive a lack of value proposition. At ExxonMobil, we continuously evolve and strive to stay more than one step ahead anticipating and meeting customer needs before they are even articulated to guarantee loyalty.

C. And the third but by no means the least, is Resources and Technological capabilities. Companies should cope with the frequent technological advancements and always be ready with the adequate resources needed.

What's your advice to other companies on the key factors to success if they are looking forward to developing loyalty programs?

You have got to empower your teams and choose the right expertise to get the job done. And let us not forget that when we say terms like B2C and B2B, we are also working with and for "people". Always keep an eye out for what is happening around you in the market. What do your customers want? Put yourself in their shoes, because you and I and the next 100 people you interview are customers of some loyalty program or another.

Additionally, you have to ensure that Project Management elements are in place: secure your budget, resources, and technical capabilities. You need to have a solid and robust 3-5 years business plan based on a vision, and to make sure to have the right level of expertise the project needs. Developing loyalty programs is about value. So my simple advice would be - Never stop evolving. Trends change, technology advances and market behaviors shift. And we must always adapt.

What is the future of ExxonMobil's digital transformation strategy?

Our aim is to pursue a digitally enabled consumer reach. We are working on the next generation of Mobilawy platform, and the future of transactional loyalty, to develop a digital inclusive relationship with consumers, to become the all-new feature set and the go-to digital destination for drivers' maintenance and fueling needs.

Overall, we are proud of our integrated digital ecosystem that delivers ExxonMobil Egypt's benefits and secure long-term loyalty. we're committed to providing industry leading B2B solutions that empower our channels and drive success.

AN INTERVIEW WITH **SHERIF FAHMY,** Head of Loyalty at ExxonMobil Egypt

How did Mobilawy start and how did it evolve over the years?

ExxonMobil Egypt is a market leader in launching a loyalty program to enhance brand loyalty & increase benefits from the lubricants sales through accumulating points & providing a wide range of merchants for redemptions.

On the B2B side, lube oil shops can enroll in the program and have a wallet linked to their mobile number, following a series of verification steps. Utilizing a pack-based solution, traders begin accumulating points by sending numerical code on the back of the side label. As they progress through various tiers, traders receive automated vouchers redeemable at a diverse array of merchants spanning sectors such as F&B, electronics, fashion, etc.

On the B2C side, the end consumer enrolls in the program by sending the numerical code on front label of the lubes pack and automatically a wallet is created holding the assigned points balance. To redeem points, consumers simply provide their mobile number at designated merchants, where they receive a one-time password (OTP) for security purposes and then the points balance is adjusted accordingly to reflect the redeemed item's value.

Furthermore, Mobilawy offers a unique advantage where consumers can accumulate points not only through lubes transactions but also by fueling their vehicles with "Mobil Super Plus 95". This integrated approach allows for the seamless accumulation of points across both fuels and lubes transactions.

In 2023, building upon Mobilawy's foundation, we launched a mobile application for B2B & B2C to enhance the consumer experience of points accumulation. Through an extensive above-the-line (ATL) campaign, we achieved remarkable traction, evidenced by thousands of new downloads/registrations across both lubes and fuels wallets. Leveraging the transactional data, our focus shifted towards building a comprehensive database to extract insights and refine our strategies as we continue to scale with Mobilawy.

> ExxonMobil Egypt is a market leader in launching a loyalty program to enhance brand loyalty & increase benefits from the lubricants sales through accumulating points & providing a wide range of merchants for redemptions.

How did Mobilawy become industry leading loyalty program?

Mobilawy is the first loyalty program in Egypt in the downstream business of fuels & lubes, offering a lucrative pointing system with a competitive value proposition to both B2B & B2C sectors. The recognition of Mobilawy can be attributed to several key factors. First, its success is underpinned by the established brand legacy of Mobil in the Egyptian market for fuels & lubes. By seamlessly transitioning from a B2B perspective to engaging the B2C consumers, Mobilawy capitalized on the brand equity, enhancing its credibility and resonance in the market. Additionally, Mobilawy's approach ensured the engagement of lube oil shops, creating a rewarding system tailored to their needs and fostering strong collaboration across the channel.

What is your reward strategy for Mobilawy Traders?

Initially, our business model at Exxonmobil Egypt was solely focused on rewarding our wholesalers while lube oil shop program was not on the table. Rewarding the lube oil shop was traditionally dependent on the wholesale network.

Mobilawy emerged as our first door opener for the B2B model directly with the lube oil shop. With consumption translating into points, and subsequently into rewards, Mobilawy introduced a lucrative pointing system with a competitive value proposition. So, when a customer goes for an oil change in a lube oil shop, the shop owner can promote Mobil engine oil instead of any other brand to earn more, offering ExxonMobil Egypt a competitive edge in the market.

What kind of challenges did you face while implementing the program throughout its different phases?

We've encountered a spectrum of challenges such as launching amidst the uncertainties of the COVID pandemic in 2020. However, we were able to overcome it year after year and achieve great results. With an expansive network of 40,000 lube shops in Egypt, reaching our target lube shops required a meticulous approach. We were able to leverage dedicated merchandisers who verified, and geo tagged the locations to ensure their validity for points accumulation. Moreover, raising awareness among both B2B & B2C consumers necessitated strategic communication campaigns that hammered on the loyalty benefits and created the right brand association. Additionally, transitioning lube oil shops to digital engagement was a big challenge. However, by initially employing simple SMS interactions and progressively advancing to application and web portal, we were able to successfully engage the B2B consumers.

How were you able to measure the success of Mobilawy over the years?

Our main KPI is the penetration rate which serves as a barometer of the correlation between the sales-in and sales-out and we are consistently surpassing our targets year after year. Having a high redemption rate underscores our program's effectiveness signaling deep engagement among our B2B &B2C consumers.

On the B2B side, Mobilawy has witnessed significant traction, thousands of traders, and lube oil shops in the market - constituting 90% of Egypt traders were successfully registered and engaged in the program.

While on the B2C side, our KPIs are let by the number of application downloads, registrations, followed by the number of active customers and the mix between fuels and lubes wallets. Crossing the milestone of 1 million users stands as a momentous achievement. A very exciting and promising milestone in the Egyptian fuels and lubes sector.

What's the future of Mobilawy?

Since Mobilawy plays a pivotal role in ExxonMobil Egypt's short- and long-term marketing activities and is the core digital platform in the Egyptian market, we've laid out a clear digital roadmap for our loyalty journeys. This road map includes various engaging activities, strategic tactics, and promotional campaigns planned for the next few years to increase user engagement and meet customer needs. As consumers are the heart of everything we do, we will continue to adapt and refine our program to meet their expectations and preferences by leveraging the right expertise "Dsquares" a tech-savvy loyalty house in the loyalty industry, who is an important catalyst for the success of the program.

AN INTERVIEW WITH **MARWAN KENAWY,** CEO and Co-founder of Dsquares

How do you reflect on your journey with Mobilawy?

Mobilawy, ExxonMobil Egypt's B2B loyalty program, is a testament to the power of data-driven loyalty solutions.

Working with ExxonMobil Egypt, we dove deep into understanding the unique motivations of traders, uncovering what drives their preferences to promote Mobil lubricants. These insights fueled our decision-making, allowing us to choose the right rewards and build redemption experiences that truly resonated with this target audience.

Through a combination of cutting-edge technology and a deep understanding of consumer behavior, Mobilawy became an essential lifestyle app for traders across Egypt and a revolution in the Oil & Gas industry.

We're incredibly proud that this success has been recognized by the industry, with Mobilawy winning the prestigious award for the leading B2B loyalty application at the International Loyalty Awards.

> Working with ExxonMobil Egypt, we dove deep into understanding the unique motivations of traders, uncovering what drives their preferences to promote Mobil lubricants. These insights fueled our decision-making, allowing us to choose the right rewards and build redemption experiences that truly resonated with this target audience.

Egypt's Refining Sector

A LOOK AT MODERNIZATION AND EXPANSION

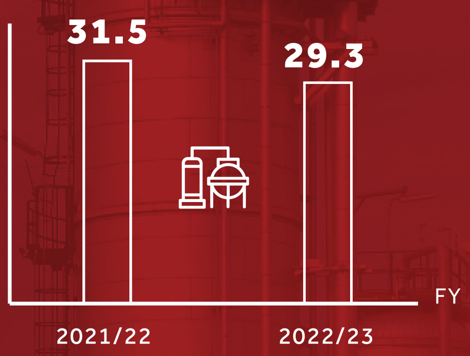
BY JOLLY MONSEF, MARIAM AHMED & ALAA AL MASRY

Key Takeaways

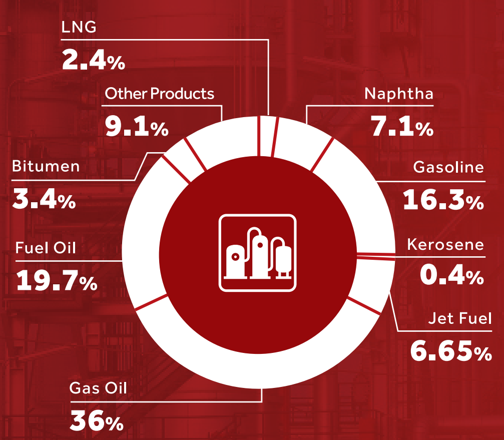
Extant Egyptian Refineries

11

Egypt's Total Refineries Production (mmt)



Average Share of Production in FYs (2021/22-2022/23)



Investments of the Completed Refining Projects in 2023

$7.3 billion

Egypt strives to develop and modernize its oil refineries by completing projects to meet and secure local market needs and reduce the import bill. The oil and gas sector's modernization project encompasses a pillar that targets improving the downstream performance and increasing energy efficiency. This is achieved through implementing several expansion and development refining projects with a capacity of 6.2 million tons per year (mmt/y) by the end of 2023, according to the Ministry of Petroleum and Mineral Resources (MoPMR).

Moreover, Egypt had the largest refining capacity in Africa in 2022, accounting for roughly 25% of the continent's total capacity, according to the 2023 Statistical Review for World Energy Report. To maintain this leadership position, the sector plans to continue investment in upgrading refinery infrastructure and implementing expansion projects.

This report outlines the significance of Egypt's refining sector, including existing refineries, their operations, and the major refined products. It also highlights the key ongoing projects.

EXISTING REFINERIES

Egypt plays a key role in petroleum refining, with 11 refineries. Egypt's refining industry is almost concentrated in Alexandria, Suez, and Cairo. Refineries produce different petroleum products such as liquified petroleum gas (LPG), Gas Oil, Fuel Oil, Lube Oil, Solvents, Kerosene, Gasoline, Bitumens, Naphtha, and waxes; all of which play essential roles in various industrial applications and transportation fuels.

*Established in 1911 as the Egyptian English Oil Wells Co. In 1964 the company was nationalized and renamed to Al-Nasr Petroleum Co. Later, in 1984, the Amreya Refining Plant was then separated from the Nasr Petroleum Co. and named APRC.

REFINERIES OPERATIONS

In fiscal years (FYs) 2021/22 and 2022/23, Egypt's refineries achieved strong production results. Meanwhile, Egypt's average refinery production amounted to 30.4 million tons (mmt). Crude oil is the primary feed in the two FYs, according to the Egyptian General Petroleum Corporation (EGPC).

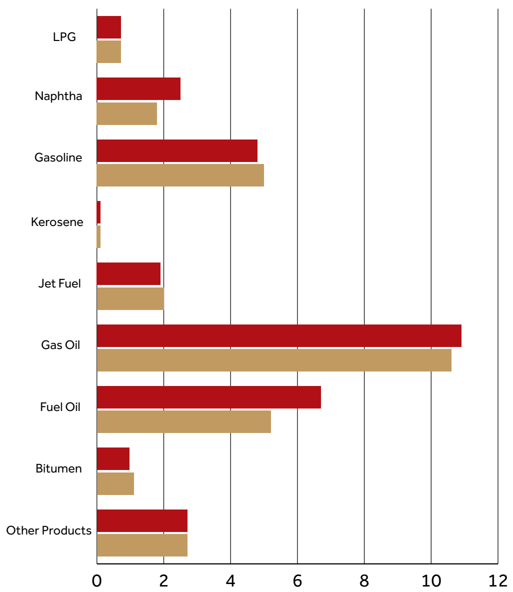
Among a range of petroleum products, gas oil held the biggest share, consistently accounting for around 35% of the total production volume over the two FYs, according to the EGPC.

Total Refineries Production

Feed (mmt)

FY ■ 2021/22 ■ 2022/23

	Crude Oil	Condensates	Other
2021/22	27.8	3.1	0.45
2022/23	25.4	3	0.85



REFINING PROJECTS

Completed Projects in 2023

The sector has completed several refinery projects, through adding new complexes and production units. These projects aim to produce high-quality petroleum products to secure local market needs and reduce imports.

Total Investment

$7.3 billion

Major Projects

ANOPC Diesel Production Complex

SOPC Refinery Expansions

ASORC Establish a New CDU

Completing CDU Project at NPC*

Capacity: 1.2 mmt/y

Cost: EGP 3.3 billion

*Starting the Trial Operations in January 2024

Major Ongoing Projects

The sector is also currently developing a number of promising refining projects aimed at maximizing the value added that will have a positive impact on the sector's activities and the national economy.

Project	Refinery	Capacity (mmt)	Investment Cost ($ billion)
Expansions	MIDOR	Boosting the plant's capacity by 60%	2.3
Assiut Petrol & Diesel Production Complex	ANOPC	2.5	1.2
High Octane Petrol Production Unit	ANOPC	0.8	0.45
Hydrogen Cracking Complex & Petrol Production	Red Sea National Refining & Petro-chemicals Co.	2.5	2.5
Coking Complex, Including Establishing a New VRU of Gases	SOPC	1.5	0.58
Paving Asphalt Production Unit	SOPC	0.396	0.079
Aromatics Extraction	APC	-	0.022
Gas Recovery Project to Produce Butane VRU	NPC	-	-

Egypt's refineries play a crucial role in developing the country's economy by processing crude oil and producing a number of high-quality petroleum products, in order to achieve higher production levels.

In this regard, the government set a strategy to maximize feed production in different regions in Egypt, which leads to an increase in refined products.

Consequently, initiatives were launched in the petroleum industry aimed to contribute to the decarbonization of the refining sector in the country, by harnessing solar energy for electricity generation. This involved the utilization of advanced technologies in collaboration with leading specialized firms, through employing solar cell systems to power production wells. This is also supported by the progress of various refinery projects that are making significant advancements.

The Egyptian refineries persist in making a substantial contribution to the energy sector as well as the economy's overall development. In line with ongoing investments and modernization efforts, the future appears bright for Egypt's refining industry, promising further growth and development.

BRIDGING THE GAP:

HOW MOPMR IS UPSKILLING FOR THE FUTURE

BY SARAH SAMIR

For years, the Egyptian oil and gas industry has grappled with a significant challenge: the skills gap. This arises when the expertise of the current workforce fails to align with the evolving demands of the industry, often due to factors such as an aging workforce and rapid technological advancements. Nevertheless, Egypt's oil and gas sector has made significant strides, actively engaging in ongoing training and development initiatives while also exploring strategies to attract and retain the next generation of talent.

The Skills Gap Challenge

The energy industry faces a perfect storm of talent challenges as the transition to clean energy accelerates, driven by groundbreaking technologies. This is further complicated by an aging workforce exiting the sector, the emergence of new digital roles, and the lure of the technology sector for skilled professionals. If left unaddressed, this skills gap could indirectly lead to safety risks, and production inefficiencies, and hinder the industry's overall potential. Therefore, recruiting, retaining, and upskilling the workforce and ensuring a diverse workforce to bridge skill gaps is critical for the sustainability of the energy industries.

As Egypt delves into new areas in the energy industries, such as renewable energy and green hydrogen, it becomes crucial to train the existing workforce and the coming generations to be ready and cope with the energy transition. Training equips the existing workforce with the necessary skills to adapt to these new areas. This can involve learning about new technologies, safety protocols, and operational procedures specific to–but not limited to–hydrocarbon and green hydrogen production. Meanwhile, building a skilled pipeline for future generations ensures there's a readily available workforce to support Egypt's long-term energy goals. Educational programs and vocational training focused on these new energy sectors can prepare young people for upcoming opportunities.

As Egypt delves into new areas in the energy industries, such as renewable energy and green hydrogen, it becomes crucial to train the existing workforce and the coming generations to be ready and cope with the energy transition.

Bridging the Gap

The Egyptian Ministry of Petroleum and Mineral Resources (MoPMR) has been working hand in hand with its international and national partners to develop human capabilities within the oil and gas sector. The third pillar of the Modernization program, which is adopted by the sector since 2016 to modernize and develop it, focused on the human resources management. The program aims at managing talents across different levels, focusing on the middle management development program; capacity building; and setting clear career path. The program is set to maximize the optimal use of human capabilities in the sector, developing and raising the efficiency of workers, and developing modern systems for human resources management so that efficiency is the determining element for evaluation in the sector.

To date, the MoPMR managed to develop a succession plan to choose top leaders; and launch the Middle management program with the help of top universities and international oil companies (IOCs). The MoPMR has also succeeded in establishing a unified database for sector employees; developing a methodology analyzing human capital, and highlighting health, safety and environment (HSE) to be a part of the sector's core values through training.

Additionally, several sector companies are working to develop human capabilities by providing training programs. For example, earlier in 2024, Assiut National Petroleum Manufacturing Company (ANOPC) has announced the launch of an operational capacity building program, with the attendance of Minister of Petroleum and Mineral Resources, Tarek El Molla. The program aims to boost the operational capabilities of newly graduated engineers and technicians in Assiut Governorate. It comes within the framework of the Egyptian petroleum sector’s plans to develop its human resources and is in line with the state’s strategies to improve the economic, social, and environmental aspects of Upper Egypt. The program is composed of comprehensive training and qualification work for young graduates and building capabilities, skills, and experiences that qualify them to carry out operation and maintenance work for the hydrocracking complex.

Moreover, on the sidelines of the Egypt International Petroleum Conference and Exhibition (EGYPS 2023), the MoPMR signed a number of agreements and memoranda of understanding (MoUs) for capacity building with several international companies, including Kuwait Energy Egypt; and Chevron.

Meanwhile, in July 2023, ENAP Sipetrol Egypt, in cooperation with MoPMR, launched the Process Safety Capacity Building Program Wave Two. The program is designed to train around 70 carefully chosen trainees from national oil and gas companies. The curriculum aligns with the latest international process safety management standards, equipping participants with the knowledge and skills to promote safe operations and ensure the long-term sustainability of production processes within the oil and gas industry.

The Egyptian oil and gas industry faces a crucial challenge in the form of a skills gap. However, this obstacle presents an opportunity for transformation. The MoPMR's commitment to human capital development is a promising step. Initiatives like the Modernization Program and the Process Safety Capacity Building Program underscore the government's understanding of the need for a skilled and adaptable workforce. Additionally, industry-specific programs demonstrate a collaborative approach, ensuring young talent is equipped with the latest knowledge and enhanced skills.

The Egyptian Ministry of Petroleum and Mineral Resources (MoPMR) has been working hand in hand with its international and national partners to develop human capabilities within the oil and gas sector.

ENHANCING SKILLS FOR FUTURE ENGINEERS: THE KEY TO SUCCESS

BY RANA AL KADY

The oil and gas industry, among the biggest worldwide, is crucial to providing the world with the energy it requires. There are many different employment opportunities in the business for those who fulfill the educational and experience criteria. Professionals in the oil and gas industry require a broad variety of technical abilities in order to function successfully and efficiently. With that, it is important to consider the technical expertise needed in the oil and gas sector.

To work in the oil and gas industry, one has to possess both technical and non-technical abilities. Technical abilities include understanding drilling, exploration, production, and refining procedures. Another essential set of talents for the oil and gas industry is non-technical abilities like problem-solving, cooperation, and communication. It's a physically taxing and difficult profession since workers can have to spend a lot of time away from their families and in tough surroundings. Good work ethics, versatility, and resilience are necessary for success in this sector.

Of course, given the necessity of the working conditions, it is becoming more and more crucial to ensure that the workforce in this sector are both highly skilled and trained to handle the field's unpredictable circumstances; not only that but with the recent demand to reduce the carbon footprint on energy giants and small companies, the hiring force is putting a lot of stress on training existing employees and hiring new employees with experience and knowledge in sustainability.

General Overview

First of all, the need for energy is growing worldwide, and the oil and gas industry is essential to supplying it. But this position also carries a heavy burden of obligation to reduce operations' negative environmental effects and promote a sustainable future. For this reason, it is becoming absolutely imperative to provide employees with an extensive training program that all parties involved in the oil and gas sector could be able to adopt environmentally sustainable practices and promote a culture of accountability.

Numerous companies are pledging to lessen their carbon footprint and help create a better tomorrow as the world grows more conscious of the pressing need to address climate change. But reaching these objectives calls much more than just putting new technology into place and setting goals. It also calls for a staff that possesses the know-how and abilities necessary to spearhead the shift to a more environmentally friendly and sustainably oriented company model. This is the situation in which green upskilling among staff members becomes relevant.

The Rise of Green Upskilling

The practice of giving workers the knowledge and skills necessary to comprehend environmental challenges and support organizational sustainability initiatives is known as green upskilling. As suggested by an oil and gas research analyst, "[green upskilling] is already on the rise because of the new goals and aims [we] have to achieve by making sure that the environment is not affected in a negative way moving forward." Green upskilling is becoming more and more necessary as businesses realize that sustainability is not just beneficial for the environment and corporate social responsibility—it is also profitable. Organizations may meet their sustainability objectives, enhance their reputation, lessen their environmental effect, and continue to be profitable by having a staff knowledgeable in sustainable practices and solutions.

Furthermore, it is not simple to recruit for positions aimed at decarbonization and the shift to a net-zero economy. This is because achieving these goals calls for highly skilled individuals who can support the development required for a successful transition to a net-zero economy and assist in executing large-scale projects. That being said, organizations may help promote the green transition by providing their staff with upskilling opportunities. Offering instruction and training on sustainability-related subjects including waste management, energy efficiency, and sustainable materials management is one popular strategy. A variety of delivery methods, such as workshops, online learning, and on-the-job training, are available for these programs. Additionally, businesses might hire outside speakers or host webinars to teach staff members about best practices for sustainability.

Moreover, it should be noted that opportunities for upskilling and training both facilitate the shift to net zero by filling the skills gap that is preventing more green employment from being filled and the expanding number of green jobs that are available.

Organizations may meet their sustainability objectives, enhance their reputation, lessen their environmental effect, and continue to be profitable by having a staff knowledgeable in sustainable practices and solutions.

PIONEERING SOLUTION TO OFFSHORE DRILLING WASTE

BY DOAA ASHRAF

As the world grapples with the urgent need to curb greenhouse gas emissions and combat climate change, the oil and gas industry is increasingly turning its focus toward environmentally sustainable practices. Drilling waste management, a crucial aspect of oil and gas operations, has traditionally been associated with high carbon emissions, elevated costs, and safety risks.

Some studies have shown that methane emissions from offshore oil and gas operations are even greater than those on land. In Fact, offshore drilling poses risks such as underwater life disruption, air and water pollution, noise pollution, and the potential for oil spills and leaks, all of which can have severe environmental consequences.

One of the pioneering solutions to these challenges was the TCC RotoMill® Drill Cuttings Treatment technology, which was introduced by Total Waste Management Alliance (TWMA).

This technology depends on thermal drill cuttings processing for separating drill cuttings and associated materials into three constituent parts, oil, water, and solids for recycling and reuse.

Traditional offshore drilling waste management involves skips, containers used to store and transport waste, loaded onto vessels and transported long distances to a centralized processing facility, generating significant volumes of CO2 in addition to increased risk safety and well cost.

"By one-side processing, we eliminate all the carbon producing steps from the offshore drilling operations and treat at the well site. So, there's no more equipment and/or disposal facility. Utilizing the thermal drill cuttings processing technology, which separates drill cuttings from the associated materials and returns it to its original elements, solids, oil and water, the client or the operator gets a valuable recovery on the oil, especially that the low toxic oil-based mud can be very expensive," Abdelrahman Amin, general manager for TWMA Egypt said during the 9th Convention organized by Egypt Oil&Gas Group in November 2023.

This technology uses a unique method of creating heat through friction which is converted into thermal energy, which in turn evaporates the liquids (oil and water) from the solids.

Through this, TWMA ensures recovered base fluid retains its full original quality and can be reused in the drilling mud system, returning significant commercial savings and ensuring environmental benefits to operations.

Herein, TCC RotoMill technology lowers carbon emissions by an average of 50%, reduces well cost, and HSE risk associated with shipping cuttings for offsite processing.

Case studies

TWMA utilized its RotoMill technology in the UAE in collaboration with ADNOC between four concessions, three of them being offshore, from offshore rigs, and the fourth one from offshore artificial island.

The agreement entailed the diversion of drill cuttings from the jack-up rigs to the artificial island, eliminating the conventional practice of transportation to source.

Normally, the waste from those 18 rigs gets transported to the central processing facility on location on the artificial island while, non-aqueous fluid cutting skips gets transported to onshore centralized facility. The average distance from shore to the rig is 137 kilometers, resulting in generating 30 tons of CO2 per round trip.

Through RotoMill technology, the process reduced 68% of carbon emissions, equivalent to 5,177 tons of CO2 in one year, and the recovery and reuse of 33,661 barrels of oil in the drilling process, worth of $5 million value base oil recovers. The process also saved 315,500 kilometers in transportation and less than 10,000 lifts.

"The process of green waste as a source of production is directly reused back on the active mud system, creating environmentally sustainable drilling operation, whilst delivering commercial value from the use of the carbon dioxide. Well site processing improves the safety performance. All the lifts have been eliminated, all the transport and all the hazards are eliminated. Removing the logistics associated with skip and ship or ship to shore, whether it be additional supply vessels, haulage trucks, handling equipment like forklifts, trains, etc., that's a significant reduction in cost," Abdelrahman Amin explained.

Similarly, a case study in the UK North Sea with Chrysaor North Sea Ltd where TWMA implemented TCC RotoMill offshore cuttings processing & disposal technology on the Valaris JU-249 jack-up rig for two developed wells.

TWMA installed 4 x CSTs (Cutting Storage and Transfer Tanks), a screw conveyor system and a TCC RotoMill with air transfer back up system on location between wells. The system allowed drill cuttings to be treated at source, eliminating the requirement for crane and vessel activity associated with skip and ship operations.

The project resulted in processing 3,149 tons of drilled cuttings from two wells, $444,000 Worth of base oil recovered and reused in the drilling mud system.

The project also eliminated more than 7,800 mechanical lifts and 4,700 miles of road transportation, simplified vessel logistics, and saved approximately £1.2 million pounds ($1.5 million) in drilling waste disposal cost.

Traditional offshore drilling waste management involves skips, containers used to store and transport waste, loaded onto vessels and transported long distances to a centralized processing facility, generating significant volumes of CO2 in addition to increased risk safety and well cost.

HOW INVESTING IN CAPACITY BUILDING

IS ESSENTIAL FOR DIGITALIZATION IN THE OIL & GAS INDUSTRY

BY NADER RAMADAN

Capacity building is a critical component for introducing many different innovations and is an essential prerequisite for introducing a digital infrastructure to any properly functioning economic system, most notably the oil and gas sector. Though experts agree that digitalization to ensure the oil and gas market's competitiveness within the global economy, funding and investing in the necessary capacity-building initiatives to enable digital transformation is a detail that is often overlooked.

Experts can agree that capacity-building measures are well worth the investment, particularly in the oil and gas industry. Many academic studies have been conducted to reinforce this economic argument. "The demand for a digitally competent population and workforce has become even more critical. A multi-disciplinary approach should be taken in developing the capacity-building strategy to increase learners' strengths and address gaps in their knowledge in areas such as technical skills, service design, ethics, creative problem solving, regulation of technologies, legislation, and digital transformation as a whole," said a study titled 'Capacity building as an important key aspect to supporting countries' digitalization endeavors' by Ingrid Pappel, Josephine Lusi, Nora Hauptmann, Valentina Stadnic, Margus Mägi, Diana Sang, Sherman Kong.

Having the right strategy with adequate financing is pivotal for achieving the desired result, especially within the context of the oil and gas industry. Proper and adequate investments in capacity can create a workforce that is mentally well-equipped and fit to generate creative solutions to complex problems. "The capacity building strategy for a country's digitalization should enhance understanding of public service design through the use of new technologies. Through understanding co-creation, the design process, creative problem solving, a human-centric approach in public services, and prototyping, learners should be equipped to apply new ways to design and implement services along with the new technologies and process re-design. It is also crucial to continuously monitor industry trends and emerging technologies to sustain a digital society. Hence, establishing a digital talent archive that guarantees the continuous sustainability of a country's capacity is imperative."

Egypt is one case study that can be used in effectively channeling investments toward capacity-building preparations for digitalization. Apache, for example, is one of the largest US-based energy companies operating in the Egyptian oil and gas market with up to $1.4 billion to be invested in 2024 alone. As a company that focuses a lot on digitalization, it also invests heavily in capacity building.

Moreover, it's important to note that the equation in more ways than one is always flipped and can go both ways. Rather than investments in capacity building being a necessity for digitalization to be a success, economic policies also need to emphasize that investments are needed for digitalization for effective capacity building to be successful.

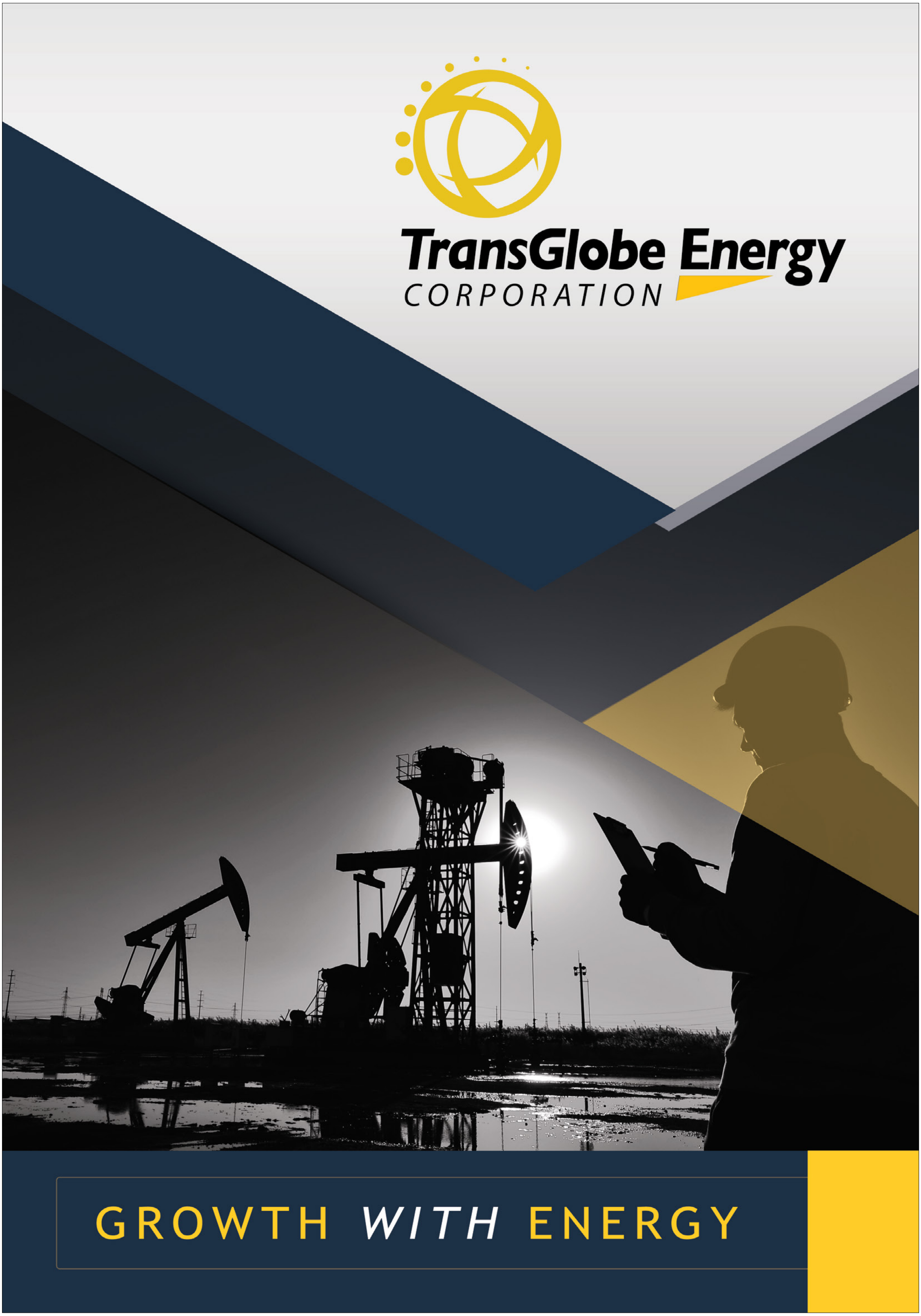
Now, on-site workers can use digital twins as a useful training tool. When VR technology is combined with a digital duplicate of a sophisticated oil refinery, for instance, workers can train and enhance their abilities in a realistic setting. This contributes to improving safety procedures and the general caliber of goods and operations, thereby playing a significant role in asset maintenance and security.

On a global scale (particularly in oil and gas), training and industrial maintenance are the two essential areas where augmented and virtual reality (AR/VR) are anticipated to attract the most investments in 2024, with forecasts of up to $4.1 billion in investments in each of these areas. The three main consumer use cases for augmented and virtual reality (AR/VR) are VR gaming, VR video/feature viewing, and AR gaming. It is anticipated that almost $18 billion will be spent on AR/VR products by 2024.

Apart from artificial intelligence and machine learning, one of the most disruptive digital transformation technologies in the oil sector is the Internet of Things (IoT), which is expected to play a big role in training employees and have an economic impact of $930 billion for the next decade.

As investors keep track of the market for lucrative opportunities, many have prioritized that their money should go into capacity building to lay the foundations for a digitalized future and some say that direct investments into digitalization itself will result in better capacity building. Yet, in many ways, the decision as to whether one should invest in one or the other is similar to the chicken or egg question. In reality, it depends on the needs of an individual market and how acquainted its workforce may be with digital technologies. Nonetheless, for these initiatives to have any effect on the ground, there needs the necessary expertise and financing, which is the main reason obstacles to foreign investments around the world should be eliminated. This is the most effective strategy for the foreseeable future.

Experts can agree that capacity-building measures are well worth the investment, particularly in the oil and gas industry.


TransGlobe Energy
CORPORATION
GROWTH WITH ENERGY

LEGAL REFORMS AND LEGISLATION **TO RATIONALIZE ENERGY CONSUMPTION**

The term rationalization of energy consumption expresses the optimal use of energy or its resources to meet the user's needs without affecting other beneficiaries of that source of energy. This is done for several reasons, including conserving energy resources as well as reducing environmental pollutants that are emitted as a result of energy production.

People's motivations for rationalizing energy consumption vary and legal reforms are essential for these ambitions to materialize. Some seek to save money, and others believe that rationalizing energy consumption is the least they can do to preserve the environment and reduce greenhouse gases that result from increased energy consumption. Energy consumption in its many forms, including electricity, gas, car fuel, and others, can be easily rationalized. All we need to do is make some adjustments in our daily behavior and ensure that relevant state authorities ensure that laws regulating energy consumption are being properly and fairly enforced. These adjustments may seem simple, but they will certainly make a big difference!

Legislating the rationalization of energy consumption is of utmost importance in preserving non-renewable natural energy sources, such as natural gas and petroleum, while protecting the environment from pollution. It also reduces water and air pollution, and relieves the state from enduring economic burdens due to increased consumption.

Saving money spent on monthly energy consumption is one of the most important strategies to adopt. Reducing the use of electricity, water, or any other energy source reduces the amount of money consumed on a monthly basis.

In the event that larger proportions of energy sources are consumed, countries are burdened with higher costs, prompting them to explore new resources for energy and electricity. This limits the amount of available energy and increases prices for the state and consumers.

Introducing laws to reduce residential energy consumption protects citizens from emergencies that may occur, which were avoided in the past through the use of various essential technologies and equipment.

Rationalizing Electrical Energy on Residential Properties

Hot water is responsible for 25% of the average home energy bill. Ways to reduce this include washing clothes in cold water and waiting until the washer is fully loaded, only running the dishwasher when it is full, installing a low-flow shower head (it will save money in no time) and reducing shower times.

Home electrical appliances can be responsible for up to a third of your energy bill. If you're buying a new refrigerator, freezer, TV, washer, dryer, dishwasher, or air conditioner, look for the energy rating label—the more stars, the less energy the product uses. Models with more stars can cost more, but choosing products with fewer stars and a lower price can cost you more in the long run.

'Standby power' used by products such as microwave ovens, televisions and gaming consoles can account for up to 10% of your electricity bill. If there is any light or clock in these devices – this means that they are consuming energy. Operating costs can be reduced by unplugging appliances when not in use, eliminating any unnecessary refrigerators and freezers, and drying clothes on a clothesline instead of a clothes dryer.

With each heating or cooling degree increase, energy use increases by about 5% to 10%. To control your bills, consider setting your heating thermostat to 18–20°C in the winter, and 25–27°C in the summer. You can make the most of the energy you use by closing interior doors and only heating or cooling the rooms you use.

Under-door air dampers in the home are a cheap and easy way to maintain comfort in your home and save up to a quarter of your heating and cooling costs. Caulking gaps around doors, floors, windows, weather stripping, and using 'sausage-like' coiled bumpers filled with sand or tarps are DIY options.

Rationalizing Energy Consumption in the Industrial Sector

Performing regular maintenance on equipment, especially those with high consumption, to reduce their consumption. Turn off all appliances, air conditioning units, and lighting in unoccupied areas and at the end of work. Separating the air conditioning loads from the factory machine loads to turn off the largest part of them during the peak period in order to reduce the maximum load during this period. Turning off some secondary equipment during peak periods. In addition, reduce and turn off indoor and outdoor lighting during daylight hours and rely on natural lighting Use energy-saving lamps with lower consumption and high efficiency

Rationalizing Energy Consumption in the Commercial Sector

Perform regular maintenance on air conditioning devices to ensure their performance with high efficiency Ensure that the air conditioner control switches are set make sure to turn off the air conditioning after work to improve uninsulated buildings by adding insulation to the ceilings, external walls and windows Use appropriate lighting, energy-saving bulbs with high efficiency and lower consumption, and dispense with ordinary (tungsten) bulbs that are less efficient and have higher consumption. Replace the external lamps surrounding the market with electricity-saving lamps and try to reduce them as much as possible Installing control devices in escalators to operate only when needed

Raising awareness and passing the necessary legislation is of utmost importance to rationalize electrical consumption. Laws and marketing need to work together to make these ambitions a reality!

Eng. Mohamed Abdelraouf

Southern Area General Manager at Khalda Petroleum Company

GEOPOLITICAL UNREST: IRAN-ISRAEL

Escalation Amplifies Oil Market Concerns

BY IHAB SHAARAWY

In the most recent escalation between Israel and Iran, the two sides have, for the first time, directly confronted each other, abandoning the use of proxies in Lebanon, Yemen, Syria and Iraq. Although the escalation did not result in substantial damage, it has drawn attention to the potential threat of a real escalation between Iran and Israel. The implications extend to both regional security and the stability of the energy market.

Iran's unprecedented launch of over 300 drones and missiles towards Israel signifies a significant shift in its approach, as it previously relied on attacks by proxies. Despite the scale of the attack, its impact on the global markets has been relatively muted. Nevertheless, the risks to fuel prices and global energy security have increased significantly.

The Paris-based International Energy Agency highlighted the threat posed by Iran's attack on Israel, emphasizing the potential for increased volatility in oil markets and the importance of oil security. The longstanding tensions between Iran and Israel have escalated with this direct attack, significantly increasing the likelihood of a regional, if not wider, war. The possibility of Israel's response leading to further escalation, posing risks of miscalculation and disproportionate responses from both sides, added to the complexity of the situation.

This direct confrontation between Iran and Israel could alter the dynamics of their relationship and raises the prospect of a multi-front conflict. The potential scenarios include Israel diverting its focus from the conflict in Gaza to engage more directly with Hezbollah in southern Lebanon, or the possibility of Iran's proxies putting more pressure on Gulf States.

Since October, Houthi militias in Yemen, which is one of Iran proxies also, have launched over 100 attacks targeting vessels, according to a statement last month from the Pentagon.

These attacks have notably targeted commercial ships traversing the Red Sea as they near the Suez Canal, a vital artery facilitating approximately 12% of global shipping traffic, as reported by the U.S. Naval Institute.

In response to these threats, major shipping companies such as MSC, Maersk, and Hapag-Lloyd, alongside British oil giant BP, have taken proactive measures by rerouting their ships to take alternative routes, mitigating potential disruptions to global trade and safeguarding their assets from further attacks.

The increased travel time has strained the supply of ships, since longer routes mean fewer ships are available to carry goods at any given time.

An escalation of the Middle East conflict, however, would significantly magnify the impact on oil prices and inflation, analysts have warned.

"That scenario would be chaotic," remarked Rob Handfield, a professor of operations and supply chain management at North Carolina State University, in a conversation with ABC News.

In the event of a potential scenario where Israel engages in direct conflict with Iran, a major oil producer, the resultant price shock would lead to increased costs in operating factories and transporting goods. Consequently, a broad spectrum of consumer prices would experience a notable surge.

The current geopolitical landscape also factors in Iran's oil production and exports. While Iran has significantly benefited from increased oil revenue, the potential enforcement of sanctions could impact both Iran and global oil markets. However, the Biden administration has shown little interest in imposing oil sanctions on Iran at present.

The ongoing situation between Iran and Israel and its impact on global oil markets underscore the need to closely monitor the potential disruptions to oil supplies, particularly from Iran. The risk of blockage in the Strait of Hormuz, through which a significant portion of global oil supplies flow, poses additional concerns.

Looking ahead, various factors, including seasonal demand, OPEC-plus supply cuts, and geopolitical risks, will continue to influence oil prices. The potential disruptions in the supply chain and the impact on global oil prices call for vigilance in assessing and managing supply risks.

It is crucial to acknowledge that the Iran-Israel confrontation is ongoing, and its impact on the global oil market should be evaluated over a prolonged period. The timing and nature of Israel's response to Iran's attack, as well as the broader international dynamics, are key components in assessing the long-term implications of this escalating conflict.

The recent events involving Iran and Israel have heightened concerns about a wider conflict in the Middle East and its potential impact on global oil prices. The intricacies of the situation, including geopolitical tensions and regional dynamics, necessitate a comprehensive understanding of supply risks and proactive measures to manage potential disruptions in the oil market.

This direct confrontation between Iran and Israel could alter the dynamics of their relationship and raises the prospect of a multi-front conflict.

THE GREEN VISION REACHING NEW HEIGHTS WITH SUSTAINABLE AVIATION FUEL

In an era defined by environmental awareness and the push to combat climate change, industries around the world are undergoing revolutionary transformations.

One such sector at the forefront of this change is aviation. As demand for air travel continues to rise, the need for sustainable solutions that reconcile mobility with environmental responsibility is also growing.

Aviation is responsible for 2.5% of the world's carbon dioxide emissions; hence, reducing its impact on the climate is crucial to mitigating the severity of climate change.

Despite the importance of the problem, most people have never heard of one of the biggest innovations in recent years to reduce aircraft emissions. Sustainable aviation fuel, or "SAF," is the umbrella term for aviation fuel that can be obtained from sources other than fossils.

Sourced from cooking oils and waste animal fats, sustainable aviation fuel has the potential to reduce airline carbon emissions by an incredible amount, potentially up to 80%.

Sustainable aviation fuel is a blended fuel consisting of conventional fuel mixed with a non-conventional sustainable agent (clean sustainable aviation fuel). A variety of feedstocks can be used to make sustainable fuel. These raw materials are processed to produce sustainable fuels using a variety of technologies, including non-edible vegetable oils, crops grown for this purpose, such as sugarcane, agricultural waste and some forest waste, non-recyclable household waste, and off-gassing industrial gases, some of which are not Still under development.

This fuel mixture can also be used in the same way as regular jet fuel. No significant modifications to the aircraft are needed, which reduces infrastructure costs significantly.

To date, sustainable aviation fuel has not been used in aircraft globally, but it is increasing. More than 150,000 flights have used sustainable aviation fuel since the first flight in 2008 and the first commercial flight in 2011 operated by KLM.

In addition to being nearly carbon neutral, sustainable aviation fuel can also reduce direct emissions. Compared to kerosene, because its molecules are 90% smaller, and the sulfur percentage in it is 100% free, which leads to improved air quality during space flights.

Sustainable aviation fuel also burns more efficiently, enabling aircraft to use less fuel overall during flight. This fuel also provides economic advantages to some countries, as it can be produced anywhere using waste. As part of the global aviation industry's push to use more green fuel to meet carbon emissions targets.

The International Energy Agency predicts that by 2030, sustainable aviation fuel will account for about 15% of total aviation fuel consumption and about 75% by 2050.

The Egyptian State seeks to catch up with this new industry and is taking serious steps towards the first project to produce sustainable aviation fuel. This endeavor aligns with Egypt's commitment to sustainable development and the reduction of carbon emissions within its energy sector, reflecting the nation's dedication to addressing climate change.

Mohamed Atia

Process Engineer at Egyptian Refining Company

PLASTIC WASTE RECYCLING: A LUCRATIVE OPPORTUNITY FOR EGYPT TO PRODUCE ENERGY

In the past, Egypt was considered one of the top marine plastic waste polluters in the Middle East and North Africa region. Moreover, Egypt was estimated to contribute 43% of the total plastic waste that flows into the Mediterranean Sea each year.

The country's explosive population growth and rapid urbanization have further exacerbated Egypt's plastic pollution challenge. This is in addition to the lack of an adequate waste management infrastructure that hinders accessibility to recycling facilities and a sufficient disposal system.

Plastic waste recycling could be a vital challenging step towards a better and green environment. It also falls within the framework of the nation's decarbonization and sustainability strategy as part of Egypt's Vision 2030. Moreover, it creates more income profits for the country by contributing to supplying the country's energy requirements.

What would be better than turning the potential risk of the increasing plastic waste pollution problem into an economical and viable source of energy?

The pyrolysis process could be a perfect solution to convert the combined waste, such as paper mill plastic waste, municipal waste, and industrial waste, into a commercially viable and profitable product for energy supplies.

Pyrolysis falls under the category of the thermochemical conversion processes which is described as thermolysis, and it is most typically observed during exposure of some solid waste material to higher temperatures. This starts at 200 °C up to 500 °C; in general, pyrolysis of plastics.

A more technical definition for pyrolysis could be the thermochemical decomposition of some solid waste material at elevated temperatures that could reach 200 °C up to 500 °C without oxygen (or any halogen) involving the change of chemical composition and physical phase simultaneously and it is an irreversible process. The word comes from the Greek-derived elements pyro "fire" and lysis "separating".

Pyrolysis oil, which is the product liquid of the process, does have a high calorific value of 10,500, which makes it a challenging alternative to fuels such as fuel oil and furnace oils in industrial applications. It can be used as a fuel heating supply to burners for heating in all industries such as steam generators in power plants and also fertilizers factories.

Moreover, pyrolysis oil can be a truly effective solution to lower the imported sources of fuel cost and as a result, it will save foreign currency. In addition, the produced oil will help Egypt to save up foreign reserves, making higher profits through generating an additional source of energy and saving the current energy resources supplies.

Finally, well-studied plans are necessary to ensure a cleaner, less polluted environment and sustainable energy supplies. Pyrolysis could be one of the successful alternative solutions to put an end to the growing plastic waste crisis in addition to creating profits by contributing to the country's energy needs and creating more investment opportunities for the country.

Dr. Mohammed KAMAL GABER

Process Section Head at PETROJET Company.

EGYPT OIL&GAS RESEARCH & ANALYSIS

QUARTERLY INDICATORS

Suez Canal Navigation Statistics in Q1 2023/24

6,523 Vessels → 403.1 mmt Net Tonnage

Transit Receipts

$2.4 billion Value

69% Contribution in Total Transport Receipts

The first quarter (Q1) of the fiscal year (FY) 2023/24 witnessed a 19.4% jump in the Suez Canal transit receipts compared to the corresponding period a year earlier. This improvment was propelled by an 8.2% increase in both the net tonnage of vessels and the number of passing vessels by 4.3%.

EGX HIGHLIGHTS

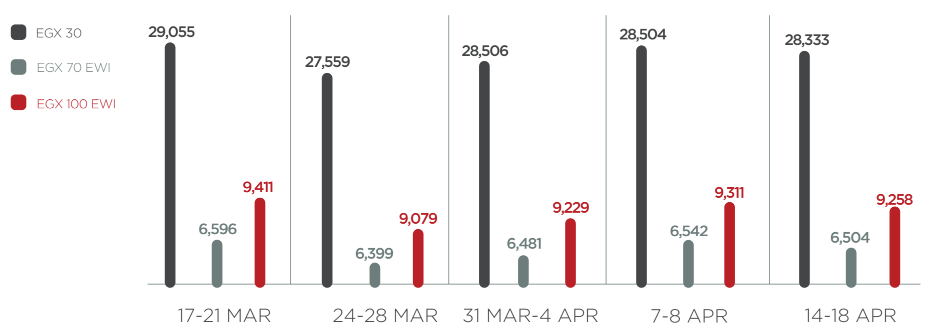
Performance of Listed Petroleum Companies

March 2024

Company	Close Price	YTD Price Change	P/E*
TAQA	EGP 10.82	↓ 19.55%	22.81
NDC	-	0%	2.01
AMOC	EGP 7.33	↓ 25.66%	6.90
Egypt Gas	EGP 34.2	↓ 14.50%	19.28
Sidi Kerir	EGP 26.68	↓ 8.22%	8.20

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

Capital Market Indicators



*April 9-11 were public holidays

MONTHLY INDICATORS

Annual Inflation Headline

CPI (%)

February 2024	March 2024
36	33.1

Egypt's annual inflation rate cooled to 33.3% in March, down from 36% in February due to a decrease in the prices of the cereals and bread group by 0.3%, the vegetables group by 3.5%, and the personal luggage group by 4.1%. The rest of items have shown softer increases compared to the previous month. Food and non-alcoholic beverages prices edged up by only 0.7% in March after having jumped by 15.9% in February. Recreation and culture prices slightly rose by 2%.

Net International Reserves

($ billion)

February 2024	March 2024
35.311	40.361

Egypt's net international reserves hiked by 14.3% to reach $40.361 billion in March 2024 compared with February 2024. Foreign currencies continue to represent the largest portion of Egypt's international reserves, totaling $31.313 billion as of March 2024.

Non-Oil Private Sector

PMI (Point)

February 2024	March 2024
47.1	47.6

Egypt's PMI recorded 47.6 in March 2024, lying below the average reading seen since April 2011 (48.1). The new PMI indicate a softer, but still-solid deterioration in the health of the sector. Non-oil private sector activity deminished sharply in March due to persistent currency challenges and elevated inflationary pressures. Meanwhile, the deterioration in demand was little-changed, as new order volumes dropped sharply as a result of the drop in client spending. However higher foreign demand supported the first increase in new export orders since December 2022.

EGYPT OIL&GAS RESEARCH & ANALYSIS

Petrochemicals Production in FY 2022/23

Within the framework of updating the national plan for the petrochemical industry until 2040, the petrochemical projects emphasize a great expansion, contributing to increasing total production, meeting the local needs for petrochemical products, and exporting the surplus.

Total Production

>4.3 mmt

Surge in Petrochemicals Product Capacity (t/y)

	Echem	ELAB
Product	Polyvinyl Chloride	linear Alkyl Benzene
From	80,000	100,000
To	125,000	135,000

SAF Production Project

The Egyptian oil and gas sector is expanding using different energy sources to reduce carbon emissions.
The Sustainable Aviation Fuel (SAF) project would put Egypt at the forefront of countries implementing it in the region and aims to meet the growing demand for sustainable aviation fuel.

Operator	The Egyptian Petrochemicals Holding Company (ECHEM)
Partners	MoPMR, Honeywell International, and the European Bank for Reconstruction and Development (EBRD)
Production	120,000 t/y
Carbon Emissions Reduction	400,000 t/y
Investments	$380 million

Egypt's Natural Gas Connections in FY 2023/24*

The oil and gas sector successfully delivers natural gas to residential units, commercial, and factories in different governorates and regions to expand natural gas use as an alternative to butane gas and reduce the burden of using butane gas cylinders.

Connected Residential Units	14.7 million**
Saved Butane Cylinders	265 million /y
Newly Connected Areas	118
Connected Bakeries	3,905

The 1st Phase of the "Haya Karima" Initiative

Connected Villages

Completed 841

Connected Governances

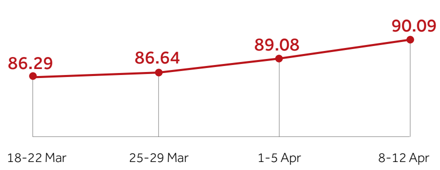
Completed 10 Ongoing 6

*Until March 2024
**Since the Start of Activity

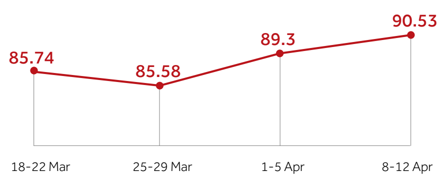
PRICING HIGHLIGHTS

Average International Prices

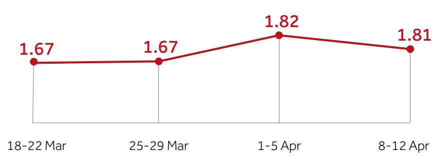
BRENT ($/BBL)



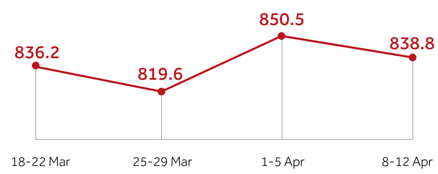
OPEC BASKET ($/BBL)



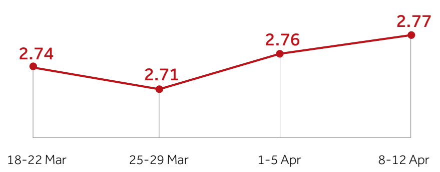
NATURAL GAS ($/MMBTU)



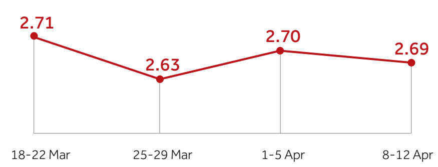
GAS OIL (Nymex) ($/MT)



RBOB GASOLINE (Nymex) ($/GAL)



HEATING OIL (Nymex) ($/GAL)



We take energy forward

We're committed to making energy safer, cleaner, and more efficient for people and the planet. By combining industry-leading technologies and services with operations in over 120 countries, we're collaborating with customers to transform the future of energy – everywhere.

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