



KEYS TO WINTERSHALL DEA'S 50 YEARS IN EGYPT

An Interview with
SAMEH SABRY
SENIOR VICE PRESIDENT FOR
THE MIDDLE EAST AND NORTH
AFRICA WINTERSHALL DEA



EDITOR'S LETTER

Dear Reader,

We are delighted to present this special edition of our newspaper, coinciding with International Women's Day. This year, we take a moment to acknowledge the invaluable contributions of women to the oil and gas sector. We are proud to showcase the great strides taken within Egypt's oil and gas industry towards fostering a more inclusive environment where women can thrive.

This issue is also a celebration of the exceptional success of the Egypt Energy Show (EGYPES 2024). We bring you comprehensive coverage of the event's most interesting conferences and discussions, ensuring you stay informed about the latest trends and developments shaping the industry.

In this edition, you'll also find a unique interview with Sameh Sabry, Senior Vice President for the Middle East and North Africa at Wintershall Dea. We delve into the KEYS TO WINTERSHALL DEA'S 50 YEARS IN EGYPT, exploring their journey and vision for the future.

With a heavy heart, we also dedicate space to industry figures bidding farewell to David Thomas, who is leaving his position at Cheiron. We wish him all the best in his new endeavors.

Our commitment to keeping you informed extends beyond the Egyptian landscape. Our writers provide insightful analysis on the latest global political and economic updates impacting the oil and gas sector. Additionally, our research and analysis team offers a comprehensive look at the Logistics of Egypt's Petroleum Transportation, a topic crucial for understanding the industry's infrastructure.

We hope you find this edition informative and inspiring. As always, we welcome your feedback and encourage you to share your thoughts with us

Ihab Shaarawy

MANAGING EDITOR

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MONTHLY PUBLICATION

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EGYPT ENERGY SHOW

📍 Tower No.12 - Bavaria Compound, Ring Road in front of sama Tower - Egypt

☎️ (+20) 2 27498191 (+20) 2 27498192 📠 (+20) 2 27498190

✉️ info@egyptoil-gas.com 🌐 www.egyptoil-gas.com

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**Energy Transition Remedies the Economic Woes
of the World's Women**

General Manager

Ayman Rady

Research & Analysis Manager

Dr. Mahinaz El Baz

Managing Editor

Ihab Shaarawy

Senior Editors

Rana Al Kady

Nader Ramadan

Senior Writer

Sarah Samir

Staff Writers

Fatma Ahmed

Doaa Ashraf

Research & Analysis Supervisor

Reham Gamal

Associate Research Analysts

Jolly Monsef

Mariam Ahmed

Research Analysts

Alaa Al Masry

Nermeen Kamal

Statisticians

Nada Abbas

Hagar Tarek

Chief Reporter

Wael El-Serag

Marketing Specialist

Shrouk Ismail

Senior Marketing Executive

Amira Essam

Creative Art Director

Omar Ghazal

Senior Graphic Designer

Merna William

Motion Designers/ Video Editors

Amira Hassan

Esraa Sherif

3D Visualizer

Tamer Gamal

Photographer

Hady Nabil

CEO Executive Assistant

Noha Zayed

Web Master

Olfat Kamel

Web Developer

Mohamed Elwakeel

Administration

Taghreed Mounir

Senior Accountant

Mahmoud Khalil

Accountant

Mohamed Nagy

Distribution Officers

Mahsoub Kenzi

Mohamed El-Sayed

Mahmoud Nabil

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Publisher

Mohamed Fouad

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ADNOC, bp Forge Joint Venture to Advance Gas Asset Development in Egypt

ADNOC and bp have just announced that they have agreed to form a new joint venture (JV) for developing natural gas facilities in Egypt.

The JV (51% bp and 49% ADNOC) will combine the pair's deep technical capabilities and proven track records as it aims to grow a highly competitive gas portfolio.

As part of the agreement, bp will contribute its interests in three development concessions, as well as exploration agreements, in Egypt to the new JV. While, ADNOC will make a proportionate cash contribution which can be used for future growth opportunities.

According to ADNOC's statement, the concessions that will be included in the JV:

Shorouk (bp 10% interest, contains the producing Zohr field) operated by Belayim Petroleum (Petobel); North Damietta (bp 100% interest, contains the producing Atoll field) operated by Pharaonic Petroleum Company (PhPC); North El Burg (bp 50% interest, contains the undeveloped Satis field) operated by PhPC; North El Tabya, Bellatrix-Seti East and North El Fayrouz exploration concession agreements.

The establishment of the JV is expected to complete during Q2 of 2024. It is subject to regulatory approvals and

El Molla Champions Global Energy Cooperation at IEA Ministerial Meeting

On the occasion of its 50th anniversary celebration, Minister of Petroleum and Mineral Resources Tarek El Molla has participated in the ministerial meeting of the International Energy Agency (IEA) 2024.

Held in Paris on the 13th and 14th of February, the meeting aimed to discuss the main issues and challenges which threaten energy security, in addition to international efforts to achieve the outcomes of COP28.

At his speech, El Molla highlighted the importance of global cooperation to achieve emissions reduction goals and preserve the environment through exchanging expertise, learning from success stories, and providing cost-effective technologies needed for clean energy.

He emphasized that Egypt initiated the idea of establishing East Mediterranean Gas Forum (EMGF) as a platform for

supporting cooperation between East Mediterranean countries and targeting regional integration in the field of energy.

He also highlighted the key role of organizations that facilitate international cooperation, including the IEA, in confronting the challenges facing the energy field, especially for developing countries.

To conclude, El Molla stressed on the necessary acceleration of innovative clean energy technologies to meet the goals of The Paris Agreement.

ADES Granted Extension of Contracts for Three Offshore Platforms in Egypt

ADES Holding Company, one of the leading global companies in providing drilling and production services to the oil and gas sector, announced that it had received contract extension notices for three jack-up offshore drilling rigs operating in Egypt.

ADES received notification from the General Petroleum Company, which is the contracting party on the platforms, to extend the contract on the Admarine III and Admarine VI platforms for a period of two years.

This extension will also increase daily rental rates by a high percentage compared to the group's current average daily rental rates in Egypt, and this increase reflects the current situation of the elevated drilling rig market.

Mohamed Farouk, CEO of ADES Holding Company stated that extending the contracts strengthens the company's presence and leading position in the Egyptian market and will also raise the cumulative value of the contracts in light of the growth in daily rental rates. This reflects the strength of the jack-up offshore platforms market at the present time. It will also enhance confidence in the company's activities and cash flow. In conclusion, Farouk expressed his aspiration to continue providing sustainable value to customers.

Cabinet Approves Amendments in Two Oil Agreements

The Egyptian Cabinet approved two projects to amend two valid petroleum commitment agreements between the Egyptian General Petroleum Corporation (EGPC) and a number of international and national companies.

The agreements aim to search for and exploit oil, in the deep offshore areas of the Western Delta in the Mediterranean Sea, and northwest of October in the Gulf of Suez, with a minimum of eight wells, non-refundable grants worth \$1 million, and investments estimated at approximately \$232 million.

With regard to the West Delta maritime region, the amendment aims to pump additional investments to carry out development operations to increase production rates and reserves that can be extracted. The amendment regarding the northwest of October region aims at extending the period of development contracts for 10 years and adding new sectors.

The approval was granted during Cabinet meeting number 276, chaired by Prime Minister Mostafa Madbouly.

ENAP Sipetrol Announces Success of Petroshahd in Second Surveillance Audit of ISO 14001 & 45001

Enap Sipetrol Egypt has announced that its joint venture (JV) Petroshahd Company successfully passed the surveillance audit for its Integrated Management system according to ISO 14001:2015 (Environmental Management Systems) and ISO 45001:2018 (Occupational Health and Safety Management Systems), for the second year.

The audit was conducted by Bureau Veritas (BV) as a certification body, where Petroshahd premises in Cairo and East Ras Qattara concession's production facilities were audited according to the international requirements of ISO 14001 & ISO 45001.

It's worth mentioning that Petroshahd Company has obtained the certificates in January 2022 and in January 2023 and 2024 other audits took place by Bureau Veritas (BV) to verify that all respective areas and functions covered by the integrated management system scope are monitored on regular basis and take into account all changes into Petroshahd management system.

A BLAST FROM THE PAST

In March 2015, bp Egypt unveiled a substantial gas find in the Atoll offshore field located in the East Nile Delta. This discovery emerged during the drilling of the Atoll-1 deepwater exploration well within the North Damietta Offshore Concession. The concession is estimated to hold a vast potential of 5 trillion cubic feet (tcf) of gas.

Bob Dudley, who was then the bp Group Chief Executive, remarked: "Success in Atoll further increases our confidence in the quality of the Nile Delta as a world class gas basin. This is the second significant discovery in the licence after Salamat."

Maersk Discoverer sixth-generation semisubmersible rig drilled the Atoll-1 well in 234 days. The well reached 6,400m deep making it one of the longest wells drilled in the Mediterranean Sea and the deepest in Egypt.

"BP is proud to progress the acceleration of the Atoll project which will bring critical gas to the Egyptian market and establish a new material hub offshore East Nile Delta," said Hesham Mekawi, the then Regional President, BP North Africa.

Atoll Phase One was delivered seven months ahead of schedule. The cost of the first phase was also 33% below the initial estimate.

In February 2018, the project achieved a production rate of 350 million cubic feet of gas per day (mmscfd) alongside 10,000 barrels per day (bpd) of condensate. The gas extracted is conveyed to Egypt's national grid to fulfill domestic demand.

UNDER THE LIMELIGHT



Targeted Foreign Investments in the Oil & Gas Sector in FY 2024/25

\$7.5 billion

Egyptian Oil & Gas Sector Braces for Influx of Foreign Investments

On the sidelines of Egypt Energy Show (EGYPES) 2024, the Minister of Petroleum and Mineral Resources, Tarek El Molla, stated that the investments in the oil and gas sector is targeted to reach between \$7-\$7.5 billion for the next fiscal year (FY) 2024/25, compared to \$6 billion estimated in FY 2023/24, with a 25% annual growth rate.

Elaborating on these plans, El Molla emphasized the ongoing adjustments geared towards realizing these objectives in the near future. Notably, the influx of foreign investments is on the rise, propelled by notable discoveries, which in turn incentivize companies to actively

participate in the development of these newfound fields. Such investments are not only pivotal for the sector's growth but also imperative for ensuring sustainable economic development in Egypt.



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www.pan-marine.net

www.britoil.com.sg

Alexandria Head Office

Marhaba Tower, Fouad Street, Off Horeiya Road, Alexandria 21131, Egypt

+2033913820 (10 Lines) +2033913829 Offshore@pan-marine.net

ACHIEVEMENTS

WEPCO, BAPETCO Review Achievements, Business Plan for FY 2024/25

Ibrahim Massoud, the Chairman of the companies Western Desert Operating Petroleum Company (WEPCO) and Badr El Din Petroleum Company (BAPETCO), has showcased the latest achievements done by the two companies and their business plan for the fiscal year (FY) 2024/25.



This came during the general assembly meeting of the two companies headed by the Minister of Petroleum and Mineral Resources Tarek El Molla to approve the planned budget for FY 2024/25.

Massoud presented the executive situation of an expansion project for the northern and southern regions of El Hamra Petroleum Port. The Chairman stated the expansion of the northern region includes the establishment of warehouses to store and trade crude oil with a capacity of 8 million barrels at El Hamra port, as well as the establishment of linking lines with El Hamra port in addition to the electricity station.

He added that the southern expansion involves building three warehouses for storing and trading diesel, the construction of a station for electricity distribution and the needed facilities and infrastructures, linking to the northern region as well as construction of three warehouses for octane and two for jet fuel.

Massoud noted the storing and shipping of petroleum products area with a capacity of 400,000 tons elaborating that it will help reduce the movement of vehicles transporting petroleum products on the coastal road, as well as serve the new communities in El Alamein.

The plan for trading crude oil during the FY 2024/25 was also reviewed as well as the circulation of 95 million barrels of oil by El Hamra Port facilities at a daily rate of 260,000 barrels. The Chairman said that WEPCO will witness the addition of the activity of trading petroleum products and storing crude oil, next year, on behalf of others, which will have a significant impact on increasing economic returns.

Minister El Molla emphasized the significance of the New Alamein petroleum sector infrastructure, calling it a valuable asset for Egypt and its economy. He explained that all petroleum expansions in the region are part of a proactive vision within the 2016 modernization project. This vision, developed and implemented by the petroleum sector, aims to keep pace with and support the ongoing development in New Alamein and the wider northwestern coastal region.

The minister added that the ongoing expansion projects in the northern and southern regions of the El Hamra Petroleum Port represent a practical translation of those visions and strategies, as they work to increase the port's crude storage capacities in an unprecedented manner, support its important role as a major center in the Mediterranean region, and inaugurate a strategic area for storing, trading, and shipping various petroleum products in New Alamein, the first phase of which is planned to be operated next summer.

ETHYDCO Exports First Recycled Polyethylene Shipment to Spain

The Egyptian Ethylene and Derivatives Company (ETHYDCO) has succeeded in exporting the first shipment of recycled polyethylene products to Spain.

This comes after the success achieved by the company in marketing the product locally and the great demand for it.

ETHYDCO's Chairman Hesham Riyad praised the efforts of ETHYDCO's employees in achieving this achievement through fruitful cooperation between the departments of marketing, sales, planning, production, laboratories, research and general polyethylene during all stages of work, production, research and planning, until reaching the export stage.

Riyad highlighted that this accomplishment is a crucial component of the Ministry of Petroleum and Mineral Resources' strategy, which prioritizes sustainability within the oil and gas industry. It also aligns with Egypt's broader vision for sustainable development by 2030.

It is worth noting that ETHYDCO had begun implementing the strategy of recycling incomplete products on October 25, 2023. Its aim was to produce a final product from beaded polyethylene to be recycled and used again or converted into a raw material for new products, which are products that can be classified as low-cost.

COOPERATION

Egypt's GTUPW, Turkey's Petrol-İş Sign Cooperation Protocol

The General Trade Union for Petroleum Workers (GTUPW), headed by Chairman of the Egyptian Trade Union Federation (ETUF) Mohamed Gibran has signed a cooperation protocol with the Petroleum, Chemical and Rubber Workers Union of Turkey (Petrol-İş), headed by Suleyman Akyuz.



The protocol is set to enhance cooperation and exchange of knowledge between the two unions in Egypt and Turkey.

Moreover, the protocol aims to strengthen solidarity between the two unions in Egypt and Turkey, in addition to exchanging knowledge about the characteristics of the petroleum industry and exchanging knowledge about labor laws and trade union laws in both countries.

The protocol further aims at identifying the strategies developed by each union in order to increase the strength of union representation and presenting each union's ways of organizing workers in the workplace and organizing at the local, regional and national levels.

Gibran stated that the goal of the protocol is to emphasize the importance of historical relations between the two countries and the two brotherly peoples, the importance of union relations, and the exchange of experiences in union work.

Egypt, Bulgaria Sign Natural Gas MoU

Minister of Petroleum and Mineral Resources Tarek El Molla and Bulgarian Energy Minister Rumen Radev have finalized a memorandum of understanding (MoU) for cooperation between Egypt and Bulgaria in the field of natural gas.



The MoU was signed on the sidelines of the first meeting of the joint cooperation committee between Egypt and Bulgaria, with an aim to establish a general framework to enhance cooperation in natural gas activities. The signing took place in the presence of Sameh Shoukry, Minister of Foreign Affairs, and Mariya Gabriel, Deputy Prime Minister and Minister of Foreign Affairs of Bulgaria.

The joint MoU further aims to enhance bilateral scientific, technical, and technological cooperation, and exchange experiences and best practices in the field of natural gas extraction, storage, transportation, and liquefaction.

Additionally, the MoU stipulates the establishment of a joint working group of experts and technicians from both sides to expedite the implementation of executive measures for the areas of cooperation stipulated in the memorandum of understanding.

Egypt, India Tighten Bonds in Oil, Gas Cooperation

Minister of Petroleum and Mineral Resources Tarek El Molla has met with Ajit Gupte, Indian Ambassador in Cairo, where they discussed ways to enhance bilateral cooperation in the fields of oil, gas, petrochemicals, hydrogen, biofuels, reducing emissions, and investment opportunities.

During the meeting, El Molla confirmed that there is fruitful cooperation with several Indian companies operating in Egypt, for example TCI Sinmar, which contributes to achieving successes in the field of petrochemicals and expands its investments and projects in Egypt in cooperation with Egyptian petrochemical companies.

El Molla stated that the oil and gas sector is currently implementing several projects for energy efficiency, reducing carbon emissions and benefiting from them economically, in addition to implementing projects to digitize the entire sector's activities and linking them into a unified system to benefit the efficiency and speed of access to data and implementation of operations.

For his part, Gupte confirmed that his country imports a large portion of its oil and gas needs and seeks to convert a large proportion of these needs to natural gas and new and renewable energies instead of crude oil as part of its efforts to reduce carbon emissions in line with the global trend to reduce the impact of emissions on the climate.

Gupte stated that India seeks to make new discoveries that increase its production and is already cooperating with the Egyptian side in implementing these projects by supplying equipment and drilling supplies, and that Indian companies are fully prepared to exchange expertise with the Egyptian petroleum sector to the benefit of both sides.

INVESTMENTS

ENAP Sipetrol Gears Up for \$70 Million Drilling Push in Egypt

Chief Executive Officer ENAP Sipetrol and General Manager ENAP Sipetrol Egypt branch Denisse Abudinén has stated that the company has completed a seismic survey in the West Amer concession area in the Eastern Desert with costs of up to \$11.5 million to prepare for drilling operations in the coming period.

This came during her meeting with Minister of Petroleum and Mineral Resources Tarek El Molla where they discussed the activities of the company in its concession areas in Egypt and its plans for the next period, especially after acquiring the new concession area.

Abudinén added that ENAP Sipetrol will pump new investments of up to \$70 million during 2024 in East Ras Qattara to drill four development wells, in addition to another three explorations wells in Shahd, North East Shahd and Al Zahraa.

She noted that her company is implementing sustainable energy initiative at north Ras Qattara to reduce the use of



diesel and increase the dependence on the accompanied gases for generating electricity.

The CEO also mentioned that ENAP Sipetrol will acquire more concession areas to expand its business, noting the company's contribution to CSR activities at its operation sites. It provided training and workshops for the neighboring residents in addition to carrying out the restoration of schools and residential buildings, as well as providing medical equipment and supplies to hospitals.

GUPCO to Invest \$586M, Increase Production to 72,000 bbl/d in FY 2024/25

Minister of Petroleum and Mineral Resources Tarek El Molla has witnessed the general assembly of the Gulf of Suez Petroleum Company (GUPCO) to approve the new investment budget for the next fiscal year (FY) 2024/25.

During the meeting, the amended budget for FY 2023/24 and the investment budget for the next FY 2024/25 were approved,

El Molla highlighted the importance of adhering to timetables to implement the ambitious plan to drill wells and increase production rates in the company's work areas in the Gulf of Suez.

The minister praised the successful partnership with the Emirati company Dragon Oil, stressing the ministry's continued support and creating the climate to increase the pumping of investments.

GUPCO Chairman Salah Abdel Karim reviewed the ambitious investment plan for FY 2024/25 as well as plans to increase production rates and complete new production field projects, on top of which is the North Safa oil field in the northeastern Ramadan region, which began production at the end of December 2023. This



will be done in accordance with the highest standards of occupational safety, health, and environmental protection.

Abdel Karim explained that the investment plan during 2024/25 includes pumping investments estimated at approximately \$586 million during the year.

The plan aims to increase daily production rate, which currently stands at about 66,000 barrels per day (bbl/d), to reach 72,000 bbl/d crude oil, and it is planned to drill 12 exploratory and development wells that will contribute to enhancing production and reserves.

bp to Pump New Investments into Egyptian Natural Gas

Anja Dotzenrath, the Executive Vice President of Gas and Low Carbon Energy at bp has expressed the company's readiness to expand its business and pump new investments in Egypt, especially in the field of natural gas in the Mediterranean region.

This came during her meeting with the Minister of Petroleum and Mineral Resources Tarek El Molla where they discussed the company's activities in its concession areas in Egypt and the latest developments of the discovered wells in addition to its drilling campaigns in order to increase natural gas production rates.

She also expressed her interest in strengthening cooperation with Egypt, noting the company's projects in oil and gas exploration and production as well as its efforts in emissions reduction, green energy, and sustainability.

Apache Showcases its 2024 Business Strategy in Egypt

Minister of Petroleum and Mineral Resources Tarek El Molla has held talks with Apache Corporation CEO John Christmann, the company's Vice President and General Manager of Apache in Egypt David Chi, and an accompanying delegation.

They discussed plans and efforts to intensify oil and gas exploration during 2024, in addition to expansion ambitions in Egypt through acquiring new exploration areas in the Western Desert.

During their meeting, El Molla outlined that bp has been a strategic partner for the Egyptian petroleum sector over the years in the strategic petroleum projects in Egypt and positively contributes to oil and gas exploration and production (E&P) activities. He emphasized the sector's commitment to resolve any obstacles for the foreign partners and support the joint work as part of the integration system.



They also highlighted the importance of accelerating the new well drilling programs within the framework of the Ministry of Petroleum and Mineral Resources' (MoPMR) strategy to increase petroleum production.

Additionally, the parties reviewed their joint efforts in the fields of operational efficiency, emissions reduction at the sites, in addition to a plan to boost sustainable energy to reduce dependency on unused accompanying gases in generating energy as well as the contribution to social responsibility projects.

ROUNDTABLE

El Molla Spotlights Egypt's Energy Development, Emissions Reduction Efforts at IEA Roundtable

The Minister of Petroleum and Mineral Resources, Tarek El Molla, emphasized Egypt's accomplishments in developing energy resources and reducing emissions during his involvement in a roundtable discussion titled "Renewable Energy for Sustainable Economic Development in Africa: Transforming Vision into Reality." This event was part of the International Energy Agency (IEA) gathering held in Paris.

El Molla stated that Egypt is actively engaged in the development of various energy resources, including both renewable energy and traditional fuels, as part of the global energy mix to bolster energy security. He emphasized concurrent efforts to reduce emissions and promote energy provision through environmentally sustainable means. Additionally, he highlighted ongoing economic reforms aimed at incentivizing investments in green energy initiatives.

Furthermore, the minister elaborated that Egypt has revised its objectives and procedures for national emissions reduction contributions by expanding the utilization of renewable energy, aiming to achieve 42% renewable energy integration into the energy mix by 2035. He highlighted the successful establishment of the first sovereign fund for clean energy and sustainable water management, alongside the ambitious state plans to produce low-carbon hydrogen as an affordable and eco-friendly energy source.

He emphasized that Egypt has signed numerous framework agreements in the green hydrogen sector to foster its localization within the country, with these agreements currently underway.

Furthermore, El Molla underscored the challenges encountered by African nations in executing green energy projects and transitioning to sustainable energy sources. He emphasized the crucial role of funding and cooperation agreements in unlocking Egyptian and African potential in renewable and green energy initiatives.

He emphasized Africa's right to receive an equitable portion of international funds to facilitate a balanced energy transition. The minister highlighted that international financial institutions bear the responsibility of financing investments in Africa, particularly in decarbonization efforts and methane emissions reduction projects, as well as technologies associated with carbon capture, storage, and utilization.

COMPANY OF THE MONTH



bp, a British company founded in 1909, offers energy products and services. The company operates in 63 countries within Europe, North and South America, Australasia, Asia, and Africa.

bp's Activities in Egypt

bp has been operating in Egypt for almost 60 years. The company produces approximately 60% of Egypt's natural gas through its joint ventures Pharaonic Petroleum Company (PhPC) and Petrobel bp. Its portfolio mainly focuses on natural gas production. Currently, bp's operations are mainly concentrated in the Mediterranean Sea, including operations in West Mediterranean Deep Water, N. Alexandria, N. West Abu Qir, N. King Mariut, and the N. El Tabia offshore.

Source: bp's website

bp's Main Discoveries in Egypt

Discovery	WND Project	Atoll	Qattameya
Discovery Date	2015	2015	2017
Reserves (tcf)	5	1.5 of natural gas 31 mmbbl of condensate	
Production Capacity (mmcf/d)	1,400	350	50

BP SURPASSES FORECASTS WITH \$3B IN PROFITS IN Q4 2023

bp has reported a profit of \$3 billion in the fourth quarter 2023 results, surpassing forecasts due to strong gas trading.

bp's underlying replacement cost profit and the company's net income reached \$2.99 billion, exceeding forecasts of \$2.77 billion in a company-provided survey of analysts. This was a decrease from the third quarter's \$3.3 billion profit and the previous year's \$4.8 billion profit.

The strong quarterly results were driven by robust gas trading and higher oil and gas prices, which contributed to the company's 2023 profit of \$13.8 billion. However, these gains were offset by significantly lower refining margins, weak oil trading, and exploration impairments, according to bp's recent statement.

bp announced a dividend per ordinary share of 7.27 cents for the final three months of 2023, marking a 10% increase compared to the same period in the previous year.

The company also announced its commitment to repurchase \$3.5 billion of shares in the first half of 2024 and expects to purchase \$14 billion over 2024–2025.

bp's capital expenditure for 2023 remains unchanged at \$16.3 billion and is expected to decrease to \$16 billion this year and next.

The company generated over \$32 billion in cash last year, compared to \$41 billion in 2022, and reduced its net debt to \$20.9 billion by the end of the year, the lowest in a decade.

In hydrocarbons, bp announced the start-up of a major Seagull project, which is expected to add approximately 15,000 barrels of oil equivalent per day (boe/d) to net production by 2025.

In low-carbon energy, bp has agreed to acquire the 50.03% stake it does not already own in Lightsource bp, one of the world's leading developers and operators of utility-scale solar and battery storage assets, which is expected to be completed in the second half of 2024, subject to regulatory approvals.



EXXONMOBIL ACHIEVES \$36B IN PROFITS DURING 2023

ExxonMobil has reported a \$36 billion profit for 2023 due to strong performance in fuel trading and increased production of oil and gas.

The past year has been challenging for oil majors, with profits down by about a third from record levels in 2022. This was due to a decline in oil and gas prices after a spike caused by Russia's invasion of Ukraine.

ExxonMobil Chief Executive Darren Woods said the industry "saw energy prices and refining margins start to normalize in 2023."

The company has increased its spending target after a 4% increase in capital spending in the last quarter of 2023 compared to the previous year. ExxonMobil's capital expenditures for 2023 were \$26.32 billion.

Woods also highlighted the company's strategic investments in its two core oil production areas, the US Permian Basin and Guyana. ExxonMobil has begun production of lithium to supply batteries for electric vehicles.

According to Peter McNally, Global Sector Lead for Industrial Materials and Energy at Third Bridge, ExxonMobil closed 2023 on a strong note and enters 2024 in a strong financial position. However, investors will be closely watching the company's acquisition of Pioneer Natural Resources, which is expected to close in the second quarter.

ExxonMobil's results for the year also included a \$2.5 billion impairment charge for California properties that have been on the market for over a year. Excluding this charge, the company's annual income fell by 35% to \$38.57 billion.

ExxonMobil's trading division also played a significant role in its fourth-quarter results, delivering a \$1.1 billion boost to operating profit from its fuel business.

According to Chief Financial Officer Kathryn Mikells, the company's decision to combine global trading into a single division has been successful. She also stated that this is something they expect to see on an ongoing basis in their results.

ExxonMobil exceeded its \$9 billion cost-cutting target in 2019 by \$700 million. The company distributed \$32 billion to shareholders through buybacks and dividends, an increase from \$29.8 billion in the previous year.



SHELL SCORES \$28B IN PROFITS IN 2023, BOOSTING DIVIDEND

Shell has reported a strong performance in the fourth quarter of 2023, with adjusted earnings of \$7.3 billion and 28.3 billion dollars for the full year, reflecting robust operational performance and strong LNG trading and optimization results.

Strong LNG trading results in the quarter helped offset weaker refining and oil trading results, while chemicals posted a loss of \$500 million amid sluggish global economic activity following a blockbuster 2022 fuelled by a surge in energy prices after Russia's invasion of Ukraine.

Shell reported a robust operational performance, with total cash flow from operations (CFFO) amounting to \$54.2 billion in 2023, and a disciplined spending approach reflected in a 2023 cash capital expenditure of \$24.4 billion.

Wael Sawan, Shell's Chief Executive Officer stated that the company's relentless focus on performance, discipline, and simplification facilitated the delivery of compelling returns and create more value for our shareholders in 2023.

The British company increased its dividend by 4% from the previous quarter to \$0.344 per share, a 20% increase on an annual basis. It is the seventh increase since its historic

dividend cut in the wake of the COVID-19 pandemic.

Shareholder distributions in 2023 reached around \$23 billion, over 40% of its cash flow from operations.

Shell's free cash flow, or excess money after investment, fell to \$7 billion in the fourth quarter, the lowest in 2023 and less than half the previous year's \$15.5 billion.

Shell enhanced its upstream portfolio, achieving \$1 billion in structural cost reductions in 2023 and announcing a 2024 cash capex outlook of \$22–25 billion.



QATARENERGY ANNOUNCES AWARD OF \$6B EPC CONTRACTS FOR AL-SHAHEEN OIL FIELD DEVELOPMENT

QatarEnergy has announced the award of Engineering, Procurement, Construction, and Installation (EPCI) contracts worth more than \$6 billion related to the next development phase of the offshore Al-Shaheen oil field. The project aims

to increase production by about 100,000 barrels of oil per day (bbl/d).

The award is part of Project Ru'ya, which is the third phase of Al-Shaheen's development since North Oil Company, a joint venture between



QatarEnergy (70%) and TotalEnergies (30%), took over the field's operation in July 2017.

With the implementation of Project Ru'ya, the field will see the development of more than 550 million barrels of oil within a period of 5 years, with the first oil expected in 2027.

The project includes the drilling of more than 200 wells and the installation of a new centralized process complex, nine remote wellhead platforms, and associated pipelines.

The EPC contract consists of four packages, with one package valued at about \$2.1 billion for nine wellhead platforms. It has been awarded to a consortium of McDermott Middle East, Inc., and Qingdao McDermott Wuchuan Offshore Engineering Co.

Another package valued at about \$1.9 billion has been awarded to a consortium of McDermott Middle East Inc. and Hyundai Heavy Industries for a central processing platform.

The remaining two packages include a riser platform valued at about \$1.3 billion, awarded to Larsen & Toubro, and subsea pipelines and cables valued at about \$900 million, awarded to China Offshore Oil Engineering Co. (COOEC).

Notably, Al-Shaheen field is located 80 kilometers offshore Qatar and is among the world's largest in terms of "oil in place." The field commenced commercial production in 1994 and underwent significant development to reach an oil production rate of 300,000 bpd in 2007.

ENI TO CONVERT LIVORNO REFINERY INTO BIO-REFINERY

Eni has announced its plans to convert the Livorno refinery into a bio-refinery, making it Italy's third bio-refinery.

The project includes the construction of three new facilities to produce hydrogenated biofuels: a biogenic feedstock pre-treatment unit, a 500,000-ton per year Ecofining™ plant, and a facility to produce hydrogen from methane gas.

This decision was first announced in October 2022, followed by an application for Environmental Impact Assessment (EIA) in November 2022.

Preparatory work for the construction of the three new bio-refining plants is underway, with construction to commence

following regulatory approval. Completion and commissioning are expected by 2026, Eni stated in a press release.

Accordingly, Eni has stopped importing crude oil and has initiated the shutdown of the lubricant production lines and topping plant. However, fuel distribution in the area will continue through the import of finished and semi-finished products.

The three new plants will process various biogenic feedstocks, such as vegetable waste and residue, to produce HVO diesel, HVO naphtha, and bio-LPG. Eni, through Enilive, is the second-largest producer of hydrogenated biofuels (HVO) in Europe and the third-largest in the world.

Notably, the project is part of Eni's decarbonization strategy to achieve carbon neutrality by 2050 and increase bio-refining capacity from the current 1.65 million tons per year (mtpa) to over 5 mtpa by 2030.



The company noted that its growth strategy is driven by the increasing demand in Europe and Italy for biofuels in the mobility sector, both to meet the emission reduction targets set out in the recently approved RED III (Renewable Energy Directive) and to comply with Italian legislation requiring the introduction of pure biofuels. Forecasts predict a 65% increase in demand for hydrogenated biofuels globally between 2024 and 2028.

FALCON OIL & GAS STARTS INITIAL PRODUCTION AT SS1H WELL IN AUSTRALIA

Falcon Oil & Gas has announced the start of the 30-day initial production (IP30) testing at the Shenandoah South 1H ("SS1H") well in EP117 within the Beetaloo Basin in the Northern Territory (NT), Australia.

This well is operated by Falcon Oil and Gas Australia Limited's joint venture partner, Tamboran B2 Pty Limited.

The SS1H underwent a 10-stage stimulation program, which was completed on December 7, 2023. After the successful

installation of production tubing, the well was opened to allow for the flow of stimulation fluid. However, for operational reasons, the well was shut down for a three-week soak period. It was re-opened on January 25, 2024, with the aim of allowing for the absorption of stimulation fluid by the shale.

This would increase the relative permeability to gas in the formation and improve future production performance. The IP30 test has now commenced, and results are expected

by the end of February 2024, the company noted in a press release.



Falcon estimates that the commercial flow rates during the IP30 test will be 1.5 million cubic feet per day (MMcf/d) over the 500-meter horizontal section (3.0 MMcf/d normalized over 1,000 meters) or greater. If this is proven, it will allow the joint venture to move forward with the proposed 40 MMcf/d pilot project at Shenandoah South in the first half of 2024.

PETROBRAS' OIL, GAS PRODUCTION RISES 3.7% IN 2023

Petrobras, a Brazilian state-owned oil and gas company, has reached total production of 2.78 million barrels of oil equivalent per day (MMboed) in 2023, which is a 3.7% increase from the previous year.

This production includes both oil and natural gas, with 2.44 MMboed being commercial production and 2.24 million barrels per day (MMbpd) being oil production.

These results exceeded the company's Strategic Plan 23-27 guidance and fell within the production forecast revised in November 2023, within the range of ± 2.0%, Petrobras stated in a press release published on Friday.

Petrobras achieved a record total own production of oil and natural gas in the pre-salt, with 2.17 MMboed, surpassing the previous record of 1.97 MMboed in 2022 and accounting for 78% of the company's total production.

The company also achieved a record total operated oil and natural gas production of 3.87 MMboed, surpassing the previous record of 3.64 MMboed in 2022.

In 2023, four new platforms came on stream, contributing to excellent operating results, the company noted.

In May, FPSO Anna Nery, the first unit in the Marlim and Voador Revitalization Project, and FPSO Almirante Barroso, the fifth unit in the Búzios field, came on stream.



In August, the company started operation of the FPSO Anita Garibaldi, the second unit of the Marlim and Voador Revitalization Project, and, in December, the FPSO Sepetiba, the second definitive production system of the Mero field.

BAKER HUGHES Q4 2023 RESULTS INDICATE REMARKABLE SURGE IN NET INCOME

Baker Hughes has reported a net income of \$1.943 billion, up \$2.544 billion year-over-year, according to its press release about its Q4 2023 results.

The company's Adjusted EBITDA for the full year stood at \$3.76 billion, reflecting a 26% increase compared to the previous year.

According to Lorenzo Simonelli, Chairman and CEO of Baker Hughes, the company successfully removed \$150 million in costs, realigned its Industrial & Energy Technology (IET) segment, and recently launched actions to further streamline

its Oilfield Services & Equipment segment (OFSE). The company's strategy to transform the way we operate is working.

The company generated cash flows from operating activities at \$932 million, with free cash flow at \$633 million.

The company also reported strong operational performance, securing significant contracts and orders across its business segments, including multi-year integrated solutions contracts in Latin America and important contracts in the

Gas Technology Equipment and Services sectors in the Middle East.



During the fourth quarter, Baker Hughes confirmed the previously announced award to supply two electric liquefaction systems for the 9.6 MTPA Ruwais LNG project in the United Arab Emirates, one of the first all-electric LNG projects in the Middle East.

ADNOC SELLS ADDITIONAL SRFO FROM RUWAIS REFINERY

Abu Dhabi National Oil Company (ADNOC) has sold more straight-run fuel oil (SRFO) from its Ruwais refinery complex this month via private sales, according to trade sources and ship-tracking data.

The higher sales emerged because of maintenance works on the residue fluid catalytic cracker (RFCC) unit at Ruwais, sources told Reuters.

At least two SRFO cargoes are loading out from Ruwais this month compared to zero last month, ship-tracking data from Kpler showed.

A total of 170,000 metric tons of SRFO were loading from Ruwais in January, with fuel oil export volumes at their highest in about a year and a half, the data showed.

An ADNOC spokesperson confirmed that planned maintenance has commenced at the Ruwais refinery but declined to comment on cargoes.

The 127,000 barrels-per-day (bpd) RFCC unit processes heavy residual fuel oil into higher-valued refined products such as gasoline and diesel.

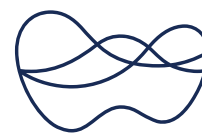
The unit is located in the western part of the 835,000-bpd Ruwais refinery complex.

In late 2022, the Emirati company approved a five-year business plan and capital expenditure of \$150 billion (550 billion dirhams) for 2023-2027. It also brought forward its target of five million barrels per day oil production capacity expansion to 2027 from 2030.



KEYS TO WINTERSHALL DEA'S 50 YEARS IN EGYPT

An interview with **Sameh Sabry**, Senior Vice President for the Middle East and North Africa Wintershall Dea



wintershall dea



Wintershall Dea has thrived in Egypt for half a century, embodying sustained growth and remarkable success. What are the key ingredients of your success in Egypt for the past five decades?

50 years in Egypt, such a milestone. Our journey started in 1974. And since then, I think there are two key factors or two key ingredients for our success. One of them is derived from the slogan we have, "Minds of Engineers". We have always been striving for operational excellence. In all our operations, we have been very keen to put safety and sustainability as our key priority. I think this is one of the key factors.

The other key factor is that we have been all the time keen to build very long-lasting relationships with all the stakeholders in Egypt, with the Ministry of Petroleum, with the state companies, with the international companies, with the service companies. I think we have built a very good reputation as a reliable partner, as a straightforward player who is keen for win-win success.

Your company is one of the companies that engage with Egypt not merely as investors

but as partners with the government. This distinctive approach has contributed significantly to your success over 50 years in Egypt. Would you agree with this assessment?

I fully agree. I think we believe in long-lasting relationships. We believe in win-win. We believe that we are here to stay and we are committed to Egypt. This is reflected in every decision we make in every transaction we do with the Egyptian government.

The achievement you've experienced hasn't solely arisen from your strategic initiatives but also from the dedication of your people—your employees, partners, and government collaborators. What would be your central message to these pivotal stakeholders in fostering such sustained success over the past five decades?

When I look back to the 50 years we have been operating in Egypt, we have been operating under different names, and under different structures of shareholders. And through those years, many changes have taken place. But the one thing that stayed stable is actually having

a committed and reliable team that works to support Egypt, to supply Egypt with the energy it needs for the economy. So, my message to the business community, to the state companies, EGPC and EGAS, to the Ministry of Petroleum, is that we will continue to operate with the same high-level standards. We will continue to put safety and sustainability as our key priority. I think they can rely on us as a committed partner for Egypt for years to come. This is the key message for the business community. But I would like as well to send a message to our employees, to my team, especially since it now grew to include teams from the Middle East and North Africa. My message to them is that I'm quite proud of them. And I trust them. I am quite sure that we will work together in harmony to serve the different assets in the different countries in the region, including Egypt, in a balanced and efficient way.

How has your company's approach to exploration and production evolved over the past 50 years in Egypt?

I spent the last few days looking into the history of our company in Egypt. We have been preparing a brochure covering our history in the 50 years. The starting point was in 1974 when we started exploring for oil in the Gulf of Suez. After a few years, we managed to make a number of discoveries and we started producing from there in 1983. And since then, we have been operating for four decades in a very safe and responsible manner. We have used all technologies and all the know-how as the time goes in drilling activities and enhancing activities for our production.

But more importantly, we have managed as well to maintain the integrity of our assets and our facilities until we managed after four decades to hand it over to EGPC gracefully in a good shape and good form.

And then we shifted gradually from the focus on oil to focus on natural gas, which we believe is the transitional hydrocarbon that suits more the climate targets we have. During the 2000s, we managed to make a series of discoveries in the Nile Delta, both onshore Nile Delta in Disouq and then East Damanhour lately, but as well with our partners offshore Mediterranean with bp in the West Nile Delta project. For the last decade, we have been producing very efficiently natural gas, supporting the supply of Egypt in both projects with partnership with EGAS and with EGPC. And today we are even looking

“ We believe in long-lasting relationships. We believe in win-win. We believe that we are here to stay and we are committed to Egypt. This is reflected in every decision we make in every transaction we do with the Egyptian government. ”

forward to further growth, both in exploration and in M&A, but as well in energy transition and positioning ourselves as a future leader for carbon capture and storage in Egypt and the region.

What are your current priorities in the MENA region, and what strategies and plans do you have in place to achieve them?

My first priority now is to make sure that my team, the team serving the region, is working in harmony and working efficiently. It is the first time for our company to have a team covering a region, not just one single country. So, I need to make sure that the team is serving the assets in the different countries in a balanced and efficient way. This is my number one priority.

But of course, this is a short-term priority. The longer-term one is to identify potential opportunities for growth, both in exploration and in M&A to find new opportunities that can bring value to our company and can make sure that we emphasize our presence in those countries. We are also trying to position ourselves as a key player and a frontliner when it comes to energy transition initiatives with a focus on carbon



“We have always been striving for operational excellence. In all our operations, we have been very keen to put safety and sustainability as our key priority.”

capture and storage, given our current portfolio, our experience, and the proven projects that we have managed to successfully execute during the last couple of years.

You keep on repeating the concept of your role in Wintershall Dea in the energy transition process, which seems that you are playing a bigger role in this. Could you elaborate more on that aspect? What projects have you successively implemented when it comes to energy transition? What different technological aspects have you been taking into consideration? And what's coming in the future also?

I keep on repeating energy transition and emissions reduction initiatives, maybe because it is close to my heart, but it also reflects our DNA, our culture and our priorities. And I am very proud that we can and we are playing a leading role when it comes to this in the countries of the MENA region. Let me give you a couple of examples. In Disouq, we are very proud that in our joint venture there with EGAS, DISOUCO, we have managed to be the first Egyptian joint venture to stop completely and entirely routine flaring.

We are the first Egyptian joint venture with EGAS to apply this and to implement completely zero routine flaring. This was actually one of the key successes in a bigger program. There are other examples where we apply technology, like the LDAR program. LDAR stands for leak detection and repair, which is aiming at reducing methane emissions. This is for Egypt, but also for Algeria, we are quite happy that we have presented a new idea for a project, which we call the Methanation Project, in our Reggane Nord asset in Algeria. We presented this to our partners, Sonatrach and Repsol, in the joint venture there, the Groupement, which is targeting to convert CO₂ and H₂ into methane. And we work very closely with KIT, one of the most reputable German technology institutes to make sure that we have the proper planning and engineering for this concept and project. And I hope that this will be a good pilot success that we can apply elsewhere in the MENA region.

“We are also trying to position ourselves as a key player and a frontliner when it comes to energy transition initiatives with a focus on carbon capture and storage, given our current portfolio, our experience, and the proven projects that we have managed to successfully execute during the last couple of years.”



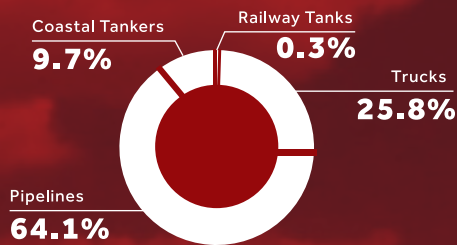
CONNECTING THE DOTS

Logistics of Egypt's Petroleum Transportation

BY JOLLY MONSEF, MARIAM AHMED & ALAA AL MASRY

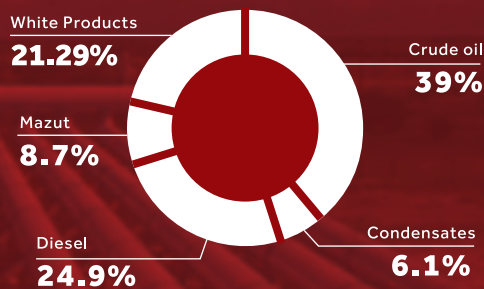
Key Takeaways

Petroleum Transportation Breakdown*



*Over FYs (2021/22-2022/23)

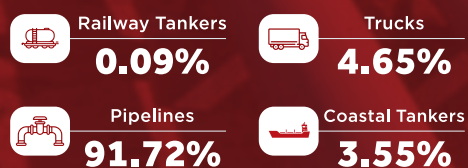
Average * Share of Transported Petroleum Products by Pipelines



*Over FYs (2021/22-2022/23)

47.5% Oil Tankers Passing through the Suez Canal in FY 2022/23

Transportation Cost Per Channel*



*Over FYs (2021/22-2022/23)

Egypt holds a prominent position in the global petroleum industry, with significant crude oil and natural gas reserves, the country makes the best use of its different channels to serve its users and meet the domestic demand.

Moreover, Egypt is in a strategic location along the Mediterranean Sea and the Red Sea, with several key ports, including the Alexandria and Damietta

ports on the Mediterranean coast, as well as the Port Said and Suez ports along the Suez Canal. These ports serve as important hubs for importing and exporting petroleum products that facilitate international trade, which supports the growth and stability of the petroleum industry.

This report tackles the quantities of petroleum products transported through a range of

different means during fiscal year (FY) 2021/22 and FY 2022/23. These means include railway tanks, petroleum pipelines, trucks, and water transport units.

They all facilitate the efficient and reliable transfer of crude oil and refined petroleum products across different regions of Egypt. Moreover, the report emphasizes the importance of Suez Canal navigation as a key global trade route.

PETROLEUM TRANSPORTATION TRENDS

Total Transported Quantities

In FY 2022/23, the total transported petroleum quantities by all means of transportation witnessed a slight decline of around 4%, compared to that in FY 2021/22 to record 101.87 million tons (mmt). This decline was driven by the decrease in quantities transported via trucks, pipelines, and coastal tankers by around 6%, 3%, and 3%, respectively, according to the Central Agency for Public Mobilization and Statistics (CAPMAS).

Petroleum Products Transported Quantities (mmt)

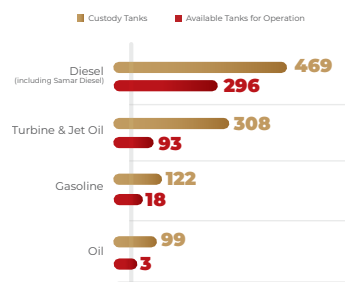


Main Means of Transportation

Railway Tanks

Around half of Egypt's railway tanks are diesel (including Samar diesel), followed by turbine and jet oil that constitute the third, then gasoline and oil respectively. Egypt's total number of railway tanks in FY 2022/23 recorded 1,000 tanks. Of which only 465 tanks are available for operation, with a 32.4% increase compared to that in FY 2021/22, according to the CAPMAS.

Average* Number of Tanks



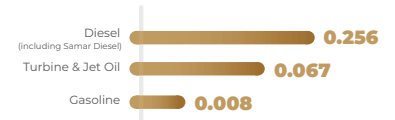
*Over FYs (2021/22-2022/23)

Actual Transported Quantities

The actual movable capacity transported of petroleum products by railway tanks in FY 2023/22 reached 0.353 mmt, up from 0.31 mmt in FY 2021/22, with a 14% increase.

In FYs 2021/22 and 2022/23, Diesel (including Samar Diesel) was the largest amount transported with a share of 78% of the total capacity transported, followed by turbine and jet oil, then gasoline, according to the CAPMAS.

Average* Actual Capacity Transported (mmt)



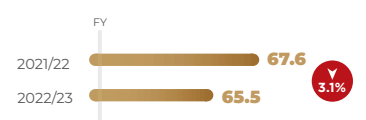
*Over FYs (2021/22-2022/23)

Petroleum Pipelines

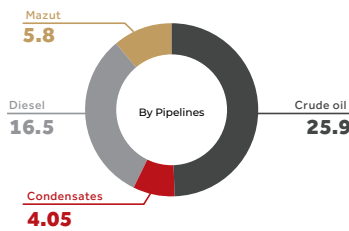
Egypt relies on a network of internal and main pipelines for petroleum transportation. These pipelines efficiently move crude oil, condensates, liquefied petroleum gas (LPG), and other products domestically and internationally.

In FYs 2021/22 and 2022/23, the crude oil and diesel quantities are the largest that are transported by the petroleum pipelines, with an average 64% share of the total quantity transported, followed by mazut, which possesses about 9%, then condensates with 6.1% of the total quantity transported, according to the CAPMAS.

Transported Quantities by Pipelines (mmt)



Average* Actual Capacity Transported (mmt)



*Over FYs (2021/22-2022/23)

Trucks

Trucks are predominantly utilized for the transportation of gasoline, diesel, mazut, and LPG. They hold a significant position as the second most prominent means of transporting petroleum products, accounting for approximately 25.6% of the total transport volumes in FY 2022/23, according to the CAPMAS.

Between FYs 2021/22 and 2022/23, the transported quantities of diesel and gasoline using trucks rose by 6%, and 8%, respectively.

On the contrary, the total transported quantities of Mazut obviously dropped by 71% during the same period.

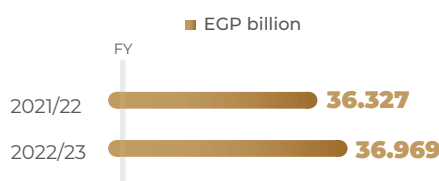
Water Transport Unit

Coastal tankers are ships designed to transport large quantities of crude oil or oil products. They can be divided into crude oil tankers such as Alsharifa (4), Alexia, Album, Chris, and Mariana, and oil product tankers like Alnabila (6) and (5).

The quantities of crude oil and oil products transported by coastal tankers reached 9.9 mmt in FY 2022/23, with an average cost of EGP 161 per ton, according to the CAPMAS.

Transportation Costs

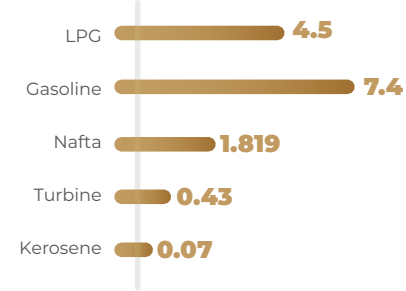
Total petroleum transportation costs in FY 2022/23 experienced a modest increase of approximately 2% when compared to those in FY 2021/22, according to the CAPMAS.



Moving to the white products, there is a range of transported products including LPG, gasoline, Nafta, turbine and Kerosene.

In FYs 2021/22 and 2022/23, gasoline has the biggest share, representing an average of 11.1% share from the total transported quantity, according to the CAPMAS.

Average* Transported Quantities of the White Products (mmt)



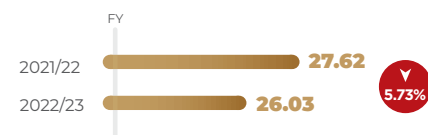
*Over FYs (2021/22-2022/23)

This drop in the transported quantities of mazut using trucks can be partially justified by the significant increase in using pipelines to transport mazut, as it hiked by around 22.3%, according to the CAPMAS.

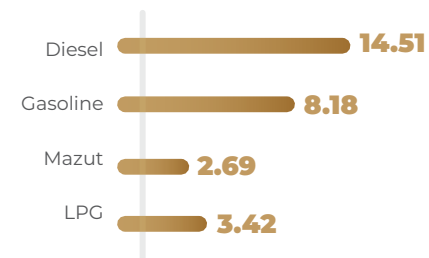
It is worth noting that the average transported quantity of diesel represented half the total transported quantity by trucks between FY 2021/22 and 2022/23.

On the other side, gasoline, LPG, and mazut average transported quantity constituted approximately 28%, 12%, and 9%, respectively, according to the CAPMAS.

Transported Quantities by Trucks (mmt)



Average* Transported Quantities by Trucks per Product (mmt)



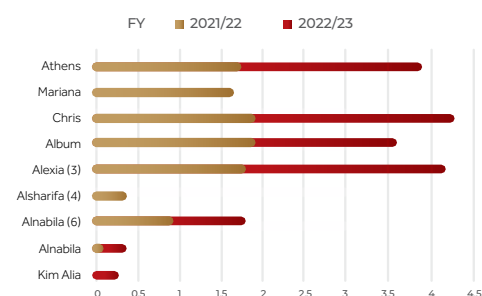
*Over FYs (2021/22-2022/23)

Chris Coastal Tanker held the largest average share of 21% among tankers in both FYs 2021/22 and 2022/23, followed by Alexia (3), Athens, and Album with an average share of 20.8%, 19.4%, and 17.6% over the same period respectively, according to CAPMAS.

Transported Quantities by Coastal Tankers (mmt)



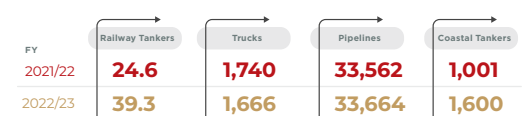
Transported Quantities Per Tanker (mmt)



Transportation Costs Per Channel

In FY 2022/23, petroleum product pipelines incurred the highest transportation costs, which account for about 92% of the total cost. On the other hand, railway tanks are the cheapest means of transporting petroleum products; they contribute 0.09% to the total cost, according to the CAPMAS.

Cost (EGP million)



SUEZ CANAL NAVIGATIONS

The Suez Canal is seen as the shortened link between the East and West of the world due to its unique geographic location. The Canal with the Suez-Mediterranean (SUMED) pipeline and the Bab el-Mandeb Strait are significant strategic routes for energy and commodities from Asia and the Middle East to Europe and North America. Nearly 12% of the total seaborne crude oil trade and 8% of global Liquefied natural gas (LNG) trade passes through the Suez Canal in the first half (H1) of 2023, according to the US Energy Information Administration (EIA).

Oil Tankers

Oil tankers passing through the Suez Canal witnessed significant growth, as the number of tankers surged by 47.5% in FY 2022/23 compared to FY 2021/22.

The oil tankers represented 31% of the total passed vessels through the Canal in FY 2022/23, according to the Suez Canal Authority (SCA).

Number of Oil Tankers & Net Tonnage



Transit Fees

The Suez Canal imposes transit fees on all vessels passing through it, based on several factors such as the earning capacity, savings achieved, vessel type and size, loading condition, cargo type, market condition, and economic variables. These fees increase the canal revenues, which is a major source of foreign currency inflows contributing to the national economy.

It is worth mentioning that the transit revenues of the canal rose in FY 2022/23 by 25.2% from the previous FY, reaching \$8.8 billion, according to the Central Bank of Egypt (CBE).

Regulations for Petroleum Tankers

Circular	7/2023	14/2022
Issued Date	October 16, 2023	September 18, 2022
Effective Date	January 15, 2024	January 1, 2023
Transit Dues	15%	
Vessel Types	Crude Oil Tankers Petroleum Product Tankers LPG Carriers LNG Carriers	

Circular	5/2021
Issued Date	November 9, 2021
Effective Date	February 1, 2022
Transit Dues	6%
Vessel Types	Crude Oil Tankers Petroleum Product Tankers LPG Carriers

Suez Canal in the Current Red Sea Conflict Shadow

The repercussions of the current Red Sea tensions began to affect the Suez Canal. Major shipments, including oil and LNG vessels, decided to change their route from the Suez Canal to the Cape of Good Hope despite the high cost of this route compared to the canal.

From the start of the conflict until mid-January 2024, there has been a decrease of around 30% in the number of ships passing through the canal, compared to the same period last year. Accordingly, the canal's revenues dropped by 46% in January 2024 compared to January 2023, reaching \$428 million, according to SCA Chairman Osama Rabie's permit to Media in February 2024.

Its significance as a key source of foreign currency for Egypt, the SCA is making all efforts to minimize the potential future impacts of this conflict. The Authority is establishing direct communications with all major clients to identify their needs and discuss proposed recommendations to enhance cooperation by offering a bundle of navigational and maritime services under normal and urgent conditions.



Egypt's oil and gas sector pushes great attention toward fulfilling the local market needs through efficiently utilizing the different means of transportation and distribution of crude oil and petroleum products.

Furthermore, there are continuous endeavors to upgrade the petroleum transportation network to strengthen Egypt's role as a key regional energy trade hub and take the opportunity to distribute and market all petroleum products to all stakeholders.



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DAVID THOMAS

BIDS ADIEU TO CHEIRON ENERGY



As you move forward, I want to express gratitude for your commitment, excellence, expertise, and wisdom during your time as CEO. Your visionary leadership guided us through challenges with foresight and resilience, setting enduring standards. Your expertise illuminated paths to growth, ensuring our industry prominence. Your wisdom and integrity shaped a culture of compassion and collaboration. Your profound impact will inspire us as you embark on new adventures. Thank you for your extraordinary contributions. Best wishes for continued success and joy.



Tawfik Diab
Chairman - Cheiron Petroleum Corporation

It has been truly a great pleasure working with you for the past seven years. I have to tell you that I have learned tremendously from you, just by working closely with you. It really has been a pleasure, I am truly going to miss you, and thank you for everything.



Amina Taha
Commercial Manager

Good day, David. I truly appreciate your assistance, support, and guidance, throughout the last two years, especially when we managed the challenge in the PetroGulf project and GNN. As a result, we managed to succeed and perform with excellence. I wish you good luck and I hope one day we will cross paths again.



Nasr Ramadan
Petrogulf General Manager & Managing Director

David, it is an honor for me to have worked with you for seven great years. You have been my boss for the longest time and when you work with someone that good for such a long period of time, it becomes part of your being and my case was no different on a professional front. Every KPI that needed to be enhanced increased by multiples of two to four in a period that has witnessed unprecedented disruptions.



Shamrendra Singh
Bapetco General Manager and Managing Director

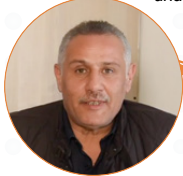
Dave, Working with you was a great pleasure. You're a great leader and a real inspiration. You deserve a fantastic retirement! We'll miss you, but we're sure you'll do greater things in your new family project.



Mohamed Mostafa
Finance manager

As **David Thomas**, a seasoned professional with over three decades of experience in the oil and gas industry, bids farewell to his role at Cheiron Energy, his departure marks the end of an era defined by resilience, achievement, and unwavering commitment. Since joining Cheiron Energy in March 2017, Mr. Thomas has left an indelible imprint on the organization, embodying the highest standards of wisdom, professionalism, and dedication to his colleagues and the industry as a whole. As CEO, his profound contributions have not only propelled Cheiron Energy's growth and success but have also positively impacted the broader Egyptian oil and gas sector. Here, we gather testimonies that illuminate Mr. Thomas's remarkable journey and celebrate his enduring legacy as a corporate leader of unparalleled integrity and vision.

I am very grateful for what I have learned from you. I have learned a lot and I remember the few words you said that really changed my life which was: think before you talk. Your leadership was very inspiring and pushed us to achieve many goals and objectives in the company, even while we were overwhelmed. Nonetheless, I still appreciate that we achieved a lot in the many years we spent together. Your legacy will be always remembered. I wish you good luck in your new adventure and you will be truly missed.



Mohamed El-Naka
Norpetco General Manager & Managing Director

Since I met David Thomas in 2019, I feel that I have met smart and professional manager. He is one of the best managers I have ever worked with and I hope all the best for David and his family, for his new life and his new project. Thank you, Mr. David, for everything you did for Cheiron and for me personally. Again, I would like to say goodbye to Mr. David and I hope to meet you on another occasion.



Mohamed El-Masry
Amapetco General Manager and Managing Director

David is a believer; he believes in human capital. He believes in his team and believes that with his team, he can do a great job. If I were to describe Mr. David in one word, it would be "wisdom." Mr. David, you will be remembered for all the great things you have done not only for the company but also for everyone at the company. You created an ideal workplace for the superiors and the subordinates to work together in harmony. You are a great leader.



Noha Mansour
Support Services Manager

We will miss you, David. I had the privilege of working with you two times. The first time was at EGPC when I was working as the deputy for exploration and production, during which I was pleased to notice your exceptional honesty, seriousness, and professionalism. When I joined Cheiron, I also observed that you demonstrated a high level of commitment and dedication. We were happy to work with you and thank you for everything. Enjoy your time in the next chapter of your life.



Adel Samaha
Gampetco General Manager & Managing Director

David, it is quite difficult to say farewell. We have been working with you for more than six years. As an individual whom I personally welcomed as the new CEO when you came in 2016, you kept steering the ship in all types of weather, stormy and good weather. You demonstrated significant calmness, especially in times of great stress and difficulty, and you managed to be a great leader. I really do wish you all the success and the best for you in the next phase of your life.



Ihab Girgis
Technical Manager

It has been a really short time working with you. As you know, I joined recently the company and, during this short period of time, I found you to be a very professional and effective leader, dedicating most of your time to the organization's success and encouraging others to do likewise. We will miss you and it is unfortunate to hear that you are leaving. I hope that we can stay in touch and look forward to getting more advice from your side for my journey here.



Mahyar Golabi
QHSE Manager

It has been a pleasure working with David for the last few years as he has helped grow Cheiron into a major producer in country. He always demonstrates great professionalism and has a common sense, no nonsense approach to doing business. I would like to wish David all the very best in his life after Egypt, bon voyage!



David Chi
Vice President and Country Manager
-Apache Corporation

Dave we will miss you here in Egypt. You were always supporting the Oil&Gas industry in the country working with all of us to try to overcome the different challenges. I wish you the best in your new life projects, but the most important, that you could enjoy your life a lot



Denisse Abudinén
CEO - ENAP Siptrol, General Manager
-ENAP Siptrol Egypt Branch

On behalf of Capricorn Energy I would like to thank Dave for your leadership since inception of our joint Western Desert acquisition. We have appreciated your time and dedication to continuous improvement and fruitful partnership and we wish you and Sue well in your future endeavours.



Eleanor Rowley
Managing Director Egypt - Capricorn Energy

The petroleum sector in Egypt will be losing a great friend and CEO in Dave Thomas. Dave has been involved in the sector in Egypt multiple times with different organizations, most recently as CEO of Cheiron. He has led a fast-growing, complex organization with a diverse asset base and multiple JV companies into the 4th leading producer of oil and gas in Egypt under difficult macroeconomic conditions. I admire Dave for his calm demeanor, thoughtful leadership, and technical knowledge. I am fortunate to be able to call him a friend and wish him and Sue all the best in their future endeavors together.



Thomas Maher
President and CEO - Apex International Energy

Women Empowerment in Egypt's Energy Transition: **PROGRESS AND CHALLENGES**

BY SARAH SAMIR

Globally, women account for only 16% of the global energy sector workforce, while men make up the remaining 84%. In the renewable energy sector, women's representation is slightly higher, at around 32% of the workforce, according to the International Renewable Energy Agency (IRENA). In Egypt, women's representation in the energy sector is a focus of attention, particularly in the context of the country's transition to a green economy. However, women represent only 22% of workforce in the oil and gas sector, and 32% of workforce in the renewable energy sector, according to AIMarsad AlMasry.

Challenges Facing Women in Energy

Women comprise around 48.6% of the population in Egypt with 50.74 million out of 104.26 million total population in January 2023, according to the Central Agency for Public Mobilization and Statistics (CAPMAS). Yet, women's participation in the energy sector remains low. Minister of Petroleum and Mineral Resources, Tarek El Molla, stated in 2021 that women represent 30% of the total workforce in the oil and gas sector and 33% of the total senior management in the sector.

Women in the energy sector face several challenges, including gender bias and stereotypes, lack of representation, limited access to opportunities, work-life balance challenges, and implicit workplace culture, according to a World Bank report. Therefore, the Egyptian government has been adapting several initiatives and programs to empower women in the energy sector.

Initiatives and Programs

The Egyptian government, particularly the Ministry of Petroleum and Mineral Resources (MoPMR), has taken several initiatives to empower women in the energy sector. These efforts are part of a broader commitment to gender equality and women's empowerment in the country.

Moreover, the Ministry has implemented gender-sensitive energy policies, providing financial incentives for women in the energy market, enacting laws supporting the private and public sectors, and fostering international connections, according to an article published by the United Nations Development Program (UNPD).

The MoPMR has supported events like "She is Energy," which brings together distinguished female figures across the energy industry to discuss women's abilities and roles in the sector. The Ministry has also supported the Women in Energy Network, which aims to develop female talent in the energy sector and promote equal opportunities for all. This comes as the network helps connect women in the energy sectors, providing a platform for connection, inspiration, and professional development, catering to both newcomers and experienced leaders.

The Ministry's attention to women in the Egyptian oil and gas sector has been demonstrated through the acknowledgment and celebration of their pivotal roles and notable accomplishments within the industry. This recognition is prominently showcased during a dedicated conference for women at the Egypt Energy Show (EGYPES), the nation's premier energy conference. During this event, the Minister pays tribute to exemplary female professionals across all levels of employment.

The EGYPES event serves as a platform for prominent female leaders to convene and engage in discussions on pertinent topics, including the obstacles and hurdles encountered by women throughout their career journeys. Moreover, it provides



HIGHLIGHT

THE ENERGY TRANSITION IN EGYPT HOLDS SIGNIFICANT POTENTIAL FOR JOB CREATION, PARTICULARLY IN THE FAST-GROWING RENEWABLE ENERGY SECTOR, WHILE ALSO GENERATING NEW ROLES ACROSS THE WIDER ENERGY LANDSCAPE.

a forum for proposing effective solutions to address these challenges and foster gender inclusivity within the sector.

Looking Forward

Meanwhile, renewables and Green Hydrogen technologies open the door for more women to contribute to the sector. This comes as the Egyptian government has been working to enhance women's roles in the green energy sector as part of its vision for 2050.

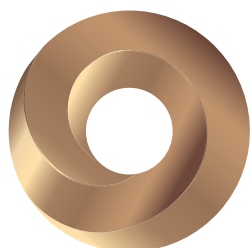
The energy transition in Egypt holds significant potential for job creation, particularly in the fast-growing renewable energy sector, while also generating new roles across the wider energy landscape. A recent World Bank study showed that "from the lowest to highest scenarios, the impact will be creating 1.4 to 3.8 million net jobs in Egypt alone over the period of 2020-2050."

Thus, despite the challenges within the sector, women are encouraged to join the oil and gas sector as well as the various energy sectors in Egypt. Accordingly, as Egypt is working on boosting its renewable energy and green hydrogen activities, women are anticipated to have more opportunities for career growth.

HIGHLIGHT

THE EGYPTIAN GOVERNMENT HAS BEEN ADAPTING SEVERAL INITIATIVES AND PROGRAMS TO EMPOWER WOMEN IN THE ENERGY SECTOR.

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PRESIDENT OF THE ARAB REPUBLIC OF EGYPT



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ALL'S FAIR IN GENDER BUDGETING



BY RANA AL KADY

To begin with, the goal of gender budgeting is to address gender inequity and the empowerment of women via the use of fiscal policy and management. The examination of how various genders are impacted by policies and related budgets is also known as gender budgeting. The strategy does not call for budgets that are different for men and women. Rather, it entails proactively determining how expenditure affects gender equality, which will help to better target funding decisions and provide better results.

General Overview

First of all, it is important to note that the proportion of women employed in the oil and gas sector is 22%, the same as it was in 2017. Progress was probably hampered by the epidemic and the ensuing shock to the oil price, which emphasizes the necessity of ongoing attention, dedication, and effort to advance diversity and inclusion (D&I). There are signs of hope: the number of D&I strategies and programs that businesses have launched has increased by almost 50% since 2017. This suggests that, despite a pause in results, the determination to take action and build the groundwork for future advancement has been stronger over time.

Furthermore, D&I activities have been executed by oil and gas corporations in a pretty easy and uncomplicated manner, in compliance with local regulatory and legal standards. Business executives and managers must work harder to advance diversity and inclusion in their recruiting practices, policies, and career-long support for staff members. They

must also critically examine unconscious prejudice on a much larger scale. An endeavor like this necessitates a more deliberate and proactive strategy, driven from the top, that integrates D&I values into all significant company operations, particularly those that are HR-related.

Moving Forward

Consequently, it is important to address the challenges and concerns associated with ensuring gender budgeting in a predominantly male-dominated sector in order to be able to understand the next steps and identify ways in which the issues could be ameliorated. For instance, firstly, authorities can implement public employment policies to promote the hiring and advancement of women, amend laws to enhance gender equality and aid in the eradication of prejudice, and alter the structures of government, particularly budgetary procedures. However, government initiatives alone will not be sufficient to achieve gender equality, particularly in nations where social and cultural obstacles are substantial and serve to perpetuate

HIGHLIGHT

GOVERNMENTAL INITIATIVES CAN WIELD SIGNIFICANT INFLUENCE IN EITHER ADVANCING OR HINDERING GENDER EQUALITY, PARALLELING THE IMPACT OF CULTURAL SHIFTS IN PERCEPTIONS AND IDEAS REGARDING WOMEN'S ROLES IN SOCIETY.

inequality. Governmental initiatives can wield significant influence in either advancing or hindering gender equality, paralleling the impact of cultural shifts in perceptions and ideas regarding women's roles in society.

Additionally, there is little research on how well gender policies work to achieve gender outcomes; much of the research on this topic focuses on program and performance-based budgeting implementation. Three particular components in particular can aid in enhancing GB practices: i) If the gender impact is complete or partial, it is important to ensure that gender-sensitive programs using markers; ii) Developing and improving the use of performance indicators to track and monitor program performance against specific outcomes; iii) Developing granular ex-post analysis, which calls for strong analytical capacity and resources. Better openness and the ability to track the efficacy of policies are made possible by this technique, which also helps to guide future decision-making.

With that, it is recognized that at the national, regional, local, and corporate levels, a number of previously shown actions may be implemented to address gender concerns throughout the value chains of the oil and gas sectors and to increase women's access to resources that are productive, capacity building, and decision-making. Either as community members in impacted regions or as laborers in and suppliers to these sectors and its bigger suppliers, it is feasible to raise women's share of the wealth created by oil and gas businesses in Africa with well-designed policies, strategies, and focused initiatives. This will help Egypt develop in a more inclusive and equitable manner.

HIGHLIGHT

IT IS IMPORTANT TO ADDRESS THE CHALLENGES AND CONCERNS ASSOCIATED WITH ENSURING GENDER BUDGETING IN A PREDOMINANTLY MALE-DOMINATED SECTOR IN ORDER TO BE ABLE TO UNDERSTAND THE NEXT STEPS AND IDENTIFY WAYS IN WHICH THE ISSUES COULD BE AMELIORATED.

HOW 5G IGNITES INNOVATION IN OIL AND GAS

BY FATMA AHMED

The oil and gas industry is facing a critical challenge: achieving both efficiency and decarbonization at the lowest possible cost. By embracing innovative technologies, they can pave the way towards these crucial goals. Recently, 5G technology has emerged as a game-changer, offering a range of capabilities that can significantly improve operational efficiency, safety, and productivity within the oil and gas sector.

Why 5G Matters

The 5G network represents the fifth generation of wireless technology, heralding transformative speed and capabilities that open up new realms of possibility. Verizon's article underscores this, emphasizing how 5G can be a game-changer. Accenture echoes this sentiment, describing 5G as a platform for groundbreaking innovations.

With the ability to connect virtually everyone and everything – humans, machines, objects, and devices – 5G offers higher speeds, lower latency, superior reliability, vast network capacity, and increased availability. These advancements translate to higher performance and improved efficiency across industries.

A report by Oxford Economics highlights the potential impact of 5G, projecting a 1.7% boost in global productivity by 2023, equivalent to 10% of the current global GDP growth.

5G: A Game Changer in Oil and Gas

Many oil and gas sites grapple with challenging environments, particularly those in remote or offshore locations. These platforms often contend with isolation, harsh weather conditions including wind storms and extreme temperatures, as well as security concerns, transportation challenges, and hazardous conditions.

The advent of 5G has empowered operators to not only address these issues but also enhance production operations and accelerate the industry's digitalization efforts. Wassl's LinkedIn article underscores how 5G enables comprehensive real-time monitoring of oil and gas facilities, fostering higher efficiency, particularly in remote areas. This is achieved through edge computing setups, which ensure low latency in receiving data from industrial devices at reduced costs. Furthermore, 5G enhances worker safety and bolsters companies' standing with customers, as real-time data leads to improved customer experiences. Additionally, it facilitates the industry's decarbonization efforts by guiding workers towards low-carbon operations.

According to Deloitte, the global market size for 5G in the oil and gas sector is projected to reach \$7.4 billion by 2025,



further highlighting the significant impact and potential growth opportunities afforded by this technology.

Here are some of 5G applications in the oil and gas industry:

Real-Time Monitoring and Safety Alerts:

As mentioned above, 5G enables real-time monitoring of critical equipment, pipelines, oil rigs and facilities. For example, sensors and cameras equipped with 5G network can transmit data instantly, allowing operators to detect anomalies, leaks, or hazardous conditions, promptly.

Also, by using 5G equipment, immediate alerts can be sent to control centers, field workers, and emergency responders, preventing accidents or minimizing their impact. In addition, it can provide wearables which enhance worker safety; for example, smart helmets with built-in communication, location tracking, and vital sign monitoring.

Remote Inspections and Maintenance

According to an article posted on Telecom Trainer, 5G enables experts to inspect the infrastructures and facilities remotely; these include drones automated vehicles, and inspection robots equipped with high-resolution cameras and sensors can assess pipelines, rigs, and other assets covering more ground than human and without exposing their lives to dangerous circumstances. Moreover, it

enables maintenance crews to receive instructions in real time, ensuring timely repairs and minimizing downtime and costs.

Augmented Reality (AR) and Virtual Reality (VR) Facilitate Trainings and Field Work

5G-powered AR headsets provide field workers with essential information needed for their work as well as enable the technicians to access manuals, safety procedures hands-free. By using 5G-powered AR simulation devices, trainees can experience a realistic and safe virtual environment.

Smart Supply Chain and Logistics

5G enables operators to conduct efficient and real-time data exchange within the supply chain, thereby enhancing logistics and inventory management. This is achieved by real-time tracking of materials and products, as well as optimizing logistics routes.

Secure and Isolated Networks

An article published by 5 Grader elucidated that 5G networks have the capability to be private, offering secure communication channels for critical operations that are isolated from cyber threats.

In summary, 5G technology holds the promise of revolutionizing the oil and gas industry by proactively addressing safety challenges, optimizing response times, enhancing efficiency, and safeguarding both workers and the environment.

HIGHLIGHT

WITH THE ABILITY TO CONNECT VIRTUALLY EVERYONE AND EVERYTHING – HUMANS, MACHINES, OBJECTS, AND DEVICES – 5G OFFERS HIGHER SPEEDS, LOWER LATENCY, SUPERIOR RELIABILITY, VAST NETWORK CAPACITY, AND INCREASED AVAILABILITY.

ENERGY TRANSITION

REMEDIES THE ECONOMIC WOES OF THE WORLD'S WOMEN

BY NADER RAMADAN

The absence of renewable energies within the market can only entail that energy resources will be plagued with scarcity and therefore be subject to the economic forces of supply and demand which entails a state of energy poverty or at the very least energy insecurity. Just as this may have ripple effects on many different markets, women have become the primary victims of these economic challenges. The transition comes not only to establish economic justice for the impoverished but also to ensure that all human beings, regardless of gender, have equal access to affordable and sustainable energy.

Women being more vulnerable to the effects of energy poverty is no myth, but a well-documented reality that has concerned economists around the world. Many studies have shown that in many traditional societies, many women are responsible for staying home and taking care of the children, which places them at the mercy of the limited energy resources typically provided by the relevant authorities to residential areas. Since many households in less developed countries may not even have proper heating systems, energy poverty also entails that they will have to search for biomass to use as a source of energy to stay warm during the cold winter season, especially in societies where accessibility to even traditional energy resources is limited due to the lack of infrastructure.

Apart from issues in accessibility, gender-based pay gaps, even in areas of the world widely believed to be the most progressive such as Europe, have largely exacerbated the plight of women when it comes to limited accessibility to energy. According to a report titled "Women more likely to fall into energy poverty, EU Parliament warns" by Valentina Romano, experts have said that "Many women have lower average incomes, they work part-time, they also work in low-paid or precarious forms of employment. Many women work without pay, for example, in the household," said Robert Biedroń, a Polish socialist MEP, chairing the European Parliament's committee on women's rights. The consequences of energy prices on individuals and small businesses but also deindustrialization, unemployment, and recession are disproportionately affecting women because of their already lower participation in the labor market and existing gender gaps in many sectors.

There are many testimonies and expert opinions that show that the effects of energy poverty are even more



HIGHLIGHT

WOMEN BEING MORE VULNERABLE TO THE EFFECTS OF ENERGY POVERTY IS NO MYTH, BUT A WELL-DOCUMENTED REALITY THAT HAS CONCERNED ECONOMISTS AROUND THE WORLD.

severe on women than on men going far beyond just creating economic hardship. The same report further stated that "Energy poverty does not only have an economic dimension, said Katharina Habersbrunner from Women Engage for a Common Future (WECF), a charity. It also has a physiological aspect – women are more sensitive to extreme temperatures – and a sociocultural component, she explained."

A transition to using renewable energy resources will unlock unlimited amounts of energy for millions of women in need of secure supplies. First, this is mainly due to the accessibility will no longer be an issue since it can be easily distributed throughout the country through a grid. Other more traditional resources may require the development of a more robust and extensive infrastructure which will require more financial resources. The second most important reason the transition is a financial savior for women is that the energy transition will entail the issue of different types of energy that are immune to the economic forces of supply and demand and are not limited to scarcity. The potential to constantly generate and regenerate energy entails that energy supplies will be both affordable and

accessible to citizens in any market regardless of gender.

As economies have created many jobs for women, the energy transition has come as a savior by creating jobs and engaging with well-trained professionals who are accepted in or gain access to higher positions on the basis of merit rather than gender. In many ways, the energy transition came to save women

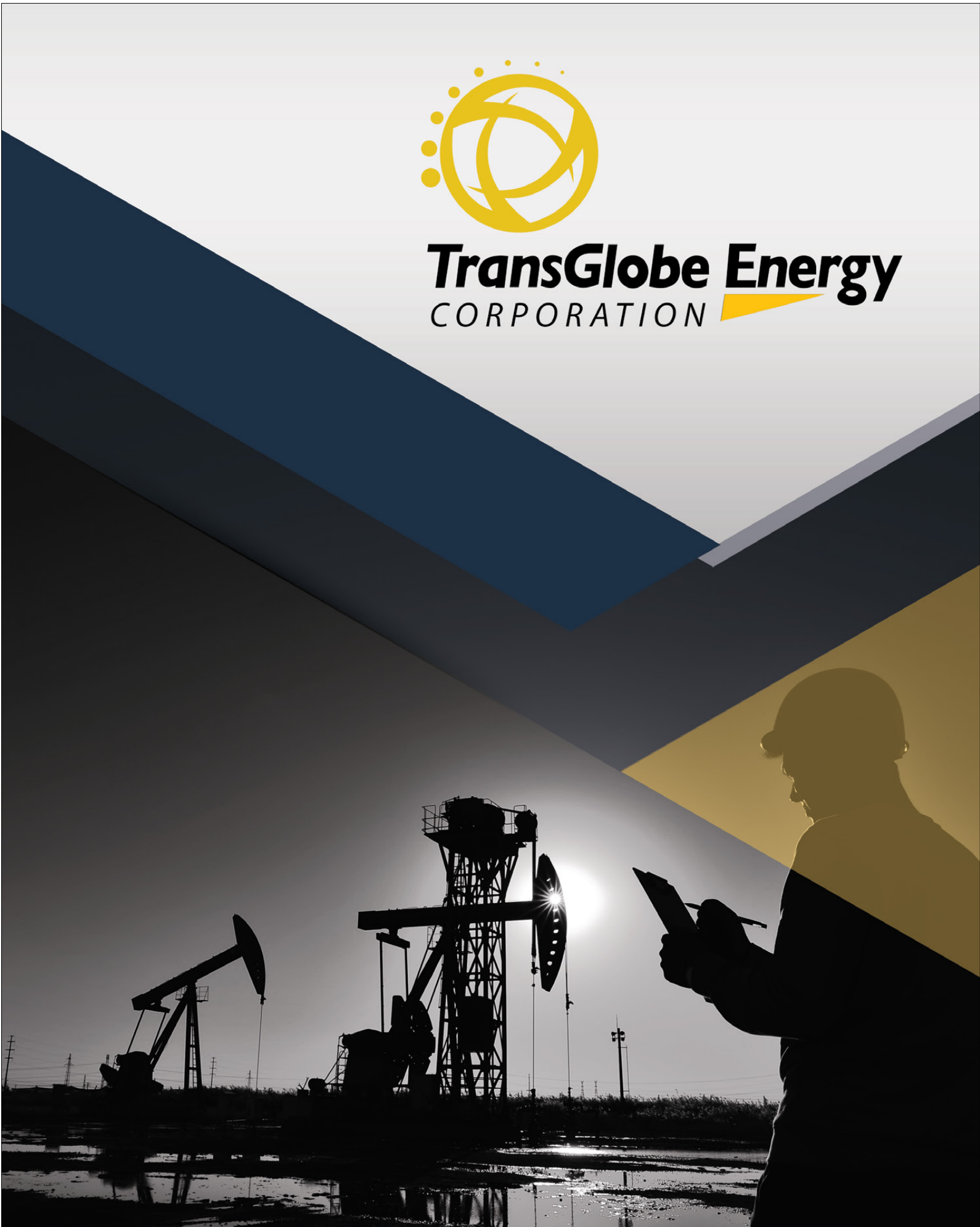
from energy poverty, but the transition itself is fueled by women's inclusion and engagement. It has also built women's skills in many areas and bolstered their inclusion within the market, as specified in UNIDO's reported titled "Gender Equality in the Sustainable Energy Transition" which says that "Efficiency programmes offer diverse entry points to strengthen gender equality in the energy sphere, both in skills-building measures for energy management and systems optimization in industry at the project level, and by acknowledging women as a significant population of the energy efficiency consumer market at the end-user stage."

In developing countries, creating the proper infrastructure for renewables to reach the required production capacity to meet the needs of local markets will take time and require considerable amounts of funding. Finances have also been a formidable challenge with the world's biggest funders shutting many prominent figures, including leaders professionals, and widely recognized statesmen, have reiterated that a just energy transition cannot be realized with inadequate financing that exists in today's market.



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UKRAINE-RUSSIA CONFLICT ENTERS THIRD YEAR: UNCERTAINTY AND REALIGNMENT MARK THE FUTURE

BY IHAB SHAARAWY

As the Ukraine-Russia conflict enters its third year, the dynamics on the ground and the geopolitical landscape surrounding it continue to evolve, presenting a myriad of scenarios that could shape the future trajectory of the war. The recent commemorations marking the second anniversary of Russia's full-scale attack on Ukraine have brought Western leaders to Kyiv, underscoring their solidarity with Ukraine in its struggle against Russian. However, amidst these gestures of support, the conflict finds itself in a complex and uncertain phase.

Stalemate and Strategic Realignment

At the onset of the war's third year, the conflict appears to have reached a stalemate of sorts. Neither side seems poised for dramatic advancements, yet neither is it a complete deadlock. Russian forces have displayed advantages in manpower and ammunition, prompting Ukrainian troops to withdraw from several positions in the east of the country. Ukrainian President Volodymyr Zelenskyy's government faces a critical juncture where continued Western support is paramount for Ukraine's survival. Even a recent shakeup of the Ukrainian army leadership failed to make any difference on the ground.

For several experts, the trajectory of the conflict in 2024 hinges on several critical factors. Foremost among these are supplies, information dissemination, and the political will of both domestic and international actors. Both Russia and Ukraine are engaged in a race to bolster their military resources, including personnel and weaponry. Reports suggest that both sides are grappling with maintaining sufficient levels of ammunition, with Ukraine reliant on foreign military equipment and facing delays in procurement.

Russia's advantage in population size gives it a significant edge in mobilizing troops, while Ukraine struggles for military expansion. In the meantime, Western restrictions on Ukraine's access to advanced weaponry to avoid escalating the conflict pose challenges for Kyiv. The slow pace of NATO and US deliveries has exacerbated Ukraine's material shortages.

The conflict's outcome is not solely determined by events on the ground; international politics play a pivotal role. In the United States, aid to Ukraine has become politicized, with partisan divides influencing decisions on financial assistance. While the US and key European allies have ruled out sending ground troops to Ukraine, debates over aid packages and geopolitical posturing shape their approach to the conflict.

The looming 2024 presidential elections in the US add another layer of complexity. Potential shifts in leadership and policy directions could impact Ukraine's access to critical aid and support. In the event of a Trump victory, a more adversarial stance towards Ukraine may emerge, further straining transatlantic relations. European Union members, grappling with the influx of Ukrainian refugees and energy concerns, face internal challenges in sustaining long-term support for Ukraine.

Energy Dynamics and Economic Implications

As the conflict between Ukraine and Russia enters its third year, the intricate dance of geopolitics continues to intertwine with global energy dynamics, reshaping economic landscapes and altering energy flows across the world. Amidst this turmoil, both Ukraine and Russia grapple with the economic fallout, while the international community watches closely, assessing the effectiveness of sanctions and the resilience of the involved economies.

Despite facing extensive Western sanctions, the Russian economy has displayed remarkable resilience. The International Monetary Fund (IMF) recently revised its growth forecast for Russia, predicting a robust growth rate of 2.6% in 2024, more than double its previous estimate. This upward revision raises pertinent questions about the efficacy of sanctions, especially as the United States and the European Union (EU) contemplate imposing additional measures.

In stark contrast, Ukraine's economic trajectory has been tumultuous. Following Russia's attack in 2022, Ukraine experienced a staggering 30% decline in its gross domestic product (GDP). However, in 2023, the country witnessed a surprising economic rebound, with the National Bank of Ukraine reporting a real GDP growth rate of 5.7%, far surpassing initial forecasts. Despite this recovery, uncertainties loom over Ukraine's economic future, contingent upon the duration and intensity of the ongoing conflict.

The conflict's impact on global energy dynamics has been profound. Europe, in particular, has significantly reduced its dependence on Russian gas, with imports plummeting from 1,500 terawatt-hours annually to less than 250 terawatt-hours. Liquefied natural gas (LNG) imports, predominantly from the United States, have largely replaced Russian gas. Moreover, Europe has diversified its oil product sources, redirecting Russian exports to markets such as India and China.

Despite efforts to mitigate supply disruptions and soaring prices through voluntary energy consumption reductions, Europe grapples with an ongoing energy crisis exacerbated by the conflict. Uncertainties persist regarding Russia's future role in Europe's energy landscape, prompting questions about the viability of long-term gas contracts and the continent's transition towards renewable energy sources.

Global Energy Transformation

Meanwhile, the conflict has catalyzed a global energy transformation, accelerating the shift away from fossil fuels towards cleaner alternatives. Governments worldwide have unveiled policies aimed at bolstering renewable energy production and promoting the adoption of clean technologies like electric vehicles and heat pumps. The International Energy Agency (IEA) projects that under current policy settings, demand for oil, gas, and coal will peak within the decade, signaling the imminent end of the fossil fuel era.

The conflict has produced clear winners and losers on the global stage. Europe finds itself on the losing side, paying a hefty price for reducing its reliance on Russian gas. Despite stabilizing gas prices, they remain significantly higher than pre-war levels, burdening industries and consumers alike. In contrast, the United States emerges as a victor, leveraging its investments in hydraulic fracturing and innovative gas industry to achieve energy sovereignty. With abundant shale gas reserves and lower domestic prices, the US has become the world's leading LNG exporter, bolstering its economic position on the global stage.

As the Ukraine-Russia conflict enters its third year, the interplay of military dynamics, geopolitical factors, and economic considerations paints a complex picture of uncertainty and strategic recalibration. The choices made by key stakeholders, both domestically and internationally, will shape the conflict's trajectory and have far-reaching implications for the future stability of the region and global security.



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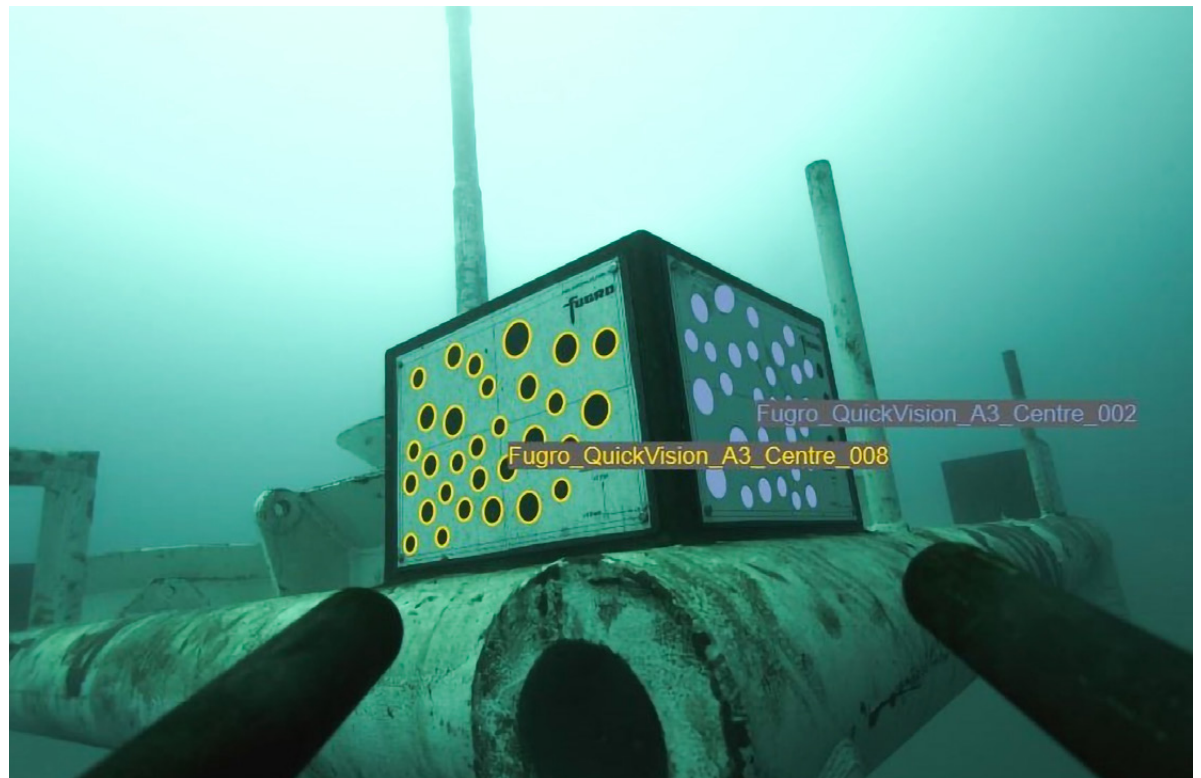
DOPET commissioned Fugro to position a subsea stabframe, a pivotal task critical to the success of their project. DOPET needed a fast, efficient, cost-effective and reliable positioning solution to pinpoint placing seven mooring piles into the seabed accurately.

Traditionally, triangulated beacon signals had been the go-to method for determining frame position.

However, this approach is time-consuming, with each pile taking approximately an hour to position. Factors such as signal diffraction and beacon technology failures can complicate the process.

New positioning method offers added value

DOPET had initially contracted Fugro to deliver a conventional positioning service, using beacon technology. Within days of the project award, Fugro's patented QuickVision® technology became available to the Middle East and India region. QuickVision® offered a contactless solution with high levels of accuracy, presenting an attractive alternative to the beacon technology. The possibility of significant project optimisation was highly attractive and would result in cost and time benefits.



After careful analysis, ample value was identified and Fugro worked closely with DOPET to integrate QuickVision® into the scope of work.

Positioning the subsea assets

During the installation process, QuickVision® provided real-time visual

feedback, enabling both Fugro and DOPET teams to monitor the subsea operations with precision from Fugro's remote operation centre (ROC) in Qatar.

DOPET's crane operator was able to validate the actual position of the subsea stabframe instantly on the screen. This enabled him to position the frame quickly and accurately on the seabed at each of the seven locations. Once the frame was ready for the pile installation, Fugro stuck QuickVision® patterns onto each pile for accurate installation. A pattern was also affixed to the first chaser pile, to guide its landing. In one pile location, it was not possible to place the stabframe on its mud mats. To enable operations to continue, Fugro used the QuickVision® inclinometer to measure the pile's verticality, which was within tolerance. The post-project evaluation confirmed that the entire operation was smooth, fast and cost-effective.

Innovative highlight

Fugro's QuickVision® technology employs advanced subsea cameras and machine vision algorithms, enhancing accuracy and reliability. Adhesive coded targets affixed to the structure facilitate seamless tracking and validation, ensuring compliance with specifications.

"Faster positioning of the frame might seem like a small improvement. But for a project like this it reduces one day of costly barge time. Time reduction and improved quality assurance are what matter to us."

Srinivas Sirigineedi
Senior Project Engineer, DOPET

The impact

- » Significant cost savings by reducing expensive barge time
- » Enhanced safety through contactless operations, eliminating the need for bulky subsea sensors
- » Accelerated installation of mooring piles, reducing positioning time from an hour to just 15 minutes
- » Real-time data visualisation, minimising delays in decision-making
- » Instant validation of structure position, improving operational oversight
- » Expedited cross-referencing at each pile location, streamlining operations further.





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BALANCING ENERGY SECURITY, AFFORDABILITY, AND SUSTAINABILITY: KEY FOCUS AT EGPES 2024



Energy transition takes center stage at EGPES 2024, as global aspirations meet practical realities. Under the theme "Driving Energy Transition, Security, and Decarbonization," the event kicked off on Monday with a strategic conference tackling the complex challenge of balancing ambitious transition goals with growing energy demand and development needs for a rising global population.

"We're all focused on the future of energy, and the transition from fossil fuels to green alternatives is paramount," declared Tarek El Molla, Egypt's Minister of Petroleum and Mineral Resources. However, he cautioned at a panel titled "Industry response – decarbonization and energy transition actions," one of the key sessions at EGPES 2024, that "delivering affordable green energy to the market is a very long journey, requiring careful planning and development from the ground up."

He underscored the importance of developing energy markets in preparation for producing a green energy alternative and keeping a parallel path in order to make sure energy investments will not backtrack.

The Egyptian minister elaborated that Egypt has good potentials for the green hydrogen industry, referring to several deals that have been signed in this field.

He, however, highlighted the important role of the private sector in realizing Egypt's green energy aspirations.

The minister added that "Egypt's experience in promoting natural gas as a better choice is a model that can be implemented in African countries that have similar capabilities, challenges and priorities like Egypt."

Hayan Abdul Ghani Abdul Zahra, Deputy Prime Minister and Minister of Oil in Iraq shed light on his country's endeavors to reduce carbon emissions.

"In five years, Iraq will reach zero level of burning gas till fully utilizing it in generating electricity," he told the same session, adding that the two-phase NGL project in the city of Basra, succeeded in stopping the burning of 400 million cubic meters of gas.

The Iraqi minister highlighted an integrated project is being carried out with TotalEnergy to increase natural gas production and to stop the gas burning in five oil fields, and therefore benefiting from the project in producing renewable energy.

Haitham Al Ghais, Secretary General the Organization of the Petroleum Exporting Countries (OPEC) hailed the Iraqi experience as one of the OPEC successful stories.

The OPEC's official affirmed the importance of investing in gas and oil in the long run in a responsible way along with reaching decarbonization and improving energy efficiency and preserving the environment.

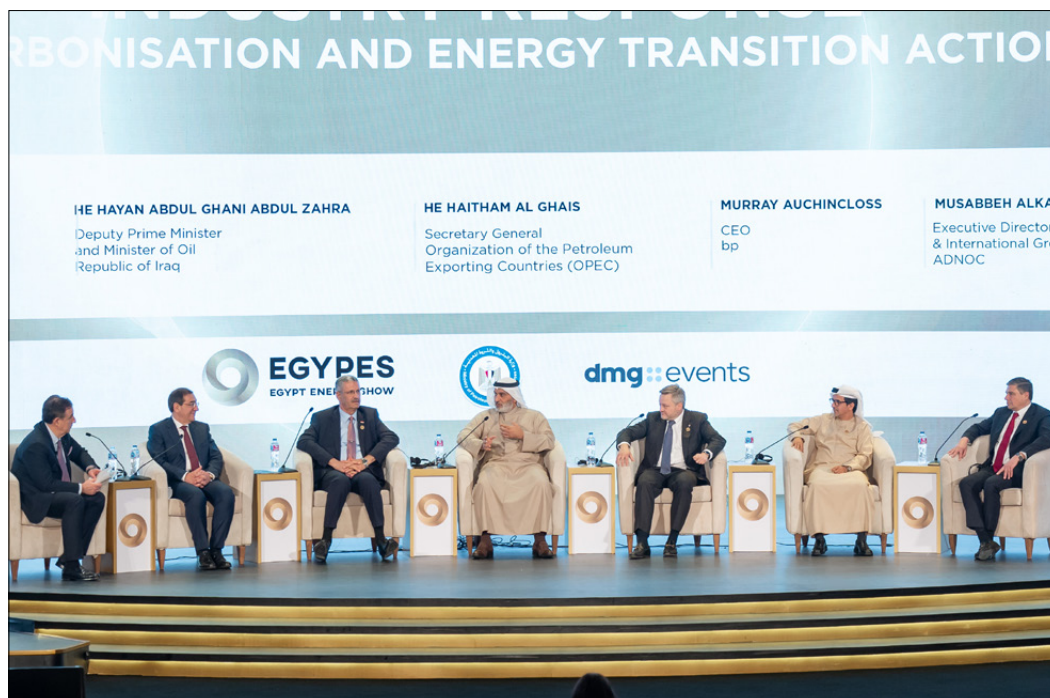
In another panel under the tile, Chasing Green, Clean and Renewable Energies, Nasser Kamel, Secretary General of Union for the Mediterranean (UfM), explained that the region is facing huge geopolitical and economic challenges though rich with potential in terms of renewal energy.

The disruption of oil supply due to the rising tensions in the Middle East, war in Gaza, and tensions in the Red Sea are the main obstacles to generating renewable energy, Kamel said adding that "the region can solve many challenges of energy but need more geopolitical stability."

However, he still sees that the region has a preference in terms of the cost of producing renewables when it comes to promoting joint projects with Europe.

Houda Ben Jannet, General Director, Organisation Méditerranéenne de l'Energie et du Climate (OMEC), agreed that the region is rich with the best resources of renewables but needed to be put in right frames.

"We need to look for the future and the energy makes the future, so we have to accelerate the energy transition," she said.



Through a series of keynote addresses, interactive panel discussions and interviews, the EGPES Strategic Conference has offered thought leadership on future energy strategies and a deep dive into the industry issues at the top of government and organizational agendas.

The first day agenda covered six panels that delved into the industry issues spanning into Industry response – decarbonization and energy transition actions, chasing green, clean and renewable energies, Securing sustainable, affordable energy for all, Championing low carbon solutions and infrastructure, Shaping a pragmatic and realistic energy future and The energy trilemma and the continued importance of fossil fuels.

The EGPES 2024 Strategic Conference closed with a powerful message from El Molla, who stressed the critical need for a diversified energy mix, including both fossil fuels and new renewable energies.

El Molla argued that Egypt, along with African and similar developing nations, has the right to leverage its resources to achieve a just and inclusive energy transition. This transition, he emphasized, must prioritize meeting the country's development goals, population growth, and rising energy demands.

El Molla, underscored the clear need for diverse energy sources, including fossil fuels and new renewable energies, stating, "Investing in the petroleum and gas industry while committing to reducing carbon emissions and improving production processes exemplifies the industry's dedication to development."

Minister El Molla emphasized the need for a balanced approach to energy transition at the EGPES conference. He cited Egypt's proposal for a "Carbon Removal Day" at the COP27 summit as a testament to their commitment to climate action. Additionally, he highlighted the petroleum and gas industry's progress in environmental compatibility, energy conservation, and improving production environments, showcased at the Sharm El Sheikh and Dubai summits.

"During the Sharm El-Sheikh and Dubai summits, the petroleum and gas industry highlighted its progress, commitment, and projects to achieve environmental compatibility, energy

conservation, and production environment improvement," El Molla added.

El Molla stressed the importance of natural gas as a clean fuel and a reliable option in achieving the energy transition, emphasizing the state's commitment to maximizing expenditure on expanding natural gas delivery to citizens' homes. This effort aims to maximize the Egyptian people's benefit from this clean cooking fuel, serving as an alternative to butane gas and alleviating financial burdens.

"I want to emphasize the significance of natural gas as a clean fuel and a vital component in our energy transition," stated El Molla. "We are committed to allocating maximum resources to expand natural gas delivery to our citizens' homes, aiming to provide Egyptians with a cleaner cooking fuel and an alternative to butane gas, ultimately relieving financial burdens on our citizens."

Furthermore, El Molla indicated that Egypt aims to increase the contribution of new and renewable energies to 42% by 2035.

"Our state's commitment to increasing the contribution of new and renewable energies to 42% by 2035," stated El Molla, adding, "It's important to note that the success of this plan hinges on the provision of necessary funding. As a result, gas will continue to be our preferred option as a clean and low-emission fuel."

The second day of the EGPES strategic conference dove deep into navigating the multifaceted energy transition. A key question lingered: How do we achieve an economically sustainable transition that satisfies consumer needs while harnessing new technologies?

The discussions spanned various angles, exploring energy strategies and methods to meet evolving customer demands before building industry models. Striking a balance between affordability, consumer satisfaction, and technological advancement emerged as a critical challenge.

FROM CONCEPT TO COMMERCIALIZATION: INSIGHTS FROM CLIMATECH CHALLENGE AT EGPES 2024



EGYPES
CLIMATECH
CHALLENGE

On the third day of the Egypt Energy Show EGPES 2024, the CLIMATECH Challenge convened, serving as a platform for visionaries, investors, and emerging startups within the global energy industry. The event provided an opportunity to showcase pivotal innovations and cutting-edge climate technologies aimed at reducing greenhouse gas emissions while creating value and offering innovative solutions.

"When we talk about climate change and how to combat it, we look for non-traditional ways, and of course, AI technologies, biotech technologies, and hydrogen technologies are all game changers." Hossam Eldin Osama, Ministry Advisor of Communication, and Information Technology," stated in his opening speech.

"We understand that startups are at the forefront of coming up with innovative solutions and new technologies to address such challenges," Osama added.

The CLIMATECH Challenge featured two-panel discussions aimed at underscoring the crucial role of innovation and climate technologies in accelerating a path to net zero emissions. They also focused on the role of startups as a pivotal catalyst for delivering key solutions to climate change and presenting low-carbon projects.

Moderated by Karima El Hakim, Country Director-Egypt of Plug and Play Tech. Center, the first panel discussed means to attract capital for climate technology start-ups.

"In terms of climate technologies, it becomes more difficult for us as bankers to deal with such projects because of the lack of sufficient knowledge that we need in order to understand the companies that we finance. So, we have been building the capacity of the front-line and back-office as well, but I think the solution is to have special funds for early-stage startups, at least for the time being," said Helmy Ghazi, Deputy CEO and Head of Global Banking Egypt at HSBC.

He referred to the \$1 billion global fund created by HSBC Bank, which was dedicated to financing early-stage startups including electric vehicles, battery storage, food sustainability, and carbon capture technologies. He also noted that the bank has established a fund worth one billion Egyptian pounds dedicated to a technology-based program.

In this same context, co-founder and CTO at Shift EV, Amr Helmy, highlighted three key factors that are driving investors to participate more in the area of climate change. The first is the trading of carbon credits, which provides a significant incentive for individuals to invest and gain access to these credits. The second factor is the implementation of carbon taxation, as people are becoming increasingly concerned about the potential impact of these taxes on a global scale. The third factor is the growing importance of disclosures, particularly with the introduction of emissions reporting standards under IFRS accounting standards.

"As we approach the deadlines for achieving net zero emissions by 2050 and as the global temperature continues to rise, more people will realize the urgency of the situation. This will lead to a further increase in investments in sustainability and climate technology, creating a massive influx of funds into these areas. This presents a unique opportunity for emerging markets to capture this investment and benefit from it. Unlike other sectors, major economies are required to invest certain amount



in climate technology and energy, making it crucial for emerging markets to tap into this opportunity," Helmy said.

Moderated by Steve Lutes, Vice President, Middle East Affairs at the US Chamber of Commerce, the second panel dealt with means of enhancing collaboration between energy corporations and climate tech startups.

"It takes approximately five to ten years from an idea that gets generated all the way to actually commercializing and deploying that technology," stated Zainub Noor, Director of Scouting and Innovation at Halliburton Labs.

She emphasized the lengthy process of bringing a new technology to market, using carbon capture as an example. "For those of us familiar with the whole CCUS value chain, the overall carbon that's released into the atmosphere on an annual basis is around 37 gigatons," she explained. "However, much of that is actually absorbed by the atmosphere. The target to achieve by 2030 is 5 gigatons."

Despite this goal, the industry is currently only capturing around 45 million tons, which is less than what is emitted in a single day. This highlights the challenges and time-consuming nature of technology development and deployment, as she noted.

"We are very humbled by the idea that a lot of the innovations and technology will come from corporations, but also from academia, startups, and government programs such as the DOE in the US," she added.

Noor then addressed the issue of what these innovators lack in order to successfully bring their ideas to market. "It's basically access to industrial scaling resources on how to take a really neat innovation technology and convert it into a successful

business," she explained. This is where corporations can play a crucial role in providing these resources and helping to bridge the gap between innovation and commercialization.

The conference, sponsored by Petrojet and Enppi, hosted five startup energy companies to pitch their technological solutions and business models in front of an influential judging committee, spotlighting pioneering start-ups with cutting-edge solutions to expedite the energy transition.

Minister of Petroleum and Mineral Resources Tarek El Molla awarded Turkish PIKARE Water and Energy Technologies Inc. and Indian Golu Hydrogen Technologies Inc. for their innovative approaches to reaching low-carbon energy sources and means of combating climate change.

PIKARE Water and Energy Technology Inc. won the CLIMATECH Challenge Award for its AWEG groundbreaking solution to the masses, leveraging extensive R&D activities carried out over ten years. The AWEG System harnesses the energy required for its operation from the sun's radiation, storing heat for use during periods of limited solar energy availability.

Meanwhile, Golu Hydrogen Technologies Inc. won the People's Choice Award for innovating energy from a chemical perspective. Golu-H2 is a modular hydrogen generator, solving hurdles to widespread hydrogen adoption.

The day came to an end with Minister El Molla's tour of the exhibition booths of international and local petroleum and energy companies participating in the EGPES 2024 exhibition, highlighting the significance of exploring the latest technologies and advanced techniques applied in the energy fields.

BUILDING THE FOUNDATIONS FOR SUSTAINABLE ENERGY



EGYPES
SUSTAINABILITY
IN ENERGY
CONFERENCE

Driven by the urgency of climate change and the need to achieve net-zero emissions, EGPES 2024 featured a Sustainability in Energy Conference, convening industry leaders to explore cutting-edge clean energy solutions for the global 2050 deadline.

The Sustainability in Energy Conference was held on February 20th under the theme “Shaping a Sustainable Energy Value Chain”. It took place as EGPES 2024 aimed to ignite the conversation for a cleaner, more secure energy future. Reimagining the global energy landscape, the conference fostered bold dialogues on diversification and proposed practical solutions through cutting-edge research and innovation.

Minister of Petroleum and Mineral Resources Tarek El Molla delivered a ministerial keynote speech on Egypt’s roadmap to increasing green energy and emissions reduction targets. El Molla noted that “The magnitude of the climate change challenge is larger than any government alone to overcome. Therefore, this global challenge requires effective, continued and pragmatic collaboration between the energy industry stakeholders including our partners from environmental ministries and energy institutions.”

El Molla concluded his speech saying, “I look forward to continuing to work hand-in-hand to achieve our common climate goals in parallel with securing the energy that the world needs to drive progress and prosperity from our society.”

On the other hand, Egyptian Minister of Environment Yasmine Fouad attended EGPES for the first time in 2024, which reflected the deep coordination between the oil and gas sector and the Environment Ministry to deliver a sustainable future. In her speech, Fouad emphasised the need for funds to achieve climate targets, pointing to the importance of sustainability in building a better future for Egypt. “We should not jeopardize the need of our future generations for sustainable development.”

At the beginning of the conference, Nadja Wendler, Vice President of Sustainability at Wintershall Dea, delivered a keynote speech, highlighting the importance of collaboration to reach a sustainable future. “Governments, industry leaders, innovators, and communities must unite in a shared mission for a sustainable future, leaving no one behind.”

The Sustainability Conference further included a panel discussion on the evolution of natural gas and liquefied natural gas (LNG).

Panelists were Stefano Raciti, Mubadala Energy COO; Dalia El Gabry, Vice President Egypt & Country Chair at Shell Egypt N.V.; Sergio Molisani, Chief International Asset Officer of Snam; Ahmed Mostafa, Deputy Chief Executive Officer Production at the Egyptian General Petroleum Corporation (EGPC); Marco Villa, Technip Energies COO; and Wael Lotfy, Chairman & CEO of Enppi. The session was moderated by Pablo Avogadri, Partner and Associate Director, Energy at Boston Consulting Group.

The session dived into the role of natural gas and LNG in powering a smooth energy transition as panelists examined the unique benefits of natural gas and LNG and assessed their contribution to decarbonization plans.

“The main objective is to maximize the displacement of coal with natural gas, while renewables and other clean energy sources can displace natural gas as an affordable and reliable source of energy,” Raciti stated.

Meanwhile, Mostafa highlighted Egypt’s potential to lead the energy transition, stating that “Egypt’s location allows us to be close to the big discoveries, and also the availability of infrastructure, subsea infrastructure and LNG projects, help us to secure energy demand for domestic and even for regional demand.”

“When we look at LNG, we look at a sustainable, reliable option for energy,” El Gabry explained, highlighting it as a critical fuel for the energy transition.



Another panel discussion took place to discuss shaping the future of energy innovation. Panelists included Faisal Mohmand, Principal Vice President & President at Bechtel Energy Technologies & Solutions; Mario Ruscev, Executive Vice President Products & Technology at TAQA; Rasha Hasaneen, Chief Product & Sustainability Officer at Aspen Technologies; Olivier Blaringhem, Executive Vice President at Subsea7; and Karim Badawi, Director of New Energy MENA at SLB. The session was moderated by Jan Zschommler, Market Area Manager Middle East & Africa at DNV Energy Systems.

The session discussed cutting-edge clean energy technologies fuelling the low-carbon future.

The panel further highlighted the existing sources to enable energy transition. Mohmand stated that “While we are waiting for the green abilities to become viable, blue hydrogen; blue ammonia, there are great ready options that are available. And with the right tools and the CO2 capture, I think there is a path, we are getting there, but it requires partnerships.”

Additionally, Badawi pointed out the privilege of Egypt’s location, saying that “Egypt stands a lot to gain by the energy transition,” as it decarbonised the existing oil and gas sector. He continued saying that it can also “gain leverage of its geographical position to capitalise on solar and wind resources to lead the transition into green energy.”

Meanwhile, the panel titled “Accelerating Net-Zero Targets through ESG Compliance” discussed how energy firms are navigating the rising tide of ESG demands from investors and stakeholders.

Panelists were Ahmed Samir Elbermbali, Sustainability Market Leader for the Middle East Region at Bureau Veritas; Manal Hassan, Chief Sustainability Officer at El Sewedy Electric; Amira Osama, Head of Sustainability at Integrated Renewable & Sustainable Communities (IRSC); Lamé Verre, Co-Founder & Co-Chair at Lean in Equity & Sustainability; and Paddy Blewer, Corporate Communications Director at Energean. The session was moderated by Faye Gerard, Energy Transition Director at IOGP.

The panel highlighted the importance of data in the sustainable future journey. Hassan said, “If you look at sustainability as an economic system, then you are going to understand why data is important.”

Meanwhile, Blewer indicated that it is important to commit to the sustainability goals, stating that “many people focus

on the propaganda, the brand, and not serious sustainability work, and that is why we need to live it.”

Another panel discussed decarbonizing upstream oil and gas operations. Panelists included Jessica Jackson, Vice President of Environment, Health and Safety at Apache Corporation; Michael Egorov, Climate Manager at Wintershall Dea; Eleanor Rowley, Managing Director Egypt at Capricorn Energy; Kamel Al Sawi, President at United Energy Egypt; and Joey Deng, Huawei Energy CEO.

Sustainability in Energy Awards

At the end of the Sustainability in Energy Conference, Minister El Molla presented the Sustainability in Energy Awards for the best sustainability projects of the year.

For the Best Corporate Social Responsibility (CSR) project of the year, the winner was Petrobel for the Smart Sustainable Integrated Community in South Sinai. The Highly Commended Award in this category went to ANOPC for Biogas Project in Banisanad–Assiut.

The Best Digitalisation project of the year was awarded to Egyptian Liquefied Natural Gas (ELNG), operator of the Future for the Best Digitalization of the year. The Highly Commended Award in this category went to WEPCO for their newly completed digitalised and sustainable projects.

For the Best Decarbonisation Project of the year, the winner is Universiti Putra Malaysia Suria for Suria 16, a mega scale rooftop solar PV project in UPM.

The Best Hydrogen Project of the year was awarded to Mansoura University for a project that establishes a framework for natural hydrogen investigation based on integrating subsurface data with satellite images. The Highly Commended Award in this category went to PETROBEL for their Global Green partnership Initiative (GGHPI).

For the Best Environment, Social and Governance (ESG) Champion of the Year Award, the winner is Petrobel for its biodiversity ecosystem services (BES) study–Sinai fields. The Highly Commended Award in this category went to Rashpetco the Smell of the Place project.

EQUALITY IN ENERGY CONFERENCE SHINES SPOTLIGHT ON DIVERSITY AND FUTURE WORKFORCE



EGYPES
**EQUALITY
IN ENERGY
CONFERENCE**

At the Egypt Energy Show (EGYPES 2024), the Equality in Energy conference marked a pivotal moment, offering a range of compelling sessions and panel discussions. Held on the final day under the theme 'Enabling a People-Centered Energy Future', the conference delved into topics encompassing diversity, inclusion, and the ongoing transformation of the energy sector to attract the next generation of talent.

The Equality in Energy Conference not only explored the importance of diversity and inclusion but also examined how the industry is evolving to become a more enticing career path for the emerging cohort of STEM Millennial and Gen Z graduates. With a focus on the challenges inherent in navigating the energy transition and achieving net-zero emissions by 2050, the conference underscored the pivotal role these young professionals will play as leaders driving essential changes within the sector.

The Equality in Energy conference commenced with a keynote address by Moushira Khattab, President of the National Council for Human Rights. In her speech, Khattab highlighted compelling research findings, indicating that diverse teams outperform their non-diverse counterparts by up to 35%. She emphasized the unique perspective that women bring to the table, noting their ability to approach information with different lenses, leading to increased sensitivity to details and fostering innovation within teams.

Meanwhile, in his speech, Moataz Moussa, Vice President of Business Services at Wintershall Dea, agrees, stating that "Diversity is not just a buzzword, it is vital for progress and prosperity."

The conference featured a panel discussion on empowering a net-zero-ready workforce and rethinking talent development. Distinguished panelists included Salma Al Hajeri, Regional Vice President, Operations - East-Med & North Africa at Mubadala Energy; Sherif Wassef, Learning & Development Partner at Hitachi Energy; Moataz Serag, Country Director Egypt at Taqa; Zainub Noor, Director, Scouting and Innovation at Halliburton Labs; and Tareq Al Hosani, Vice President, Energy & Projects Academy at ADNOC.

Wassef explained that the world is changing, and the workplace needs to cope with this. "Change is not something easy, but it is there, and it is happening, and it is the constant thing," he pointed out.

Al Hajeri emphasized that building a resilient workforce entails more than just possessing the necessary skills. She underscored the importance of organizations adapting new processes and creating conducive working environments to attract and retain the younger generation. Additionally, she highlighted the significance of equipping young professionals with the tools and resources they need to continuously learn and grow within the industry.

Serag echoed these sentiments, emphasizing Taqa's approach to recruiting new talent. He explained that the company initiates the process by providing training and raising awareness among potential hires. Furthermore, Serag emphasized the inclusion of sustainability



backgrounds, particularly from an academic standpoint, as a key criterion in their hiring process.

Another panel was held under the theme 'The Role of HR in the Evolving Energy Landscape'. Panelists were Samar Yehia, HR Vice President at Schneider Electric; Muzzamil Khider Ahmed, Senior Vice President & Chief People Officer at Baker Hughes; Brandy Jones, HR Vice President at Apache Corporation; Maha Ahmed, HR Director at Lekela Power; Walid Tayel, Group Chief HR Officer at El Sewedy Electric; and Heba Abaza, HR Director, Middle East at Eaton.

During the panel discussion on talent retention, Ahmed emphasized the importance of providing employees with a clear career trajectory. He asserted, "Retention hinges on offering our employees a well-defined career path within the organization."

Moreover, Jones stated "We are really partnering in a strategic way to help management and leadership have those discussions with employees all the way down to the well. Communication is key."

Meanwhile, the third panel discussed redefining success: millennial and Gen Z perspectives on careers in energy. Panelists were Nawal Nouri, Head of HR & Communications North Africa at ENGIE; Yousra Assaker, Senior Energy Specialist at World Bank; Eric Oechslein, Director at International Labour Organization; Wafaa El Ashry, HR Manager Egypt at Shell; and Yara Rashad, HR Director at KarmSolar.

The final panel tackled fostering a culture of equality and gender diversity in the energy industry. Panelists

were Kristian Svendsen, Country Manager at Chevron Egypt; Nahla Abid, Vice President Sales, Strategy, Middle East, Caspian Sea Region at Bureau Veritas; Manal El-Jesri, Public Affairs Manager at Methanex Egypt; Nahla Arsenault, Capex and Turnaround Lead at Fertigllobe; Asma Almani, MENA Chair at Lean in Equity & Sustainability; and Giuseppe Vischetti, Chief Financial Officer at Enegean International.

Equality in Energy Awards

At the end of the Equality in Energy Conference, Minister of Petroleum and Mineral Resources Tarek El Molla presented the EGPES 2024 Equality in Energy Awards on February 21st.

For the NEX-GEN Female of the Year, the winner was Serene Lock Sow Mun, Senior Lecturer at the Department of Chemical Engineering, Universiti Teknologi Petronas. The runner-up was Yasmine Esam Saad, Production & Energy Efficiency Engineer at Eni.

For the Talent Development Program of the year, the winner was Hassan Allam Holding for Hassan Allam Talent Program. The runner-up was Methanex Egypt for Fresh Graduates Development Program.

For the Women in Leadership Award, the winner was Mona Al Adawy, Founder and CEO of GeoEnergy. The runner-up was Shareefa Al Rashid, Senior Petroleum Engineer at KUFPEC.

AFRICA CHARTS COURSE FOR JUST ENERGY TRANSITION, BALANCING GROWTH AND SUSTAINABILITY



The African oil and gas industry is at a pivotal juncture in light of the growing dynamics that have been reshaping Africa's energy landscape. The inaugural EGPES 2024 Africa Dialogue Conference plays a crucial role in unleashing the continent's potential and reevaluating energy strategies.

The dialogue provided a platform for eye-opening and evidence-based discussions on complex energy transition issues among key African stakeholders, including top government officials, financial institutions, economists and energy leaders. Such face-to-face meetings also help lay foundations for constructive dialogue to address both challenges and opportunities.

The global drive towards sustainability and green transition is undeniable. However, this is more challenging in Africa whose population is expected to double by 2050, and consequently the continent's energy demand is expected to remarkably increase in the next two decades. Also, we have to bear in mind that fossil fuels will maintain a prominent role in the region's energy mix as African economies are heavily dependent on oil and gas export revenues.

In this regard, Keynote Speaker Omar Farouq Ibrahim, Secretary General of the African Petroleum Producers Association (APPO), touched upon the importance of fossil fuels in Africa's just energy transition.

Ibrahim highlighted key figures related to the continent as Africa has about 13 million square kilometers or 20% of the landmass. In terms of energy resources, Africa has over 155 billion barrels of proven crude oil reserves and more are still being found. Africa is also blessed with 30% of the world's mineral resources.

"Yet, Africa is the continent with the largest proportion of people living with no access to energy, having over 640 million people without access to electricity, and over 900 million without access to any form of modern energy for cooking. It's important to note that for a vast majority of Africans who live without access to energy, it is simply because they cannot afford the cost of it."

Meanwhile, the APPO Official stressed that energy transitions are not new to mankind, and that each successive transition provided better energy than the previous one.

"The quest for energy security is the driving force for today's rush for energy transition. Individually, no one African country can successfully surmount the imminent energy challenges posed to it by energy transition. However, working collectively will help us have all the details to surmount all the challenges," he remarked.

In a related context, the African Union Commissioner for Infrastructure, Energy & Digitalization, Amani Abou-Zeid, reviewed Africa's Climate Strategies

In the wake of COP28, suggesting a forward-looking perspective on the continent's strategies and actions to combat climate change.

It is worth mentioning that Africa is the most vulnerable to the severe impacts of climate change though it is the least contributor to the global emissions.

In her speech, Abou-Zeid stressed the paramount importance of making best use of all available technologies besides investing in human capital to make sure the continent has the human capital that is capable of implementing, maintaining and operating.

"Access to reliable and affordable and sustainable energy forever is our aim and purpose and this is what we do. Africa's share of renewables in Africa's energy mix is about 40%. So, we are actually the leaders," she stressed.

The African Union official also reiterated that it is shocking that a continent that has been endowed with all kinds of natural sources necessarily for energy and beyond, is also the poorest when it comes to energy access.

The African Dialogue also shed light on pivotal issues like Navigating Africa's Energy Dilemma in terms of striking a balance between alleviating energy poverty and driving economic development while addressing global calls to reduce greenhouse gas emissions.

In this regard, the speakers, including H.E. Antonio Oburu Ondo, Minister of Mines and Hydrocarbons in Equatorial Guinea emphasised that this transition needs to consider the unique circumstances that the continent faces in terms of ensuring energy security and alleviating energy poverty.

More importantly, the African Dialogue opened a fruitful discussion over innovative solutions and strategies to overcome Africa's natural gas infrastructure challenges. For his part, Ahmed Khalifa, Deputy CEO, Planning & Projects at the Egyptian General Petroleum Corporation, highlighted Egypt's success story in striking a balance between meeting local demands and also promoting exports.

On local level, the Egyptian official referred to the Decent Life initiative that seeks to provide citizens with natural gas. This also goes in parallel with Egypt's ambition to become an energy hub, bearing in mind the remarkable progress in this domain. Similarly, Mamadou Beye General Manager, Corporate Affairs at Chevron International Exploration and Production, expressed his impression with Egypt's expertise both on local and regional levels.

The role of private sector cannot be overlooked and therefore, Adly Kafafy, Vice President Africa & New

Ventures at TAQA Arabia, stressed that the real support of the governments will help enhance the role of private sector in a way that ensures the benefits of all parties.

Among the key messages shared by experts in the African Dialogue is that the gradual shift from fossil fuels to clean energy sources is the adequate approach for the continent. This also goes in tandem with the strategies of the African governments that already showed real ambition and commitment to joining hands to combat climate change.

Despite all these challenges, the green transition offers Africa a unique opportunity to make the best use of its enormous energy potential, especially renewable energy and natural gas. According to official figures, Africa possesses 8% of the world's proven natural gas reserves.

The African Dialogue also delved deep in how Africa can leverage its rich energy resources to drive the continent towards a more prosperous and sustainable energy future.

The speakers also shared their visions on how African countries can benefit economically from their natural gas resources, taking into account that Africa's gas has the ability to meet growing domestic energy needs and also function as a natural gas trading hub for global markets.

Adopting a holistic approach, the African Dialogue also tackled policy and regulatory frameworks for Africa's energy transition to ensure that the exploitation of natural resources has a positive impact for its local economy. On a positive note, Several African countries have successfully implemented policy and regulatory frameworks that support the energy transition like Egypt, Kenya, Ghana, South Africa, Nigeria and Morocco.

Leaving no one behind, the Dialogue also shed light on developing energy infrastructure in rural Africa which is grappling with significant energy gap. The speakers stressed that the adoption of renewable energy holds great promise in addressing rural Africa's energy needs.



EGYPES FINANCE CONFERENCE 2024: UNITING LEADERS TO NAVIGATE GLOBAL ECONOMIC UNCERTAINTIES IN ENERGY INVESTMENT



EGYPES
FINANCE & INVESTMENT
IN ENERGY
CONFERENCE

The latest iteration of the EGYPTES Finance and Investment in Energy Conference once again brought together energy leaders, sustainable finance experts, and climate specialists to examine the economic uncertainties confronting global economies and explore how financial mechanisms and capital market tools can facilitate the development of future energy systems.

The conference kicked off with a focus on Industrialization and Localization Policies for Egypt's Clean Energy Transition. During this session, participants shed light on Egypt's recently unveiled objectives to attain 42% of its energy from renewable sources by 2030, aligning with its updated Nationally Determined Contributions Plan. Subsequent panels delved into diverse topics, including investment in carbon capture, strategies for scaling up green hydrogen production, financing pathways toward achieving net-zero emissions by 2050, and methods for bridging the financing gap in energy efficiency initiatives.

A panel that delved into Creating and Investing in a Carbon Capture Roadmap, drew insights and ideas from notable figures such as Alaa El Batal, Chairman at Egyptian General Petroleum Corporation (EGPC); Nicolas Katcharov, Chief Executive Officer at Energean International; Youssef Salem, Chief Financial Officer at ADNOC Drilling; Nikiforos Bantoukoudis, Chief Financial Officer at HELLENiQ Upstream; Giorgi Bibineishvili, Head of Upstream at Georgian Oil and Gas Corporation; Mohammad Abu Zahra, Head of Middle East and North Africa at Global CCS Institute; and Ahmed Mokhar Vice Chairman & Managing Director at NBK Capital Asset Management Egypt as the moderator of the panel.

After years on the periphery, carbon capture is now emerging as a multi-billion-dollar industry, with investments surpassing \$6 billion in 2023. As nations and organizations commit to net zero emissions, carbon capture has become integral to national decarbonization strategies.

Experts and policymakers recognize the vital role of CCUS in climate change mitigation, emphasizing the need for a 120-fold increase in CCUS use by 2050 to meet global net-zero targets. The ongoing progress in CCS technology, coupled with growing investment and supportive policies, is essential for widespread adoption.

During the panel, Bantoukoudis highlighted the growing significance of addressing the deficit storage in demand and supply within the European region. He underscored the strength of Egypt's energy sector and stressed the necessity of imposing restrictions on the transportation of CO₂.

Moreover, Bibineishvili pointed out the need for Georgia to increase its hydrocarbon energy production, drawing parallels with other developed nations. He highlighted Egypt as a positive model for Georgia's energy transition, advocating for the emulation of Egypt's successful energy strategies.

In addition, Abu Zahra shed light on other nations, like the United States of America, as a leading example in employing advanced techniques for carbon capture and storage projects (CCS), stating, "These are incentive models to push forward the energy transition worldwide."



Furthermore, El Batal responded to Abu Zahra's remarks, stating, "From my perspective, CCS projects pose a significant economic challenge, but we can begin addressing this challenge with the support of Research and Development initiatives (R&D) in every country. This presents an opportune moment to leverage all available technologies to overcome this economic hurdle."

Also, Salem commented, "Addressing the insights shared by Alaa and Abu Zahra on project-level economics, I emphasize the significance of the corporate level in attracting suitable investors to the sector. This approach will secure a substantial level of investment, consequently fostering the sector's overall growth."

Another panel discussion tackled an interesting argument about "Allocating a Trillion Dollars Globally to Achieve net zero by 2050".

By shifting gears to this topic, it is noteworthy that global investments in energy transition technologies hit a record of \$1.3 trillion in 2022, yearly spending on the 1.5°C pathway must reach \$6.9 trillion by 2030, amounting to nearly \$200 trillion in global investments to zero out the world's greenhouse gas emissions by 2050 and stop global warming.

The participants in this session were Scott Gale, Executive Director at Halliburton Labs; Norinao Sato, Senior Executive Vice President Middle East & Africa at Yokogawa; Anass Joundy, Associate Director, Natural Resources, South and East Med at the European Bank for Reconstruction and Development (EBRD); Zoe Knight, Group Head, Centre of Sustainable Finance, Head of Climate Change MENAT at HSBC; and Steve Lutes, Vice President of Middle East Affairs at the US Chamber of Commerce as the moderator of this panel.

Knight initiated the discussion by addressing the substantial financing challenge, highlighting an exercise conducted in HSBC to potentially overcome this obstacle. This involved assessing the investment needs across the 60+ countries in which the bank operates, aiming to determine the required investment amount.

Moreover, Sato articulated the need for upcoming energy production to address CO₂ emissions, emphasizing the importance of considering emissions and their potential benefits in the global energy transition initiative using all our power and advanced technologies.

Joundy said, "I believe that we are going through an outstanding challenge because it is a difficult time in the private sector; we face many challenges, not only the logistics part but also the economic investment part."

Lastly, Gale began by citing a well-known quote, "The future is here but is not evenly distributed," underscoring the existence of technologies to advance the energy transition. He emphasized the substantial investment required for widespread distribution, stressing the significance of closely examining research papers addressing this issue, as they could influence our lives for years to come.

As usual, the EGYPTES Finance and Investment in Energy Conference served as a crucial platform for fostering dialogue and collaboration among key stakeholders in the energy, finance, and climate sectors. As demonstrated by the insightful discussions and diverse perspectives shared throughout the event, the challenges and opportunities in advancing towards a sustainable energy future are multifaceted and require collective action.

ENGINEERING THE FUTURE: UNVEILING TOMORROW'S ENERGY TECHNOLOGIES



Under the theme of "Driving Energy Transition, Security and Decarbonization," the Egypt Energy Show's Technical Conference this year featured a rich variety of sessions, showcasing the latest innovations, cutting-edge technologies, and a heavy dose of extreme engineering.

In a session which dealt with gas and liquefied natural gas (LNG) technology and innovation, Mariano Mercadante, CEO of HubZeroNet SRL reviewed the objectives of HubZeroNet as a platform that facilitates developing non-traditional fuels for transport by promoting the connection between supply and demand.

In this same session, Petroleum Engineer Mennatullah Ali, from the American University in Cairo (AUC), discussed the challenges and opportunities in the field of carbon dioxide utilization and petroleum engineering.

"The most efficient way to reduce carbon dioxide emissions is to reduce fossil fuel consumption or enhanced oil recovery," said Ali.

In the same session, Abdallah Sayed El-Ghabawy, Lecturer at Alexandria University, reviewed the technology of absorbed natural gas (ANG) as a means of storage and to be used in vehicles and other energy uses.

"Over 1 trillion cubic feet of gas is being flared each year and regulations are being put in place to stop flaring," said El Ghabawy. He added that ANG has the potential to replace CNG and LNG storage in vehicles.

In a session titled "Drilling Technologies and Solutions", Ahmed Ismail, Drilling Engineering Team Leader at Dragon Oil introduced a case history in Egypt in which he explained the power of augmented reality (AR) and how it revolutionizes subsea installation in the Gulf of Suez.

As part of the same session, Abdul Mushawwir bin Mohamed Khalil, Business Support & Technical Manager at MIT Technologies, presented a paper titled "Intelligent Downhole Circulation Tool: A Versatile Approach for Risk Mitigation in Well Exploration and Development".

In a session titled "Creating Diversity and Change Management", Alla Levandnaya, Managing Director at Growth Associates UK Limited, focused on Coaching as an enabler of new leadership for a changing energy environment.

"Coaching is an accelerator of individual development as core competencies required are constantly evolving," stated Levandnaya.

During the same session, Passant Elgheriany, Projects HSE Engineer at Petrojet, reviewed the health, safety, and environment (HSE) capacity-building program as an example for improving the process safety competency and enhancing calibers for change inside the Egyptian oil and gas sector.

"The primary objective is to identify individuals who have the potential to bring positive changes in their respective domains and become effective," said Elgheriany.

Moreover, Nora Mashhour, Human Resources Department Head at ANOPC, talked about enhancing workplace learning through technology, e-learning, virtual development, and knowledge transfer.

In a session about unconventional resources development, Mohamed Adel Ibrahim Khalil of North Port Said District Department Manager, Belayim Petroleum Company (Petrobel), presented a study about "Declared Post-Messinian Low Resistivity Pay Zones Through Integrated Workflow to Evaluate Unrevealed Hydrocarbon Potential, Northeastern Nile Delta, Egypt".

"This study is an attempt to prove that reviewing/revising geological and reservoir petrophysical interpretations is a process worth trying," said Khalil.



Haochen Han, Senior Engineer Beijing Petroleum Machinery Co, Ltd, made a presentation about the development and application of multi-stage fracturing dissolvable frac plugs for horizontal wells in Mahu tight conglomerate reservoirs.

In a session titled "Gas Production and Processing", Jeff Earl, Director of Business Development at Sapphire Technologies, talked about pressure energy recovery systems for the natural gas midstream sector.

During the same session, Nady Diab, Process Engineering Department Head at Gulf of Suez Petroleum Company (GUPCO), presented computational investigations about corrosion inhibition of carbon steel in a wet acid gas environment using CORR 11631 A.

The second day of the EGPES Technical Conference featured 20 sessions that covered a wide range of topics, including innovations in offshore and marine technology, alternative energy sources like hydrogen and renewables, as well as decarbonisation pathways and circular economy. There were also discussions on pipeline infrastructure and digitalisation.

In a session about hydrogen production infrastructure and development, Heba Bahaa Eldeen, Head of the Technical Office at Egyptian Natural Gas Company (GASCO), discussed hydrogen supply-chain challenges and energy future in Egypt.

"To achieve the ambitions of COP21, the world needs to transform from non-renewable, carbon-based energy sources to low-carbon energy sources," said Bahaa, referring to the important role of hydrogen in the energy transition and the need to overcome the challenges facing its deployment.

"The challenges for promoting green hydrogen projects in Egypt is a mandatory to set stimulation roadmap includes supporting projects which aim to produce electricity from renewable energy sources, deploying mechanisms to accelerate demand for green hydrogen, gradually eliminating industrial technologies based on fossil fuels and imposing carbon tax, and lastly, incorporating long-term planning for hydrogen electricity and gas infrastructure," Bahaa concluded.

In the same session, Maha Zahran, Risk Management and Strategic Planning Manager at PETROJET reviewed a presentation about green hydrogen from theory to end.

She explained the green hydrogen value chain starting from its production to its distribution, storage, and liquefaction

"We need to accelerate and speed up the deployment of green hydrogen as one of the solutions to achieve net zero emissions," stated Zahran.

A session titled "Embracing Circular Economy" was co-chaired by Benson Egbevirie, QHSE Director, Egyptian Liquefied Natural Gas, and Mohamed Fathy, Manager at EGPC.

During the session, a presentation was made by Ahmed Shoman, Head of Technical Support at ETHYDSCO, who showcased the mechanical recycling of polyolefins (packaging recycling). Shoman also discussed the effect of additives in the mechanical recycling process and end product specifications.

"Only 29 million tons or 9% of the 353 million tons of plastic trash produced worldwide in 2021 are recycled. The present system for producing, consuming, and managing garbage is obviously unsustainable," said Shoman.

"Consistent mechanical recycling will lead to improved recycling rates, increased recycled content in products, and minimise the plastic we export landfill, incinerate, and litter," he added.

The challenge now is to develop the best technical and economical solutions for the desired property profile," he concluded.

In a session that dealt with offshore and marine operations, Yasser Elshehaby, Assistant General Manager at Gulf of Suez Petroleum Company (GUPCO), showcased a case study about the optimization for oil production using ESP and HJP systems techniques.

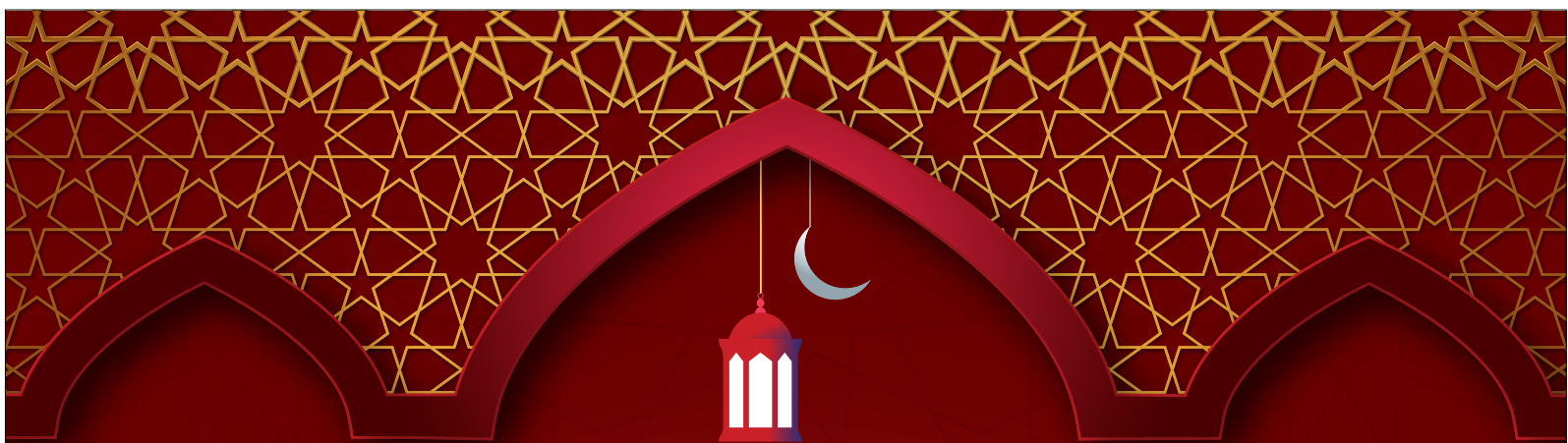
During the same session, Hany Abd Elsattar, Marine Operations Manager at TAQA, talked about the development of a customized multi-purpose offshore vessel with dynamic positioning capabilities in large-scale well intervention operations.

In a session titled "The Power of Renewables," Hossam Elbakry, Rotating Equipment Engineer at Suez Oil Company (SUOCO), reviewed a case study about small wind turbines for power generation on unnamed offshore oil and gas platforms in Egypt.

Within the same session, Yasmin Saad, Production & Energy Efficiency Engineer at Eni, showcased the design and implementation of a six-megawatt photovoltaic power plant.

In the session, Hebatallah Khaled Abd El Badie, Senior Electrical Engineer at Engineering for Petroleum and Process (Enppi), discussed performance improvement of wind generators using hybrid particle swarm algorithms and grey wolf optimizer.

The session was concluded with, Maged M. ElFateh, General Manager Assistant at Alexandria Mineral Oil Company (AMOC), talked about optimizing the efficiency of PV modules.



UNDER THE HIGH PATRONAGE OF **H.E. TAREK EL MOLLA**
MINISTER OF PETROLEUM & MINERAL RESOURCES - ARAB REPUBLIC OF EGYPT



4th Edition
She is Energy
27th March 2024

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AI AND ITS ROLE IN THE ENERGY SECTOR'S LEGAL WORLD

Artificial intelligence has continued to gain momentum in all areas of life, including the legal profession, especially in the field of dispute agreements.

Artificial Intelligence (AI), the concept that computerized systems can replace human thought processes and interactions, continues to gain traction in all areas of life including the legal profession and in particular in the field of dispute resolution.

For those of us who work in the field of alternative conflict resolution, such predictions may seem more troubling, even frightening, than reassuring or exciting. The question is what is AI likely to do in an environment that is so focused on combining nuanced concepts such as legal rights and a sense of fairness (adjudication) or human interaction and training (mediation)? Where do these developments leave us and what will their impact be?

Could artificial intelligence have the ability to process claims faster and even decide cases? Will claimants tolerate their cases being resolved by computers?

However, the counterargument is that as artificial intelligence increasingly becomes part of our daily lives to the point where we allow it to run our lives, there will come a time when we will be completely comfortable letting an algorithm decide our legal case for us.

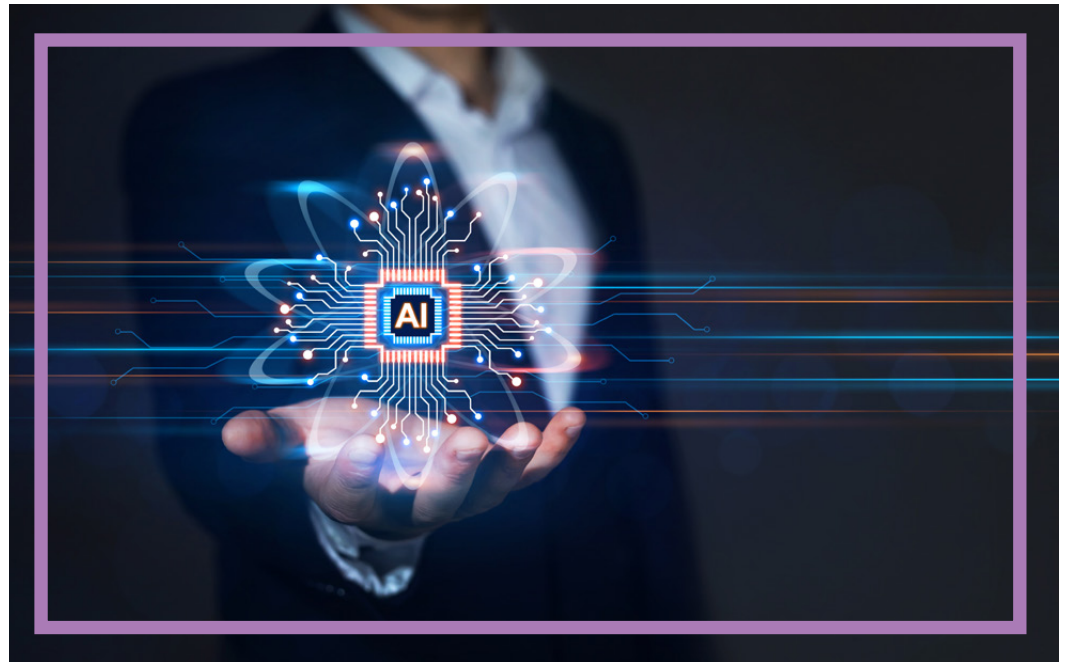
Energy projects are usually long, complex, and require a significant level of capital. Additionally, the sector is highly exposed to geological events, political changes, and environmental regulations. For these reasons, disputes are common in the energy sector, and arbitration has become the preferred means of resolving these disputes, especially at the international level.

Hence, with the ability to collect huge amounts of information and analyzing with future predictions, artificial intelligence applications will be very helpful in solving legal disputes in energy fields.

Increasing the Efficiency of Energy Production and Use

In recent years, the use of artificial intelligence and other digital technologies in the oil and gas industry has increased significantly, and this trend is expected to continue over the coming decades. The rapid integration of artificial intelligence and machine learning in the energy sector opens great prospects for the oil and gas industry. Indeed, digital transformation in the oil and gas sector is well documented, with almost all major energy companies adopting artificial intelligence and other innovative technologies to improve their operations. It is used to minimize operational costs, improve sustainability, speed up operations, reduce production and maintenance costs, enhance safety and operational efficiency, and work to reduce emissions.

Today, the energy sector is one of the most powerful and profitable sectors in the modern economy, with energy companies having a lot of data to manage. Effective data processing and management is only possible through using digital technologies, as artificial intelligence can be



used to process and manage data with greater efficiency, time, and cost. This will increase the energy industry's ability to compete in unstable economic conditions, develop better operational methods, and enable the discovery of new insights.

The most important of which is resource management, as resource management can be improved if current usage statistics and strategic goals are known, as artificial intelligence systems can control, manage, and evaluate energy consumption, predict demand to prepare for it, and predict problems and malfunctions to avoid and address them. Proactively, this is reflected in energy efficiency and lower utility and service bills.

The energy sector is classified as a data-rich sector, as it is one of its most valuable assets, and energy providers must develop their ability to store, read, and analyze data correctly, especially if they want to gain a competitive advantage and meet complex business challenges. "Smart grids" come as a result of integrating electrical networks with several modern technologies, and more precisely, they are the result of mixing artificial intelligence, the Internet of Things (IoT), and big data with the electric energy industry. The smart grid is defined as a fully automated energy delivery network that controls and monitors each consumer in a way that ensures a two-way flow of electricity.

IoT technologies will play the role of eyes and hands for this network, as micro-sensors collect various data along the value chains and respond to it at the three stages of the energy industry: generation, delivery, and distribution. Artificial intelligence will serve as the brain of the network, replacing large regional networks with specialized small networks that accurately manage local energy needs. In the future, it can also be paired with new battery

technologies that ensure the continued flow of energy in exceptional circumstances such as sudden outages and severe weather conditions.

Electric power networks, wind farms, and solar panels are facilities that occupy large geographical areas and require continuous monitoring. Artificial intelligence technologies can be used for continuous monitoring, using computer vision, drones, and distributing various sensors that capture data around the clock. For example, Google Cloud's visual inspection tool is characterized by its ability to reduce inspection times without compromising the level of safety or accuracy and can be operated and deployed in workplaces. Through machine learning and computer vision, artificial intelligence systems can raise the quality level of smart electrical networks, reduce work interruption times, and reduce inspection and restart costs.

Energy companies need a scalable data warehouse so they can import, process, and analyze data. Powerful AI tools are used in data analytics to extract accurate, actionable real-world insights. These tools help in large-scale data sorting, where machine learning algorithms can identify patterns. Insights into large data sets and forecasting forecast energy demand, helping energy companies improve production decision-making and reduce required operating reserves. It can help end consumers reduce utility bills by optimizing home battery and solar systems and avoiding peak times.

Already, the process of digitization of the energy sector is well underway, with almost all oil, gas, and renewable energy companies integrating a wide range of innovative technologies into their operations, in order to increase efficiency, stabilize production and reduce costs.

ENG. MOHAMED ABDELRAOUF

Production General Manager in Khalda Petroleum Company

GREEN HYDROGEN: A FUEL TO A MORE SUSTAINABLE FUTURE

As the world grapples with climate change, there is a growing urgency to decarbonize our energy systems. An emerging solution that provides hope for enabling a sustainable future is green hydrogen - hydrogen produced using renewable electricity to power water electrolysis. Green hydrogen is a versatile zero-emission fuel with the potential to unlock deep decarbonization across industries.

Scaling up technologies to produce, store, transport, and use green hydrogen also provides economic growth opportunities. Let's outline the numerous benefits green hydrogen presents across both developed and emerging economies' environmental, economic, and technological dimensions.

Environmental Benefits

The most significant advantage of green hydrogen is its sustainability credentials. The use of renewable energy sources like solar, wind, or hydroenergy to produce hydrogen via electrolysis results in no lifecycle carbon emissions. This carbon-free nature makes green hydrogen ideal for progressing towards net-zero economies without compromising lifestyles or economic growth. Switching from fossil fuel usage to green hydrogen across transportation, electricity generation, and industrial processes mitigates greenhouse gas emissions.

Additionally, adopting green hydrogen in distributed applications in transportation, renewable energy integration, backup power supplies, and off-grid industry reduces air pollution - improving public health and providing related cost savings. Green hydrogen solutions' modular production and configurable scale also increase energy access options for remote and underserved communities lacking centralized electricity infrastructure.

Economic Benefits

Green hydrogen opens up new avenues for economic growth at both industrial and macroeconomic scales. The burgeoning sector promises job creation across renewable energy systems, electrolysis, fuel cell technology, transportation services, and beyond. Constructing robust, bi-directional hydrogen pipeline networks generates employment in public works projects while enabling wider hydrogen adoption.

From a systems perspective, investing in homegrown green hydrogen infrastructure and expertise reduces reliance on imported fuels, increases energy security, and improves trade balances. It also nurtures indigenous technology innovation ecosystems, skill development, and manufacturing capabilities. Locally produced green hydrogen supports decentralized sustainable energy production for self-reliant regions. Exporting green hydrogen or derivative fuels like ammonia to international off-takers also aids economic growth.

Technological Benefits

Green hydrogen development hinges on continued progress across production, storage, distribution, and utilization technologies. Current research targeting efficient electrolysis, cost-effective hydrogen storage in large quantities, and adapting end-use sectors promises to enhance technical knowledge. Green hydrogen costs are projected to fall with scale, increasing adoption viability across the energy transition.

Additionally, the versatility of hydrogen as an enabler of renewable energy storage and sector coupling helps overcome intermittency issues and grid inflexibility. Green hydrogen integration thus allows higher shares of renewables in energy networks leading to resilient and affordable clean energy systems. Such technological dividends ultimately make decarbonization faster and economically feasible.

Realizing green hydrogen's potential not only leads to better decarbonization and more effective climate action but also creates economic opportunities and technological spillovers. Green hydrogen is set to permeate as a key facilitating technology across transportation modes, electricity, and industrial production processes while enabling large-scale, low-cost renewable energy storage. This decade, unlocking its widespread benefits requires policy support across production incentives, infrastructure development, and demand creation globally. The virtuous cycle of learning, scale, and growth across the interconnected green hydrogen value chain promises a new, sustainable growth avenue.

Wael Essam EL Rayes

GPC Vice Chairman

CARBON MARKETS: THE PATH TO NET ZERO

Carbon markets are trading systems through which carbon credits are bought and sold. The idea behind carbon credits is to put a price on carbon emissions with the goal of incentivizing emitters to reduce pollution and, ideally, stop exporting emissions into the atmosphere.

In essence, carbon credits act as permits to emit a certain amount of carbon and these permits are tradable on carbon markets. These markets turn carbon dioxide emissions into a commodity by giving them a price. Companies or individuals can use carbon markets to offset their greenhouse gas emissions by purchasing carbon credits from entities that eliminate or reduce greenhouse gas emissions.

The increasing trend towards carbon markets in general comes as countries and companies seek to reduce emissions and achieve carbon neutrality, in order to avoid the worst repercussions of climate change.

Many countries have imposed carbon pricing mechanisms to force companies and sectors to reduce emissions. Otherwise, they will be forced to pay the price for the negative repercussions they impose on the environment.

With the quest to reduce emissions, obstacles have emerged on the path to clean energy. There are carbon-intensive sectors, such as mining and various industries whose emissions are difficult to eliminate. In other words, there are unavoidable emissions that cannot be electrified - or converted into clean electricity -.

There are two types of carbon markets: mandatory and voluntary. Mandatory markets are created as a result of any national, regional, and/or international policy or regulatory requirements; while both national and international voluntary carbon markets refer to the issuance and involve buying and selling of carbon credits on a voluntary basis.

The current offer of voluntary carbon credits comes mostly from private entities developing carbon projects, or governments developing programs certified with carbon standards that reduce and/or eliminate emissions. Demand comes from individuals who want to offset their carbon footprints, companies pursuing sustainability goals, and other actors aiming to trade credits at a higher price to make a profit.

'Carbon credit' and 'carbon offset' have become almost interchangeable terms, especially in reference to carbon markets. However, some distinguish between the two, associating 'credits' with mandatory cap and trade regulations and 'compensations' with the voluntary market.

The world has made progress toward agreeing on the processes and methodologies countries must follow to access carbon markets.

For carbon markets to succeed, emissions reductions and removals must be real and consistent with a country's Nationally Determined Contributions (NDCs). There must also be transparency in the institutional and financial infrastructure for carbon market transactions. There must also be sufficient social and environmental guarantees to mitigate any negative impacts of the project and enhance the positive impacts.

If high standards of integrity and transparency are adhered to, carbon markets can help accelerate the required transition, by setting an effective price on pollution and creating an economic incentive to reduce emissions. It can also help generate some of the huge amounts needed to build resilience.

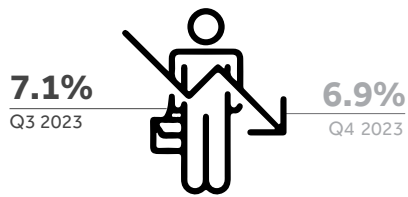
Mohamed Atia

Process Engineer at Egyptian Refining Company (ERC)

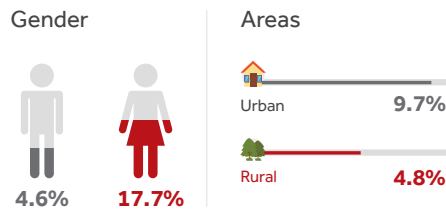


QUARTERLY INDICATORS

Unemployment Rate



Unemployment Rate Distribution



Egypt's unemployment rate dropped in the fourth quarter (Q4) of 2023 to reach 6.9%, marking its lowest point over the past three years. Egypt's labor force reached 31 million in Q4 2023, down by 2.7% from the previous quarter. This aligns with the Egyptian government's ambitious plan, announced in September 2023, for developing projects that generate about 800,000 new job opportunities during the fiscal year (FY) 2023/24.

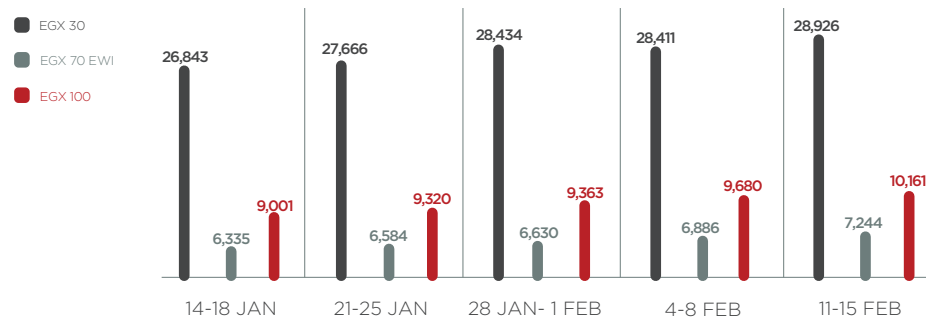
EGX HIGHLIGHTS

Performance of Listed Petroleum Companies January 2024

Company	Close Price (EGP)	YTD Price Change	P/E*
TAQA	14.64	↑ 8.85%	-
NDC	-	0%	4.84
AMOC	9.63	↓ 2.33%	9.06
EGAS	43.54	↑ 8.85%	13.86
EGPC	39.8	↑ 36.91%	56.22

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

Capital Market Indicators



MONTHLY INDICATORS

Annual Inflation Headline CPI (%)



Egypt's inflation rates dropped more than expected in January 2024, falling by 11.3% compared to December 2023. This decline was primarily driven by a continued slowdown in the annual rate of food inflation with an 8% decline in vegetable prices. In Contrast, cereal and bread group prices increased by 3.7%, and meat and poultry group prices saw a smaller rise of 2.9%.

Net International Reserves (\$ billion)



Egypt's net international reserves increased slightly to reach \$35.250 billion in January 2024 compared to December 2023. Foreign currencies remain the largest component of Egypt's international reserves, accounting for \$26.547 billion in January.

Non-Oil Private Sector PMI (Point)



Egypt's Purchasing Managers Index (PMI) remained below 50 at the beginning of 2024, at 48.1 in January 2024. This continued decline is due to solid contractions in production amid price pressures and weakened demand. Despite a stabilizing trend in purchasing activity, non-oil businesses reduced their purchases.



Approving Amendments in Two Oil Agreements

On February 8, the Egyptian Cabinet approved two projects to amend two petroleum commitment agreements to search for and exploit oil between the Egyptian General Petroleum Corporation (EGPC) and many international and national companies.

- Investments **\$232** million
- Minimum Wells **8**
- Non-refundable Grants **\$1** million

Objectives

Pumping additional investments to increase production rates and reserves in

West Delta Deep Marine (WDDM)

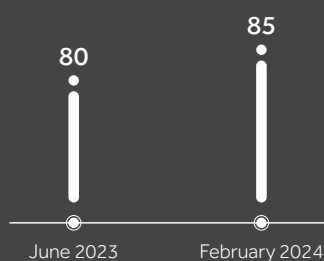
Extending the period of development contracts for 10 years and adding new sectors in

Northwest October in the Gulf of Suez

Egypt Lifted Brent Price Estimates in FY 2023/24

Egypt raised the estimates of the price of an oil barrel for the fiscal year (FY) 2023/24 budget by 6.25%. The initially approved budget price in June 2023 was \$80/bbl before being raised to \$85/bbl in February 2024. This decision was driven by geopolitical disturbances and tensions, and their effects on fuel supplies.

Estimated Price (\$/bbl)



ADNOC, bp to Create JV for Gas Development in Egypt

This Joint Venture (JV) will initially focus on the development of gas assets in Egypt, deepen long-standing partnerships, and complement the strategic growth plans of ADNOC and bp.

Announcement Date
February 14



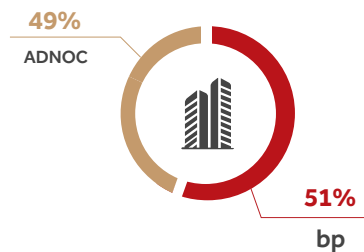
Expected Completion Date
H2 of 2024

Targets

bp will contribute its interests in three development concessions, as well as exploration agreements, in Egypt to the new JV

ADNOC will make a proportionate cash contribution which can be used for future growth opportunities

Companies Shares in the JV

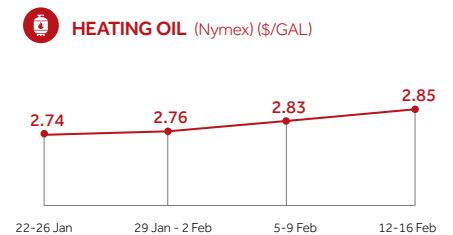
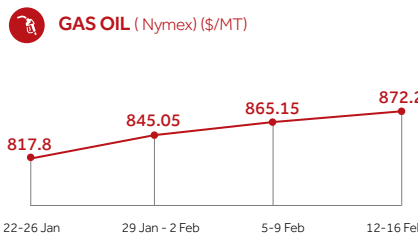
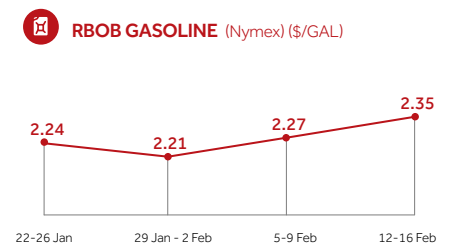
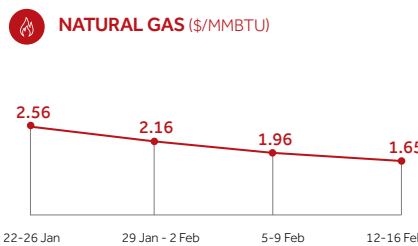
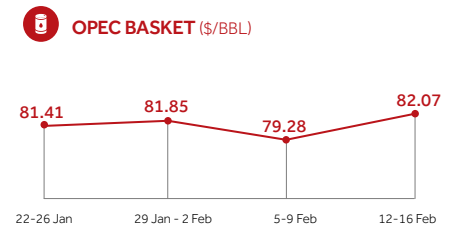
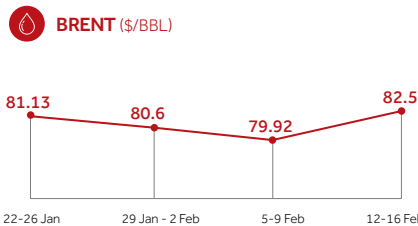


bp's Concessions to be Included in the JV

Concession	bp's Share (%)
Shorouk (Including Zohr Field)	10
North Damietta	100
North El Burg	50
North El Tabya, Bellatrix-Seti East, and North El Fayrouz Exploration Concession Agreements	-

PRICING HIGHLIGHTS

Average International Prices





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