

EGYPT'S ENERGY INFRASTRUCTURE:
**BUILDING A GATEWAY
FOR EASTERN
MEDITERRANEAN GAS**



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Editor's Letter

Dear reader,

Infrastructure is the backbone of any economy, the engine that drives growth and diversification. In the oil and gas sector, roads to and from fields, refineries, compressor stations, liquefaction plants, pipelines, ports, and FSRUs are indispensable components of the energy chain.

In Egypt, rising demand is spurring heavy investment in expanding, upgrading, and building infrastructure. This October issue explores the many dimensions of that transformation. The overview article examines how Egypt's infrastructure is positioning the country as a regional gas hub, with both existing and planned facilities in place. The economic feature highlights how new equipment and technologies can revive brownfields, unlocking untapped resources.

Our Energy in Transition section focuses on leveraging infrastructure in environmentally responsible ways, with a deep dive into decarbonizing midstream operations. The political analysis considers Africa's energy future, showing how ambitious pipeline projects must be paired with Egypt's proven infrastructure to create a unified, resilient continental hub.

This edition also features in depth coverage of Egypt Mining Forum 2026, spotlighting the country's mineral wealth and the challenges ahead. From policy shifts to investor appetite, the forum underscored Egypt's ambitions and the hurdles it must overcome.

This issue truly has something for everyone, don't miss it.

Sherine Samir
Editor-in-Chief

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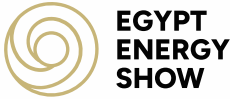
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Cutting Emissions in
Midstream Infrastructure:
Egypt's Field-to-Market
Opportunity

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TOP FIVE NEWS

EGAS to Drill 16 Wells, Targeting 6 tcf in FY26/27

The Egyptian Natural Gas Holding Company (EGAS) added 28 new wells to Egypt's gas production map through nine development projects, with investments totaling \$1.12 billion, during fiscal year (FY) 2025/26, EGAS Executive Managing Director Sayed Selim said at the company's general assembly meeting.

EGAS also recorded nine discoveries, including eight gas and one oil discovery, adding around 2.8 trillion cubic feet (tcf) of gas reserves, he said. The company is currently drilling three new gas exploration wells, with completion planned before the end of 2026, Selim added.

During FY 2026/27, the company identified 16 new gas exploration opportunities, comprising seven offshore and nine onshore prospects, with plans to drill 16 wells targeting estimated resources of around 6 tcf.

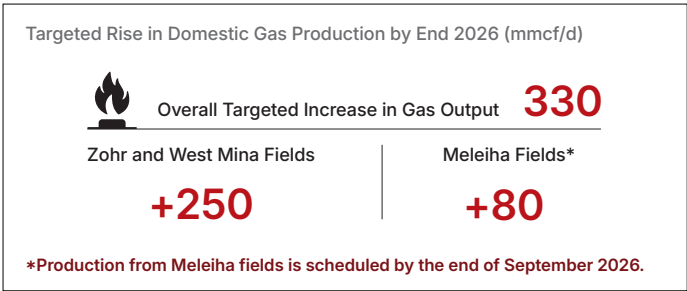
Moreover, EGAS awarded four new gas exploration blocks in the Mediterranean and Nile Delta, with investments approaching \$200 million to drill nine wells. In addition, it finalised five new gas exploration agreements worth \$240 million for 14 exploration wells and signed a development contract for the North Atoll field with Arcius Energy.

Egypt Targets 330 mmcf/d Increase in Gas Production by Year-End

Egypt is targeting an additional 250 million cubic feet per day (mmcf/d) of natural gas from the Zohr and West Mina fields in the Mediterranean before the end of 2026, alongside 80 mmcf/d from the Meleilha fields in the Western Desert by the end of September, Karim Badawi, Minister of Petroleum and Mineral Resources, said.

Zohr is Egypt's largest gas discovery and the Mediterranean's largest gas field. It is owned by Eni (50%), Rosneft (30%), bp (10%), and Mubadala Energy (10%) and operated by Petrobel, a joint venture between Eni and Egyptian General Petroleum Corporation (EGPC).

The minister made the remarks during a meeting with Prime Minister Mostafa Madbouly to review the Ministry of Petroleum and Mineral Resources' (MoPMR) ongoing work and efforts to strengthen domestic oil and gas production.



EGPC Records 63 Discoveries, Refines 28 Mn Tons of Crude in FY 2025/26

The Egyptian General Petroleum Corporation (EGPC) recorded 63 new oil and gas discoveries and refined around 28 million tons (mmt) of crude during fiscal year (FY) 2025/26, as it worked to raise domestic production and meet local fuel demand.

Karim Badawi, Minister of Petroleum and Mineral Resources, chaired EGPC's board meeting to approve its FY 2025/26 results, attended by Mahmoud Esmat, Minister of Electricity and Renewable Energy, Manal Awad, Local Development and Environment Minister, and Mohamed Farid, Minister of Investment and Foreign Trade.

Badawi said settling partners' outstanding dues helped restore confidence and encouraged companies to increase investment in drilling, exploration and field development. He added that crude oil production has started to increase after efforts to offset natural field declines.

EGPC CEO Salah Abdel Kerim said the corporation signed eight exploration agreements carrying minimum investments of \$377 million and \$74 million in signature bonuses. It also signed nine field development contracts and recorded 48 oil and 15 gas discoveries. Exploration and production investments reached about \$4.5 billion.

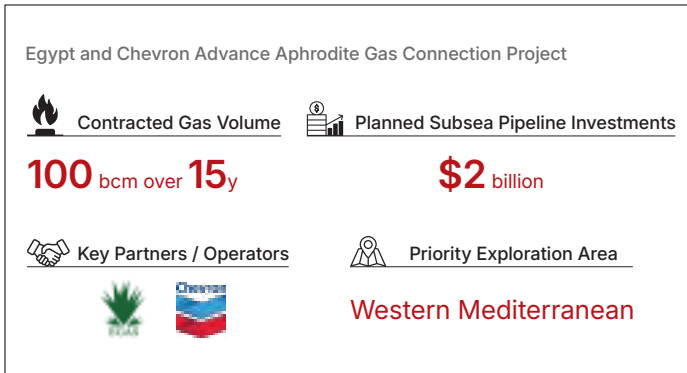
EGPC raised refinery utilization from around 67% to more than 80%, helping increase diesel production and bring gasoline output to maximum capacity. Refineries processed around 28 million tons of crude, up from 25.3 million tons a year earlier.

Chevron, MoPMR Push to Finalize Aphrodite Gas Connection Agreements

Karim Badawi, Minister of Petroleum and Mineral Resources, and Javier La Rosa, Chevron's President of Base Assets and Emerging Countries, have discussed accelerating agreements to connect Cyprus's Aphrodite gas field to Egyptian infrastructure, as Egypt and Chevron, the field operator, work to move the project toward implementation.

Badawi stressed the need to finalize the technical, financial and commercial frameworks and related timelines. He said high-level political support for gas cooperation between Egypt and Cyprus is driving momentum to complete the project's remaining tracks.

The talks come as Egypt and Chevron approach a previously targeted September 2026 deadline for completing the main Aphrodite agreements. In April, Egyptian Natural Gas Holding Company (EGAS) signed a landmark agreement to import the full production from Cyprus's Aphrodite gas field, securing around 100 billion cubic meters (bcm) of gas over 15 years via a new \$2 billion subsea pipeline to Port Said.



Qalaa Holdings Doubles Stake in ERC

Qalaa Holdings' Board of Directors has approved expanding its indirect stake in the Egyptian Refining Company (ERC), one of the group's energy assets. The move will see Qalaa's effective ownership rise from 13.0% to 27.1%, underscoring its long-term commitment to Egypt's downstream sector.

The transaction will take place through Qalaa's acquisition of a 55.4 % stake in New Age Refining, which will in turn buy the whole of QPI Egypt from Qatar Energy at face value. Because QPI Egypt holds a 25.4% indirect stake in ERC, this purchase doubles Qalaa's overall ownership.

Both New Age Refining and QPI Egypt are offshore investment holding vehicles created specifically to manage ownership stakes in the Egyptian Refining Company (ERC). The deal is set to close in December 2026, once all agreed terms and conditions are met.

ERC, located in Mostorod, produces 4.2 million tons (mmt) of liquid petroleum products annually, alongside 600,000 tons of petroleum coke and sulfur. Its entire output of refined fuels is sold to the Egyptian General Petroleum Corporation (EGPC) under a long-term supply contract, priced against international benchmarks.

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EXPLORATION AND PRODUCTION

Ganope Lifts Output to 33,000 bbl/d, Targets 44,000 in FY 2026/27

South Valley Egyptian Petroleum Holding Company (Ganope) has raised its average crude output to about 33,000 barrels per day (bbl/d) in the current fiscal year, with plans to reach 44,000 bbl/d in FY 2026/27, Chairman Samir Raslan announced.



The company has secured preliminary approvals for six new agreements with minimum investments of \$83 million, Raslan noted during the company's general assembly meeting, which was attended by Karim Badawi, Minister of Petroleum and Mineral Resources.

Moreover, Ganope has also awarded Red Sea Block 6 to bp, marking the first agreement in southern Egypt to apply the R-factor investment model, a framework where the investor's share of production or revenues is linked to a profitability index, Raslan said.

The company is negotiating with two other international companies to reach additional investment agreements in the Red Sea, he added.

Badawi said that Ganope is targeting a significant expansion in oil exploration and production over the next five years. The company would boost exploration investment and drilling in southern Egypt, leveraging promising geological prospects through tailored investment models and incentives.

EARNINGS

Maridive Net Profit Surges 346% in H1 2026

Maridive & Oil Services' net profit surged 346% year-on-year (YoY) to \$48.61 million in the first half (H1) of 2026, supported by higher revenue and gross profit, according to the company's unaudited consolidated financial statements.



Revenue increased 8% YoY to \$134.27 million, while gross profit rose 7% to \$67.11 million. Meanwhile, net profit before tax climbed 306% YoY to \$49.86 million. Diluted earnings per share increased 358% YoY to \$0.10, and cash flow from operating activities rose 2% YoY to \$67.61 million.

The company's Board of Directors approved the unaudited consolidated financial statements for the period ended June 30, 2026, at a meeting on September 23, 2026, chaired by Board Chairperson Shahira Magdy Zeid. The company said the

INVESTMENTS

Egypt Oil Assets at Center of Genel-DNO Bidding War

Competition for a foothold in Egypt's oil sector has escalated after Genel Energy raised its cash offer for Capricorn Energy to \$436 million, surpassing Norwegian rival DNO and regaining Capricorn's board support. Under the revised terms, Capricorn shareholders will receive about \$5.74 per share, comprising \$4.75 in cash and a \$0.99 special dividend. The offer represents a 10% premium to DNO's latest proposal in September.



Capricorn's board withdrew its recommendation for DNO's offer and backed Genel's revised proposal, saying it provides shareholders with "superior value, certainty and deliverability", according to Reuters. Genel Energy is a London-listed independent oil and gas company with assets in Iraq, Oman and Somalia.

The bidding war has centered on Capricorn's Western Desert assets, which have made the company a target for energy firms seeking a presence in Egypt's upstream sector.

Until Egypt Oil& Gas went to press, the competition on Capricorn's shares was still unsettled.

results reflect its plans to improve operational efficiency and strengthen financial performance while maintaining market competitiveness.

Capricorn's Egypt Assets Record 300 % increase in H1 2026 profits

Capricorn Energy's Egyptian operations reported a 300% year-on-year increase in the first half of 2026, with profits rising to \$36 million on \$100 million in revenue. Overall, the company also swung to a \$24.1 million profit, compared with a \$6.5 million loss in the same period of 2025.

Capricorn is a cash flow-focused energy producer with a portfolio of onshore development and production assets in Egypt's Western Desert. The company's Egyptian assets are operated through Badr El Din Petroleum Company (BAPETCO), a joint venture with the Egyptian General Petroleum Corporation (EGPC) and Cheiron.

"The ratification of the consolidated concession agreement in Egypt creates an improved framework for long-term investment, extends the life of key producing assets and supports our resource conversion funnel. Working closely with our partner and operator, Cheiron, we have progressed development plans designed to grow production and unlock value," Capricorn Chief Executive Randy Neely commented on the results.

IMPORTS

Egypt's US LNG Imports Surge 236% YoY to Record 86 bcf in June

Egypt's liquefied natural gas (LNG) imports from the United States (US) reached a record high of 86.05 billion cubic feet (bcf) in June 2026, surging 236% year-on-year (YoY) as Cairo expanded spot-market purchases to meet surging domestic power demand, according to the US Energy Information Administration (EIA).

Meanwhile, June shipments rose 138 % month-on-month (MoM) from 36.17 bcf in May 2026. The monthly volume marks the highest level recorded since 2016, surpassing the previous peak of 61.45 bcf registered in November 2025.

The surge in imports underscores Egypt's growing reliance on external gas supplies to stabilize its electricity grid. Domestic natural gas production fell from approximately 70 billion cubic meters (bcm) in 2021 to around 49 bcm in 2024, creating an operational deficit against annual consumption, which reached 59 bcm in 2025. Gas-fired generation accounts for nearly 80% of Egypt's total electricity output, as reported by the International Energy Agency (IEA).

AGREEMENTS

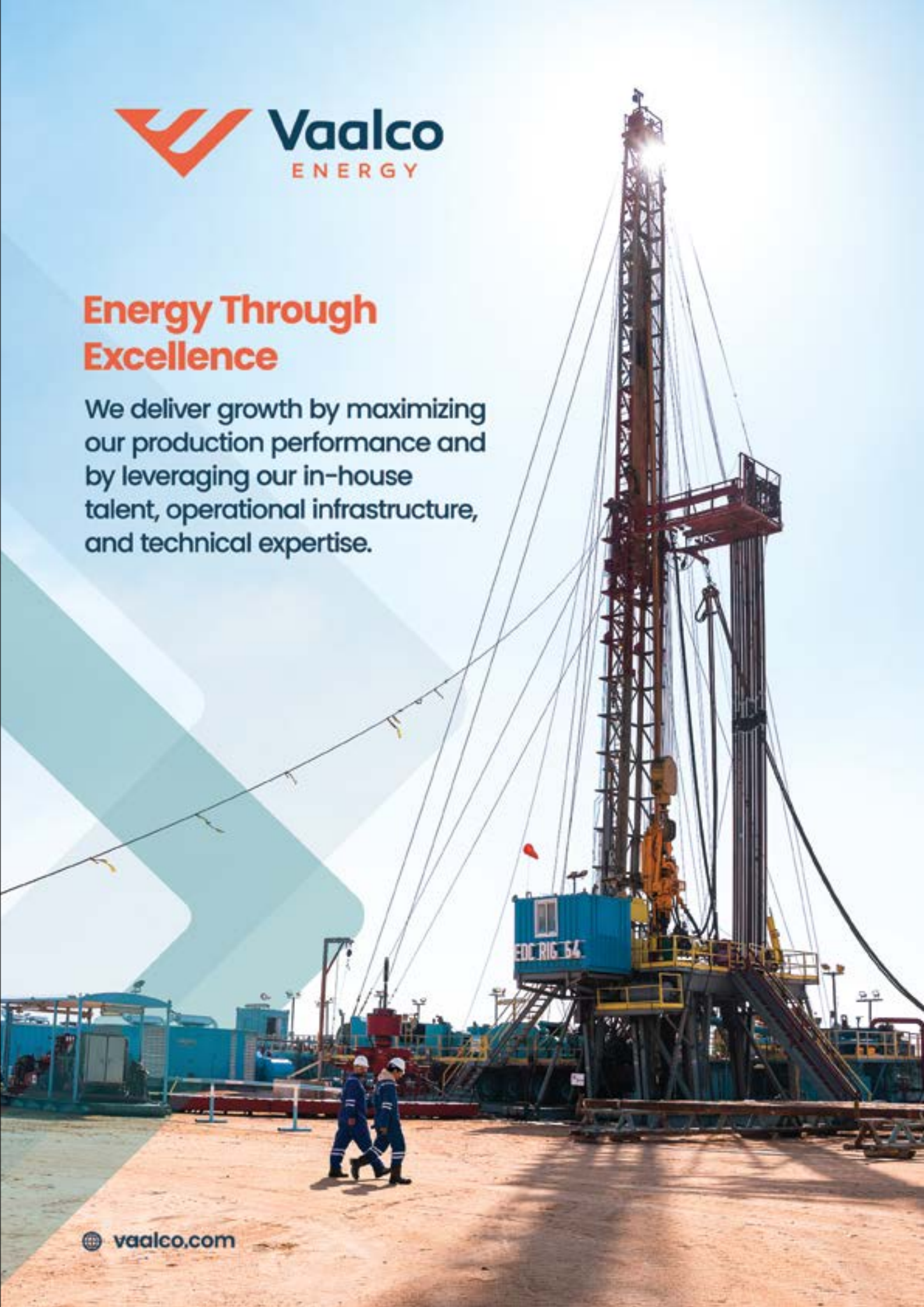
MoPMR Signs Six Oil Exploration Deals, Expands Refining Projects Across Upper Egypt

The Ministry of Petroleum and Mineral Resources (MoPMR) has signed six preliminary agreements to expand exploration activities in Upper Egypt across the North Baraka, Red Sea, Khart, South Baraka, Southeast Ras El Ush, and East Zeit areas, according to a statement by the Cabinet.

Exploration activities in these areas are scheduled to begin in 2027, with potential production estimated at between 5,000 and 11,000 barrels of crude oil per day (bbl/d) by 2030, according to a report submitted by Karim Badawi, Minister of Petroleum and Mineral Resources, and reviewed by Prime Minister Mostafa Madbouly.

The report detailed MoPMR's efforts to expand petroleum sector activities in Upper Egypt as a key driver of economic development.

The MoPMR is opening new investment opportunities in frontier areas of the southern Western Desert, including West Assiut and Dakhla, where integrated geological and geophysical databases are being developed to highlight promising prospects for international oil companies.



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ROCKS TO REVENUE:

EGYPT'S STRATEGY TO TRANSFORM THE ARABIAN-NUBIAN SHIELD



For Egypt and its regional peers along the Arabian Nubian Shield, the focus is shifting from simply discovering mineral wealth to building a sustainable industrial sector around it. Long dominated by traditional extraction, the region's mining industry is undergoing structural transformation driven by fiscal modernization, enhanced security protocols, digital geoscience, and targeted downstream processing.



As global investors reassess mineral frontiers, industry leaders, institutional financiers, and government ministers emphasize that unlocking early-stage discovery and establishing long term resilience requires a synchronized ecosystem. This strategy bridges foundational gold assets with critical industrial minerals, reduces risk for junior exploration, and captures value through domestic manufacturing. These priorities were highlighted during the fifth edition of the Egypt Mining Forum 2026, inaugurated by H.E. President Abdel Fattah El-Sisi, who said: "We affirm the Egyptian state's commitment to ensure the success of investments of companies and business leaders whether in the mining or any other sector."

☞ We affirm the Egyptian state's commitment to ensure the success of investments of companies and business leaders whether in the mining or any other sector.☞



H.E. Abdel Fattah El-Sisi
President, Arab Republic of Egypt

Asserting this commitment, H.E. Karim Badawi, Minister of Petroleum and Mineral Resources, added: "Egypt is opening its doors to serious mining investments and welcomes partnerships based on long-term investment, the transfer of knowledge and technology, and maximizing the added value of our mineral resources."

Gold: Egypt's Anchor in Mining

Gold remains the main financial anchor and the clearest proof of the region's mining potential. The Arabian Nubian Shield holds world class reserves, with Egypt's Sukari mine standing out as a benchmark for successful operations and workforce integration.

Highlighting Egypt competitive edge when it comes to gold mining Gillian Doran, CFO and Executive Director of global gold mining group AngloGold Ashanti, said: "Egypt offers significant operational advantages over other frontier markets, featuring thousands of miles of paved highways, direct Red Sea port access, excellent power grid coverage, and a stable political climate."

Taken together, these factors play a critical role in lowering discovery to production costs and providing multi-decade investment comfort, according to Doran.

AngloGold Ashanti acquired Centamin's interests in Sukari gold mine in 2024 and is now the operator and 50 % owner of the mine which took center stage during the forum sessions even those that were not focused on gold.

☞ Egypt is opening its doors to serious mining investments and welcomes partnerships based on long-term investment, the transfer of knowledge and technology, and maximizing the added value of our mineral resources.☞



H.E. Eng. Karim Badawi
Minister of Petroleum and Mineral Resources

"Since commercial production began, Sukari's cumulative economic contribution to Egypt is more than \$2 billion in royalties and profit-sharing," Doran boasted, adding that Sukari, in its first full year, generated \$1.3 billion in adjusted exit tax and \$475 million in free cash flow.

In 2025 alone, Sukari delivered more than \$500 million in profit-sharing royalties to the Egyptian state, noted Doran.

"Sukari provides a proven, repeatable model for how geological opportunity, long-term capital, technical capability, and government collaboration can really drive national growth. As Egypt enters this exciting new mining era, the investment thesis for mining and exploration in this country is compelling," Doran said.

However, and despite these natural endowments, expanding precious metal discovery demands a data-driven approach rather than relying solely on historical successes.

Hoda Mansour, President of AngloGold Ashanti Egypt, cautioned that while the potential for additional tier-one deposits exists, confirmation requires systematic exploration: "There are no vows that we will have more than one Sukari, but we should have the data to say that."

In May 2026, Egypt signed a contract with Spain's Xcalibur Smart Mapping in May 2026 to conduct the country's first nationwide airborne geophysical survey in more than 40 years.

The survey will cover six major mineral-rich areas nationwide with the aim to reduce exploration risks and costs while supporting the government's efforts to attract investment and expand the mining sector.

Global economic pressures and political risks are reinforcing the appeal of precious metals. Yet taking advantage of gold's long-term cycle demands significant upfront investment, since mine development takes many years.

Naguib Sawiris, Chairman of In2Metals Holding Limited, a private mining company wholly owned by the Sawiris Family with focus on gold and copper exploration, emphasized that geopolitical instability, combined with the six to seven year timeline needed to turn a greenfield discovery into a producing mine, will continue to support strong gold valuations. He argued that long term fundamentals remain solid, making both public and private investment in sector readiness highly rewarding. "The money spent on geophysical surveys and data analysis will return a million times over, and with political and regulatory stability, Egypt can generate more foreign income from mining than from oil and gas", stressed Sawiris.

Gold mining and refining discussion was not only limited to Egypt, but also it was expanded to the African continent. Nene Addo, Senior Manager of Project and Asset-Based Finance at Afreximbank, noted that there was a lot of money going to the development of gold mines,

the extraction of gold but with very few resources committed to beneficiation and value addition.

He argued that African countries need to invest more in downstream segments such as refining to capture a larger share of the value generated by their gold resources.

Nene cited Zimbabwe, where gold cannot be exported in an unrefined form, as an example of a policy approach that has encouraged investment in a domestic refinery.

For large-scale mining companies, meanwhile, the decision over where to refine gold is not that simple. Stewart Bailey, Chief Sustainability Affairs Officer, AngloGold Ashanti, stressed that the company is generally agnostic about where to refine its gold to make sure it is a secure, accredited refinery that's operated to very high standards.

Stewart cautioned that gold refining involves significant operational

☞ Egypt offers significant operational advantages over other frontier markets, featuring thousands of miles of paved highways, direct Red Sea port access, excellent power grid coverage, and a stable political climate.☞



Gillian Doran
CFO and Executive Director, AngloGold Ashanti

and financial risks. Speaking during a panel on the gold value chain, he explained that securing accreditation from the London Bullion Market Association (LBMA)-the independent authority for precious metals-requires full knowledge of the provenance of the gold: "You need to understand exactly where it was mined, how it was mined." This presents a challenge for countries aiming to expand domestic refining, since building a refinery alone is not enough to gain international market access. Refineries must also establish the systems, controls, and track record needed to meet LBMA standards, a process Stewart said can take "three, four years of meticulous operation and assurance."

Converting Resources into Returns

While gold offers immediate liquidity and foreign exchange earnings, long term economic resilience depends on diversifying into base metals, fertilizer feedstocks, and strategic minerals for the energy transition. Rising global demand has positioned copper and other critical minerals as key drivers of industrial growth. Highlighting this commercial opportunity, Sawiris described copper as "one of the most lucrative avenues for mining investment."



In parallel, mineral-rich nations are shifting away from shipping low-margin raw ores in favor of capturing complete chemical value chains domestically. Raw resource extraction without domestic processing leaves economies exposed to global commodity volatility and deprives local markets of industrial spillover benefits. Mohamed Zada, Deputy Minister of Strategic Industries at Egypt's Ministry of Industry, outlined this strategy, noting that national targets aim to scale mining's gross domestic product (GDP) contribution up to 6% by shifting away from pure resource exportation: "It is not a matter of just extraction and exporting the minerals. It is a matter of adding value, adding investment, creating job opportunities, adding feed in the industry domestically."

🔹 **Raw phosphate at 16–17% concentration has little value, but initial beneficiation lifts it to 30–31% in months. Further downstream processing, changing it to phosphoric acid, multiplies its worth nine to ten fold.** 🔹



H.E. Khaled Hashem
Minister of Industry

Practical execution of this transition is evident in manganese and phosphate processing. Historically exported as raw rock for minimal financial yield, phosphate is now being channeled into chemical processing facilities to yield high-value Single Superphosphate (SSP) and Triple Superphosphate (TSP).

Similarly, Minister of Industry Khaled Hashem emphasized the importance of capitalizing on the nation's phosphate reserves by moving up the value chain.

"Raw phosphate at 16–17% concentration has little value, but initial beneficiation lifts it to 30–31% in months. Further downstream processing, changing it to phosphoric acid, multiplies its worth nine to ten fold."

Hashem told attendees of the forum that Egypt is very rich when it comes to fertilizers on the urea and natural gas side, and now we're also expanding on the phosphate side, noting that the technology is advancing by the day on that front.

Hashem explained that partnership with stakeholders is essential, as it links the mining stage with industry, financing, technology deployment, and government support as facilitator. He described this as the ecosystem needed to maximize value added potential across resources-whether phosphate or other raw materials-and to shift Egypt from an import based to an export based economy.

Egypt ranks third in the world in terms of phosphate enrichment and seventh in the world in terms of its production in 2025.

In this regard, the government is working to implement eight new added value projects including the Phosphoric acid complex in Abu Tartour. Its first phase, scheduled to start production in 2028, will hold a production capacity of 250,000 tons annually (t/y) with investments of up to \$650 million.

Mohamed Ahmed Ibrahim, Chairman of the Golden Triangle Economic Authority, underscored that sustaining such downstream industries requires aligning mineral technical specifications directly with industrial end-user demand within specialized economic zones. He exemplified this by securing domestic silicon manganese alloys to support heavy

steel production, addressing import deficits that have historically exceeded \$200 million annually.

The ministry of industry is embarking on achieving two or three new projects to secure domestic silicon manganese alloys thanks to the availability of the manganese raw material and reserve in Egypt.

Dolomite is another mineral that Egypt used to spend \$170 million to import to be used in cement and ceramics industry but it is now being locally processed saving millions of dollars in imports.

"We are moving beyond exporting raw commodities like manganese and dolomite toward building higher value added industries. By processing these resources locally, we can cut import costs, create jobs, and integrate more deeply into global supply chains." Hashem said.

Stable Rules, Stronger Investment

Several speakers at the two day forum stressed that capital allocation in long term mining projects hinges on jurisdictional stability, regulatory transparency, and physical security. Sudden legislative changes or operational disruptions pose major obstacles for international investors. Foday Mousa Fofana, Sierra Leone's Deputy Minister of Mines and Mineral Resources, underscored that regulatory stability depends on predictable governance: "When we want to change a rule, it must be predictable."

Moreover, there was a consensus that establishing a stable environment requires a dual approach: modernizing fiscal policies and enforcing field-level security.

Across the region, replacing legacy production-sharing agreements with modern tax-and-royalty fiscal models has removed historic entry barriers.

Andrew Hunter, CEO of Hunter & Co., noted that recent legislative updates and granting of exploration licenses have demonstrated a strong spirit of public-private cooperation in Egypt. Simultaneously, curbing illegal mining operations has established the operational safety necessary for major institutional capital.

Sawiris noted that decisive state action and military presence in the Egyptian Mineral Resources and Mining Industries Authority's (MRMIA) concession zones have successfully controlled illicit extraction, creating a secure environment for legitimate operators.

Echoing the need for operational execution, Omar Nasser, Managing Director of Lotus Gold Corporation, stated, "We need to see reforms implemented on the ground, and we look forward to more companies choosing to work in Egypt."

From her side, Janet Reuben Lekashingo, Chairperson of the Mining Commission in Tanzania, emphasized that while host nations must guarantee transparency, foreign companies are equally obligated to fulfill their exploration work programs rather than holding licenses passively: "The country has a responsibility to be transparent, but the responsibility is mutual."

From Standards to Stakes: Financing Juniors

Recent meeting that involved international investors with Egyptian mining executives have stressed on the importance of attracting junior mining companies to the country, an approach that was highlighted during the forum.

Junior exploration companies serve as the primary growth engine for early-stage mineral discovery. Operating as agile, high-risk exploration specialists, juniors perform the initial geological mapping and trenching required to locate commercial targets. Once targets are identified and preliminary reserves are proven, major mining houses step in with the massive capital required to construct and operate large-scale processing facilities.

To operate effectively, junior miners need streamlined administrative processes and direct access to pre competitive geological data. Because exploration firms work on tight budgets, bureaucratic delays quickly erode their capital. Al Fabbro, President and CEO of Red Sea Resources, stressed that entry decisions hinge on host country efficiency, licensing stability, and predictable fees: "I do not have to sell Egypt every time I make a presentation.

A major bottleneck facing junior miners is the absence of centralized, digitized geological mapping. High-risk exploration becomes unviable when companies must independently recreate baseline geological data. AngloGold Ashanti's Hoda Mansour framed this challenge around de-risking early-stage discovery, stating that having access to data would reduce the risks, and highlighting the importance of making data available, specifically for junior miners.

Financing junior mining ventures requires structured alignment with international institutional standards. Programs such as the European Bank for Reconstruction and Development's (EBRD) Junior Mining Program (JUMP) provide equity and quasi equity financing, typically taking minority stakes of 5% to 25% in exploration firms.

Accessing these institutional funds requires junior companies to present verified, code-compliant geological reports, proven operational track records, radical financial transparency, and strict adherence to Environmental, Social, and Governance (ESG) guidelines.

Natalia Lacorzana, Global Director of Natural Resources at the EBRD, emphasized that while institutional capital is available for early-stage growth, capital availability does not remove underlying exploration risks. Financing is strictly contingent on de-risking projects through verified technical data, clear governance, and sound environmental management.

Securing Feedstock, Financing Growth

Expanding downstream processing facilities, such as smelters; refineries; and chemical plants, require guaranteed, long-term mineral feedstock. Because processing assets are capital-intensive, building a multi-hundred-million-dollar facility on the reserves of a single mine introduces unacceptable operational risk.

Emre Kayışoğlu, CEO of Esan Eczacıbaşı, Türkiye's largest minerals exporter and owner of Europe's deepest underground mine, emphasized that downstream viability requires securing diverse feedstock sources, including secondary deposits, regional imports, recycling streams, and continuous greenfield exploration: "Feedstock comes before downstream, because without having a sustainable feedstock, you cannot go and invest in a smelter or large processing plant."

Financing large scale downstream assets requires structured project finance frameworks that distribute risk among specialized parties. Stephan Pueschel, Co Head of Metals and Mining at KfW IPEX Bank, explained that capital intensive facilities rely on multi layered structures: sponsor equity absorbs initial commercial risk, while subordinated debt, streaming royalties, and commercial bank loans-backed by Export Credit Agencies (ECAs) or Development Finance Institutions (DFIs)-provide additional layers of support. Integrating off take contracts with built in price floors ensures cash flow predictability, safeguarding debt service obligations against global market volatility.

Planting the Seeds of Mining Culture

Unlocking long-term mineral wealth ultimately depends on developing local human capital and shifting broader cultural perceptions surrounding the mining industry. Hoda Mansour noted that building a sustainable industrial ecosystem requires introducing earth sciences and mining engineering early into academic curricula: "We need to put mining in the minds of kids and students."

By combining early-stage educational outreach, modern regulatory enforcement, pre-competitive digital data access, and structured project financing, emerging jurisdictions across the Arabian-Nubian Shield can build a resilient mining industry. Integrating junior exploration with large-scale downstream processing ensures that mineral endowments are transformed into long-term national wealth.

🔹 **The money spent on geophysical surveys and data analysis will return a million times over, and with political and regulatory stability, Egypt can generate more foreign income from mining than from oil and gas.** 🔹



Naguib Sawiris
Chairman of In2Metals Holding Limited

Forum Outcomes: New Projects and Strategic Moves

The forum witnessed several important announcements by the government and the sector's heavy weights. These include:

- During the opening ceremony of the forum, Karim Badawi, Minister of Petroleum and Mineral Resources announced that 119 mining companies have applied for licenses across Egypt since the launch of the Open Blocks licensing system (OBS) on June 10, 2026, including more than 14 foreign firms which have submitted 403 bids for 118 blocks covering nearly 45,000 square kilometers. The areas include promising deposits of gold, phosphate, talc, kaolin, and other minerals.
- The New Valley Mineral Resources and Oil Company (WADICO), an Egyptian mining firm, has signed a 15-year agreement with Intro Utilities, one of Egypt's largest energy and utilities investors, to expand solar energy use across its mining sites. The project will leverage Huawei Digital Power technology to ensure a reliable and sustainable electricity supply.
- Under the agreement, Intro Utilities will finance the development of a 3.2-megawatt (MW) solar power station with battery storage, representing an investment of \$3.5 million.
- Ankh Resources is preparing for a potential initial public offering (IPO) in the second half of 2027 after investing more than EGP 500 million in Egypt, with plans to spend over EGP 1 billion in 2027 and 2028 on drilling and resource evaluation, according to Enterprise.
- Red Sea Resources is targeting a January 2027 listing on the Toronto Stock Exchange, seeking to raise up to CAD 25 million through strategic investment.
- Shalateen Mineral Resources Company announced plans to offer five new gold exploration zones before the end of 2026, while advancing the first phase of its EGP 350 million Dahmit Industrial Complex in Aswan. The facility will include laboratories, foundries, and 56 equipped units for small companies and artisanal miners, supporting the formalization of informal gold processing activities.

Strengthening Egypt's Energy Supply

From Upstream Development to Infrastructure Expansion



By Mariam Ahmed & Mahmoud Yasser

Egypt's oil and gas sector is undergoing a broad infrastructure and investment push to respond to supply pressures and changing market conditions. After several years of declining production, the sector is pursuing two parallel priorities: rebuilding the domestic production base through renewed upstream investment, exploration, and technology deployment, while strengthening the infrastructure needed to transport, store, process, and distribute energy.

Together, these efforts are expanding the entire supply chain dedicated to producing, moving, processing, storing, and distributing energy.

The contribution to energy security, however, will depend not only on the chain capabilities, but also on utilization, connectivity, and the ability to translate additional domestic production and imports into reliable market supply.

Against this backdrop, the report examines the expansion of Egypt's petroleum sector, recent developments and infrastructure, the investment supporting these developments, and how the current push strengthens supply security and narrows the country's emerging energy gaps.

Upstream, commercial reforms, improved partner payment conditions, new exploration programs, and advanced drilling technologies are supporting renewed development activity. At the same time, midstream projects are expanding pipeline connectivity and strategic storage capacity, while refining, petrochemical, and distribution investments are strengthening downstream supply capabilities.

Upstream Development & Production Enablers

Investment and commercial reforms are providing the financial and operational conditions required to expand the infrastructure supporting Egypt's future production base.

Commercial & Investment Enablers

Foreign Partners' Dues Clearance

Egypt reduced foreign partners' arrears from \$6.1 billion in June 2024 and cleared the outstanding balance by June 2026, according to the MoPMR.

Capricorn Energy collected \$217 million in Egypt during 2025, drilling 18 development wells under its investment program.

The elimination of the arrears is a turning point for Egypt's foreign direct investment (FDI). Arrears were acting as a major deterrent, signaling high sovereign risk and trapping foreign capital, thereby hindering production and exploration.

Pharos Energy received \$12.6 million, clearing all receivables due in Egypt in June 2026 and proceeding with its six-well campaign. Dana Gas settled its overdue receivables and continued its \$100 million Nile Delta program, according to Pharos Energy and Dana Gas.

Company disclosures show how improved payments, alongside revised concession terms, supported upstream activity.

VAALCO Energy reduced its Egyptian receivables from \$31.6 million at end-2025 to \$12.9 million by June 2026 while continuing its 2026 drilling and production-optimization program, according to VAALCO Energy.

Egypt Clears Foreign Partners' Arrears



Source: MoPMR

State-led Investments in Upstream Development

The petroleum sector, led by state-owned companies, is increasing investment to offset declining natural production and expand the domestic resource base. The state announced its five-year exploration program in October 2025, targeting 480 exploratory wells with investments exceeding \$5.7 billion. In FY 2025/26, EGPC invested \$4.5 billion in exploration and production, with 63 discoveries achieved.

The General Petroleum Company (GPC) has planned a five-year program worth EGP 55 billion that targets doubling oil production and quadrupling reserves, supported by expanded exploration, development drilling, and modern production technologies.

For fiscal year (FY) 2026/27 only, GPC has allocated EGP 8 billion to drill 66 wells, with a particular focus on horizontal drilling, according to the MoPMR.

EGAS proposed a \$177 million plan to drill 36 exploratory wells under its five-year program, with the potential to expand to 60 wells.

Key State Petroleum Investments over Five Years



Source: MoPMR

Exploration & Development Incentives

In 2024, the MoPMR introduced improved terms to international oil companies (IOCs) if they delivered incremental volumes beyond their current baselines. Revised pricing for eligible gas production and improved fiscal terms under consolidated concessions have also strengthened project economics.

In May 2026, the ministry stated that it was developing incentives for horizontal drilling and hydraulic fracturing, supported by new contracting models, better seismic data, and faster approvals, according to the MoPMR.

IOC & Private-sector Upstream Investment

IOCs remain the most important source of upstream capital and technical expertise. The arrears accumulation had constrained companies' willingness to invest and contributed to weaker domestic production; the sector's activities showed improvement after completing the settlement by June 2026.

The petroleum sector is entering a phase of deep, long-term investment commitment, underpinned by secured pledges totaling over \$20 billion over the three years from key IOCs.

These commitments signal not only a recovery from recent production declines but a structural shift toward sustained capital deployment, according to the MoPMR.

Development & Technical Enablers

Digital Infrastructure for Exploration

The Egypt Upstream Gateway (EUG) complements the reforms by reducing the cost and time required to evaluate acreage. Its Open Blocks Licensing Program (OBLP) currently provides access to exploration blocks and brownfields. The Egyptian General Petroleum Corporation (EGPC) and the Egyptian Natural Gas Holding Company (EGAS) placed 14 oil and gas blocks on offer through the August 2026 bid round.

The platform broadens access to subsurface data and supports a more continuous licensing pipeline. It is now being developed with AI, advanced analytics, and enhanced subsurface visualization, while expanding seismic datasets and linking geological, geophysical, and production information, according to the EUG, MoPMR.

Advanced Drilling & Production Technologies

Technical capabilities are becoming an increasingly important driver of upstream development. In 2026, the petroleum sector accelerated the deployment of horizontal and sidetrack drilling, hydraulic fracturing, and advanced directional drilling to improve well productivity and access resources that are difficult to develop through conventional methods.

For Egypt, these technologies can help extract additional volumes from mature or technically challenging reservoirs, improve recovery from existing assets, and offset natural production decline without relying solely on new discoveries.

Midstream Expansion for Supply Security

Egypt has continued to expand the infrastructure needed to move natural gas, crude oil, and petroleum products, strengthening the links between supply sources, processing facilities, and major consumption centers.

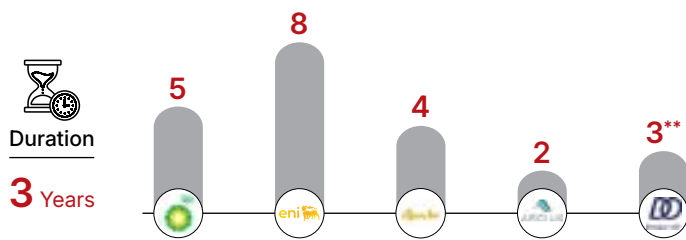
Expanding Networks to Strengthen Connectivity

The national gas grid has grown from 2,800 kilometers (km) in 1997 to around 8,200 km, while transportation capacity increased from 1.31 billion standard cubic feet per day (bscf/d) to 8.83 bscf/d by the first quarter (Q1) of 2023, according to the Egyptian Natural Gas Pipeline Company (GASCO). In 2025, the national gas grid received and transmitted approximately 2,300 billion cubic feet (bcf) of natural gas to meet domestic demand, according to the MoPMR.

These measures are designed to make incremental production and additional drilling more commercially attractive, encouraging operators to allocate capital to wells and projects that may otherwise offer weaker returns. This can support new production while helping offset natural decline from mature fields. Results from operators provide early examples of how these measures are translating into upstream performance.

Nearly half of APA's second quarter (Q2) of 2026 Egyptian gas output benefited from revised pricing. Dana Gas reported a 4% YoY increase in Egyptian production in the first quarter of 2026, its first production growth since 2017, according to APA Corporation and Dana Gas.

IOCs Upstream Investment Plans* (\$ billion)



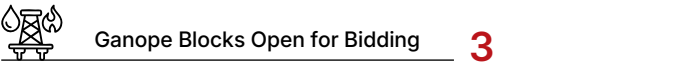
Source: MoPMR

*Announced in May 2026

**Announced in April 2026, without specifying the exact execution period

EUG Offerings Profile in 2026

OBLP — Ganope Offering



August 2026 International Bid Round



Source: EUG, MoPMR

The approach is being supported by new project-delivery models, including Integrated Project Management (IPM) and Lump Sum Turnkey (LSTK) contracts, in cooperation with international service and technology companies.

Recent applications appear in bp's Fayoum 4 sidetrack, which enabled around 80 million cubic feet per day (mmcf/d) of gas production while maximizing the use of existing West Nile Delta infrastructure, according to the MoPMR.

The petroleum transportation network provides a similarly extensive backbone for crude oil and petroleum products.

As of FY 2025/26, the national petroleum pipeline (PPC), the primary operator of Egypt's crude oil and refined petroleum products national pipeline network, reported that the network extended to approximately 6,300 km, transporting more than 8 billion ton-km of crude oil and petroleum products.

The network also included around 155 storage tanks, with a total storage capacity of approximately 2.5 million cubic meters (mcm), according to the MoPMR.

Upgrading Strategic Links to Strengthen Product Distribution

Alongside expanding existing networks, Egypt is adding and upgrading pipeline links to connect major production, refining, storage, and consumption centers. During FY 2025/26, the PPC advanced projects to strengthen links between production, refining, storage, and consumption centers, including the replacement and rehabilitation of the 16-inch Port Said–Abu Sultan–Suez pipeline. In addition, the construction of the 16-inch MIDOR–Al Hamra pipeline to support the expansion of Al Hamra Port's facilities and meet future requirements of refining and petrochemical projects in New Alamein, according to the MoPMR.

Key FY 2025/26 Pipeline Projects

Project	Length (km)	Diameter	Strategic role
Port Said–Abu Sultan–Suez	135	16"	Replacement/rehabilitation to strengthen product transportation
MIDOR–Al Hamra	140	16"	Supports Al Hamra expansion and future refining /petrochemical demand

Source: MoPMR

Strategic Petroleum Storage Expansion

Egypt is expanding storage infrastructure to strengthen supply flexibility and create larger buffers against market disruptions. Greater storage capacity allows for holding crude and petroleum products closer to key import, refining, and distribution points, providing operational flexibility.

It can also help smooth the timing between incoming cargoes, refinery requirements, and domestic product distribution. At Al Hamra Petroleum Port, four new crude-oil tanks are set to be added, raising capacity from 2.8 million barrels (mmbbl) to 5.3 mmbbl, while the broader expansion targets 20 mmbbl of crude and 400,000 tons (t) of petroleum products by 2030.

Egypt's National Pipeline Networks

	Length (km)	Transported Qs
National Gas Grid	8,200	2,300 bcf 2025
Petroleum Pipelines Network	6,300	8 billion ton-km FY 2025/26

Source: MoPMR

The southern zone is being developed as an integrated storage and handling area for petroleum products, with an initial capacity of 130,000 t, according to the MoPMR.

A second important addition is the expansion of storage and pumping facilities at Ain Sokhna. The project is designed to raise total storage capacity from 300,000 cubic meters (m3) to 460,000 m3, strengthening the area's role in receiving, storing, and distributing crude and petroleum products. Meanwhile, Sonker's strategic storage facilities provide 100,000 m3 of diesel storage and 150,000 m3 of liquefied petroleum gas (LPG) storage, supporting the security of imported-product supplies.

Downstream Infrastructure & Supply Readiness

Egypt has substantial processing infrastructure, taking the position of Africa's largest nominal refining capacity, estimated at 840,000 barrels per day (bbl/d) by FY 2026/27. Refinery utilization has increased from 66% to 80%. However, imports still covered around 28% of gasoline demand and 45% of diesel demand in March 2026.

Refining Optimization

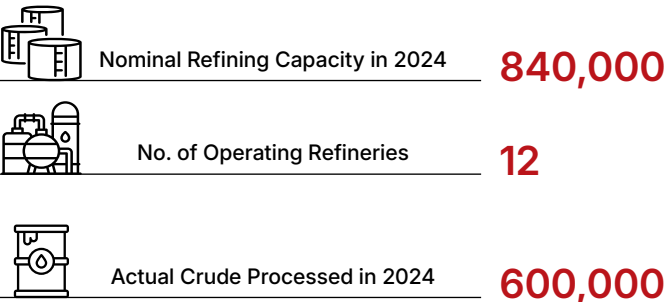
Higher utilization indicates that assets are processing more crude, but product yield remains the measure of import displacement. Petroleum refining activity grew by 8.7% in FY 2025/26, compared with a 1.9% contraction in the previous fiscal year. Recent results support this improvement. Cairo Oil Refining Company (CORC) processed more than 7.5 mmt of crude in FY 2025/26 and supplied around 2.79 mmt of 80- and 92-octane gasoline, covering about 34% of domestic consumption of these grades.

The downstream base also includes about 4.5 million tons (mmt) of annual petrochemical capacity, supporting industry and exports. Its effectiveness depends on securing sufficient feedstock, improving product yields, and transporting output reliably through networks, according to the International Trade Administration (ITA) and the MoPMR.

Assiut Oil Refining Company (ASORC) processed 3.314 mmt, with high-value products representing around 57% of output. CORC's gasoline complex was expected to add around 2,000 tons per day (t/d) and save about \$70 million in monthly imports. In comparison, ASORC's third distillation unit is intended to raise capacity from 4.5 mmt to 9.5 mmt, according to MoPMR.

Egypt's Current Refining Position

Refining Base (bbl/d)



Source: ITA, MoPMR

Petrochemical Industry Expansion

Egypt's petrochemical sector had an existing annual production capacity of about 4.5 mmt and produced around 4.2 mmt in 2025.

The Egyptian Petrochemicals Holding Company's (ECHEM) 2026–2030 plan aims to expand this production base and strengthen product localization.

The petrochemical sector accounts for around 12% of Egypt's industrial production and generated \$8.6 billion in revenues in 2024, equivalent to nearly 2% of gross domestic product (GDP), according to the ITA.

ECHEM 2026–2030 Petrochemical Expansion Plan



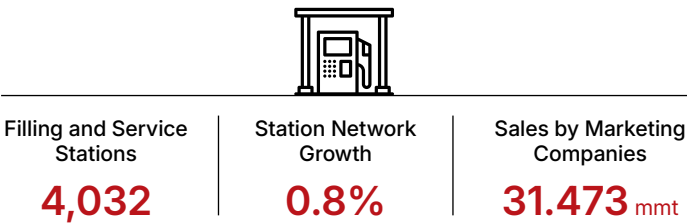
Source: MoPMR

Fuel Station Network Expansion

Egypt's petroleum-product distribution network comprised 4,032 filling and service stations operated by 14 marketing companies in FY 2024/25. During the year, the network expanded by only 0.8%, while national consumption rose 6.9% to 36.936 mmt. Marketing companies sold 31.473 mmt of gasoline, gas oil, fuel oil, and kerosene. Faster demand growth increased the importance of station throughput and supply continuity, according to the EGPC.

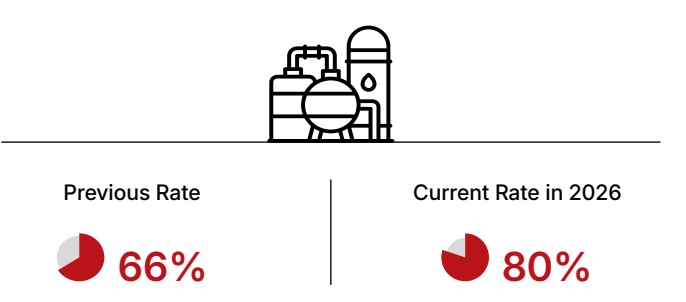
Retail Distribution Overview and Expansion

Sector Overview in FY 2024/25

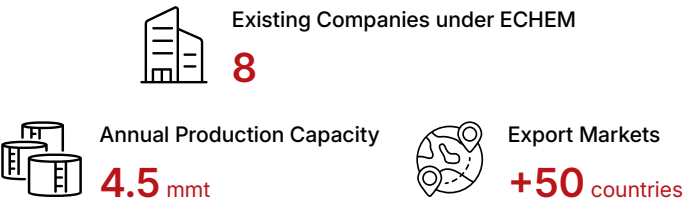


Source: EGPC

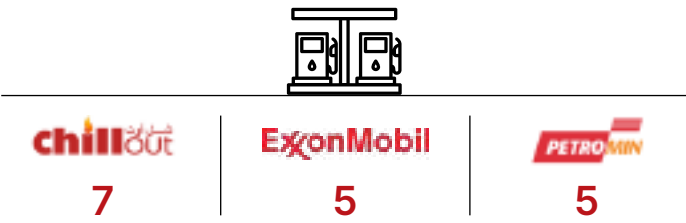
Refinery Utilization



Egypt's Existing Petrochemical Base



Network Expansion in FY 2024/25



Egypt's energy infrastructure push is strengthening the sector across the value chain, from upstream development to transportation, storage, refining, and distribution. FY 2025/26 results provide early evidence of this shift, with \$4.5 billion invested in exploration and production, 63 discoveries, refinery utilization rising above 80%, and crude processing reaching 28 million tons. However, expanding capacity alone will not ensure energy security. The real test will be how effectively these assets are utilized and integrated to sustain production growth, increase domestic product availability, reduce import exposure, and maintain reliable supply.



EGYPT'S ENERGY INFRASTRUCTURE: BUILDING A GATEWAY FOR EASTERN MEDITERRANEAN GAS

By Fatma Ahmed

Egypt's ambitions to strengthen its position as an Eastern Mediterranean energy hub increasingly depend on maximizing the use of existing infrastructure that connects hydrocarbons with domestic and international markets. Its gas-processing facilities, pipelines, liquefied natural gas (LNG) terminals, and floating storage and regasification units (FSRUs) provide a platform to import gas to meet domestic demand and export Egyptian and regional resources to global markets.

The Ministry of Petroleum and Mineral Resources (MoPMR) has identified infrastructure and regional connectivity as key components of its strategy, with links to neighboring producers, particularly Cyprus, forming an important part of this approach. Damietta and Idku provide established LNG export infrastructure for monetizing domestic and regional gas.

LNG: Egypt's Gateway to Global Markets

Damietta and Idku form the backbone of Egypt's LNG export system. The Damietta LNG plant has a liquefaction capacity of about 5 million tons per year (mt/y), while Idku's two trains together provide roughly 7.2 mt/y.

The potential of the LNG plants depends on reliable feed gas. Tharwat Hassane, Petroleum and Energy Expert, told Egypt Oil and Gas (EOG) that "the potential to increase LNG exports therefore depends primarily on securing sufficient and reliable feed gas."

Allowing third parties to access the terminals, where commercially and contractually feasible, could also help optimize utilization of full capacity, Hatem Mahmoud, Energy Expert, told EOG.

Reinforcing the importance of an integrated approach, anonymous petroleum expert said to EOG, "the LNG plants should be viewed as part of an integrated regional system linking offshore fields, pipelines, processing facilities, the national gas grid, and export terminals."

Pipelines: Connecting the Region

Pipelines provide the physical link between production, processing facilities, LNG plants, and consumers. Egypt's national gas network transmitted approximately 2,300 billion cubic feet (bcf) of gas during 2025, according to GASCO, while infrastructure connecting FSRUs to the national gas grid and compression capacity has also expanded.

Egypt's regional connectivity also builds on established infrastructure such as the Arab Gas Pipeline (AGP), which has provided a corridor for transporting Egyptian natural gas to Jordan and, through the wider network, to Syria and Lebanon. The pipeline remains part of Egypt's regional gas cooperation, with the Ministry following up in 2026 on a gas-supply agreement with Syria through the AGP.

At the same time, new cross-border connections are being developed to bring Eastern Mediterranean gas into Egypt's existing infrastructure. Under the Cronos development plan, gas from the Cypriot field is planned to be transported to Egypt, processed through the Zohr facilities, and then transferred to the Damietta LNG plant for liquefaction and export. The Ministry has similarly highlighted the planned connection of Cyprus' Aphrodite field to Egyptian infrastructure, with the project intended to support the processing and re-export of Cypriot gas through Egypt. The Ministry has described the Cronos and Aphrodite projects as important components of Egypt's efforts to maximize its existing infrastructure and strengthen its role as a regional gas hub.

The anonymous expert said future growth would depend on more than the overall size of the network. "What matters increasingly is system flexibility, available capacity, hydraulic performance, compression capacity and the ability to manage changing flow patterns," he said.

He further emphasized that increasing cross-border flows would require "targeted looping and pipeline reinforcement, additional or upgraded compressor stations, advanced SCADA and leak-detection systems, and greater operational flexibility."

Flexibility for Gas Supply

While LNG terminals provide export capacity, FSRUs provide flexibility on the import side. Egypt currently operates four FSRUs - three at Ain Sokhna and one at Damietta - with combined regasification capacity of approximately 2.7 billion cubic feet per day (bcf/d).

The units receive imported LNG, regasify it, and inject gas into the national grid, supporting power generation, industry, and other consumers. Their importance has increased with seasonal electricity demand, which exceeded 40,000 megawatts during summer 2025. The Ministry highlighted FSRUs as part of efforts to secure gas supplies during peak-demand periods.

Turning Oil Into Value

The expansion of the Middle East Oil Refinery (MIDOR), Egypt's flagship modern refinery located in Alexandria, has raised operating capacity to 160,000 b/d, with the upgraded facility producing Euro 5-compliant products and supplying around 17%-20% of Egypt's diesel and gasoline requirements. The Assiut National Oil Processing Company (ANOPC) complex for diesel and high-value petroleum-products, reached around 90% completion by September 2026, with start-up targeted for the first quarter of 2027.

In 2026, refinery operating rates increased to more than 80%, while the Ministry upgraded crude and petroleum-product pipelines and expanded storage capacity. The strategy aims to increase value-added processing, reduce the import bill, and support Egypt's development as a regional petroleum-product trading center.

Hassane stressed the need to combine downstream investment with stronger domestic production: "The most effective model is an integrated approach that increases domestic production, maximizes processing and refining efficiency, and ensures flexible infrastructure to move energy efficiently from production to demand centers."

Mahmoud similarly emphasized the importance of aligning infrastructure expansion with supply availability, saying, "Reliable gas supplies are essential to maximize existing capacity, while future expansion should be aligned with new gas availability to ensure efficient and sustainable investment."

From LNG to Pipelines, One System

Looking ahead, Egypt's hub ambitions will increasingly depend on integrating LNG terminals, cross-border pipelines, FSRUs, the national gas grid, refineries, and petroleum-product logistics.

"I believe the next stage should focus on integration rather than individual projects," said Hassane, noting that some parts of today's

natural-gas infrastructure may potentially support future hydrogen or hydrogen-blended gas transportation.

The petroleum expert adopted a similar view, emphasizing that "a regional energy hub must be capable not only of receiving energy, but also of processing, transporting, storing, liquefying and exporting it efficiently."

The development of Cyprus' gas resources could test this model. If Aphrodite and Cronos progress as planned, Egypt could increasingly serve as a processing and liquefaction platform for Eastern Mediterranean gas, while FSRUs provide flexibility when domestic supply is insufficient.

Commercial arrangements will also influence future infrastructure. Mahmoud agreed on the importance of linking infrastructure expansion with secure gas supplies, saying expansion should be "considered in conjunction with long-term gas supply contracts to ensure reliable feedstock, improve utilization rates, and strengthen the economics of both operation and investment."

Assets united, energy amplified

Beyond gas infrastructure, Hassane also highlighted the need for deeper downstream integration. "Looking ahead, Egypt should focus on integrated refinery-petrochemical complexes and consider fuel-oil-to-diesel units at SOPC and NPC to maximize value from every molecule processed, while expanding and upgrading refining capacity," he said.

At the regional level, Mahmoud also highlighted that "Egypt should focus on strengthening regional interconnections with neighboring countries such as Saudi Arabia and Libya to enhance flexibility, security of supply, and energy cooperation."

The infrastructure agenda may also increasingly intersect with the energy transition. Extending this integration beyond conventional oil and gas infrastructure, Mahmoud said, "infrastructure and regulatory frameworks should be prepared to accommodate emerging energy sources, including hydrogen, biomethane, and other renewable gases."

Ultimately, Egypt's position as an Eastern Mediterranean energy hub will depend not only on gas resources, but on its ability to connect, process, transport, import, liquefy, and export energy through an integrated infrastructure network.

The petroleum expert summed up this proposition by saying "Egypt's greatest advantage is not any single pipeline, refinery or LNG terminal. It is the ability to integrate these assets into one flexible energy system."

🔥 Egypt should focus on integrated refinery-petrochemical complexes and consider fuel-oil-to-diesel units at national oil refineries to maximize value from every molecule processed, while expanding and upgrading refining capacity 🔥

Tharwat Hassane

Operational General Manager, Sahara Oil and Gas Company

BROWNFIELDS: HARNESSING THE POWER OF INFRASTRUCTURE

By Sarah Samir

Egypt's energy future is defined by the dual challenge of satisfying fast-rising domestic demand while preserving its export capacity. To navigate this balance, the country is turning decisively toward brownfield expansion by revitalizing mature reservoirs, modernizing processing facilities, and deploying near-field tiebacks that convert marginal discoveries into commercial reserves. This infrastructure-led approach reduces capital intensity, shortens project cycles, and maximizes the value of existing assets, potentially offering stronger returns than high-risk frontier exploration.

Infrastructure Driving Growth

A mature reservoir may still contain commercially recoverable hydrocarbons, yet production can be constrained by surface infrastructure rather than subsurface reserves. A case study of a mature offshore field in Thailand, which was presented at the 2017 the Society of Petroleum Engineers (SPE) Annual Technical Conference and Exhibition in San Antonio, highlighted that produced-water handling was limiting output. By installing partial water-processing systems, operators increased oil production by 80% while reducing in-field transfer volumes by 62%. This underscores that in brownfields, the bottleneck is often processing, transportation, or pressure-management capacity rather than the absence of hydrocarbons.

Building on this, near-field facilities transform small discoveries into viable projects. A minor find may not justify its own processing plant, export pipeline, compression system, storage facilities, utilities, accommodation, or offshore production platform. Proximity to an existing brownfield hub allows operators to deploy tiebacks, paying only for incremental infrastructure to connect the new well.

Near-field tiebacks further enhance economics by converting marginal discoveries into commercial reserves. Atef Moussa, Project Director, Oil and Gas and Renewable Energy Expert, explains that by utilizing existing oil, gas, and produced-water treatment capacity, operators avoid the high fixed costs of building greenfield host facilities. As a result, Capital would be directed to subsea tiebacks, short flowlines, or minimal wellhead platforms.

In contrast, “greenfield developments typically require 3 to 5 years from final investment decision (FID) to first production. Near-field tiebacks leveraging spare host capacity reduce execution cycles to 6–18 months,” Moussa points out. This efficiency strengthens IOC cash-flow confidence, aligns with Egypt's five-year energy strategy, and reduces exposure to high-risk frontier exploration.

“The strategic proximity of existing processing infrastructure to near-field producing assets fundamentally alters the economics of field development by converting sub-economic or marginal discoveries into commercial reserves,” Moussa adds.

Unlocking Value from Mature Assets

Egypt is reinforcing its production base to meet rising domestic demand and export ambitions. In this regard, brownfield expansion is emerging as the economic backbone of Egypt's petroleum strategy.

Egypt's hydrocarbon balance remains strained. Natural gas consumption was 77.67% higher than production in June 2026, according to the Central Agency for Public Mobilization and Statistics (CAPMAS) Monthly Statistical Bulletin.

On the oil front, consumption in June was approximately 24.88% higher than output. Therefore, developing brownfields is of paramount importance in boosting production.

By revitalizing mature assets and integrating near-field discoveries, Egypt can narrow the supply-demand imbalance, reduce reliance on imports, and sustain its role as a Mediterranean energy hub.

One example of how brownfield redevelopment can support this objective is the Abu Sennan field in Egypt's Western Desert, where new geological understanding has unlocked value from assets once considered to be in decline. Once considered a declining concession, Abu Sennan has been revitalized through integrated reservoir characterization, advanced seismic interpretation, and targeted drilling programs.

The field's Abu Roash and Bahariya formations presented complex geology, limiting continuity and recovery. However, recent studies applied multidisciplinary 3D geological and petrophysical modeling, combining well logs, seismic data, and core analysis to better map reservoir quality and distribution.

The study entitled “Changing Exploration and Development Concept Has Revived Brown Fields of Abu Sennan, Western Desert of Egypt” highlighted that “modernization of the structural and geological concepts in the old development area of Abu Sennan resulted in discovering two medium-size oil and gas fields in an area thought before as of lost interest.”

Capacity Upgrades and Market Resilience

While Abu Sennan demonstrates the subsurface potential that can be unlocked in mature assets, maximizing production ultimately depends on the ability of surface infrastructure to process, transport, and market these resources efficiently.

Egypt's brownfield strategy focuses not only on reusing existing facilities but also on modernizing infrastructure to unlock constrained production. Fiscal and contractual reforms now target mature assets, with bid rounds in the Gulf of Suez and Eastern Desert signaling a regulatory shift designed to attract investment through the Egypt Upstream Gateway (EUG).

The real bottleneck in brownfields lies in surface systems, and Egypt is addressing this directly. Digital transformation is being applied to debottleneck facilities, with integrated digital twin models and predictive analytics optimizing throughput and reducing downtime. As Moussa explains, smart controls powered by machine learning can automatically adjust how much chemical is added and how long fluids stay in separators, so the system keeps working efficiently as the mix of oil, gas, and water changes. These infrastructure upgrades ensure that mature reservoirs continue to deliver, proving that modernized processing and transport capacity are just as critical as the hydrocarbons themselves.

These upgrades extend the life of mature facilities, absorb operational costs across higher throughput, and maintain efficiency even as reservoirs decline. Moreover, “injecting fresh, higher-pressure production into mature host facilities offsets naturally declining reservoir pressures, maintaining plant operating efficiency above minimum turndown limits,” Moussa notes.

Beyond sustaining existing production, such improvements create the operational flexibility needed to accommodate future discoveries. By integrating advanced technologies, Egypt is positioning its brownfields as digitally resilient assets capable of handling new discoveries.

“The strategic proximity of existing processing infrastructure to near-field producing assets fundamentally alters the economics of field development by converting sub-economic or marginal discoveries into commercial reserves.”

Atef Moussa

Oil and Gas and Renewable Energy Expert

Modern Infrastructure, Lasting Stability

Brownfield expansion also strengthens Egypt's resilience against regional instability, and enhances its role as a regional natural gas hub. This comes as the U.S. Energy Information Administration (EIA) identifies Egypt as the only country in the Eastern Mediterranean with operational liquified natural gas (LNG) export capacity and says it has the ability to import regional gas and export both domestic and imported gas as LNG. Brownfield expansion could also strengthen Egypt's resilience to regional supply disruptions. With domestic gas consumption exceeding production, maintaining output from existing brownfields can help reduce reliance on imported gas, while preserving the supply base needed to utilize Egypt's Idku and Damietta LNG infrastructure and maintain its role as an Eastern Mediterranean gas hub.

Nevertheless, Moussa cautions that executing brownfield expansions on active, aging offshore or onshore facilities introduces severe technical, safety, and logistical risks. Additionally, “inaccurate historical laser scans, incomplete structural integrity logs, and non-conforming engineering documentation frequently lead to unexpected site clashes during physical offshore/onshore installation,” he points out.

“Meanwhile, debottlenecking processing trains often triggers updated environmental compliance standards, requiring strict limits on flaring, fugitive methane emissions, and produced-water discharge limits (ppm oil-in-water) that older separation equipment cannot meet without secondary treatment units,” Moussa adds.

Even so, these challenges have not diminished the strategic importance of brownfield development within Egypt's broader energy framework.

Egypt's energy future depends on bridging rising domestic demand with export ambitions, and brownfield expansion has become the cornerstone of that balance. By revitalizing mature reservoirs, deploying near field tiebacks, and modernizing processing facilities, Egypt is unlocking trapped reserves at lower cost and faster cycles than frontier exploration. Despite risks tied to aging facilities and stricter environmental standards, brownfields provide a resilient production base that narrows supply demand gaps, reduces import reliance, and secures Egypt's role as a Mediterranean energy hub.



CUTTING EMISSIONS IN MIDSTREAM INFRASTRUCTURE: EGYPT'S FIELD-TO-MARKET OPPORTUNITY

By Rana Al Kady

Decarbonizing Egypt's downstream energy processes begins with the midstream “field to market” bridge. This includes gathering systems, treatment plants, compressor stations, pipelines, and LNG infrastructure that turn hydrocarbons into usable energy. These facilities are central to Egypt's energy strategy but also contribute significantly to emissions from flaring, methane leaks, and energy intensive operations. Improving this infrastructure can increase the value of existing resources while reducing carbon output. At the same time, as Egypt works to restore natural gas production and strengthen its role as a regional energy hub, the midstream sector remains both a driver of growth and a challenge to clean energy goals.

Maximizing Egypt's Existing Infrastructure

Egypt's push to accelerate natural gas production makes decarbonizing downstream operations essential to curb emissions and cut the sector's carbon footprint. Since early 2026, announcements of new exploration projects have become more frequent, with the government fast tracking upstream activity to close the supply–demand gap. In 2026, EGAS reported nine new development projects and 28 wells added with \$1.12 billion in investment, while the Ministry of Petroleum stressed faster field development and integration into existing infrastructure. The development of Fayoum North 4 demonstrates the value of connecting new production to established infrastructure. Brought online in August 2026, the West Delta well adds around 80 million cubic feet per day of natural gas through the existing Giza Fayoum pipeline.

At the same time, brownfield expansions such as GASCO's upgrade of the Western Desert Gas Complex, which lifted processing capacity to 1.5

billion cubic feet per day(bcf/d), highlight how upgrading facilities can add value without duplicating infrastructure.

Brownfield expansion offers Egypt a way to add capacity without duplicating infrastructure, provided each project is assessed carefully. Comparing retrofit costs, operating expenses, asset life, and emissions performance against the footprint of new facilities ensures upgrades deliver both economic and environmental value. Established gathering and processing networks already give Egypt a strong base for targeted improvements that can boost output while cutting carbon intensity.

At the same time, the national transmission system is being modernized with efficiency in mind. GASCO moved about 2.3 trillion cubic feet(tcf) of gas through the grid in 2025, and the Dahshour compressor station is being expanded with two new units adding 18 million cubic meters per day (mmcm/d)of capacity. Crucially, the project includes waste heat recovery technology expected to generate around 24 megawatts of electricity without burning extra fuel, underscoring how infrastructure upgrades can support a greener downstream.

Cutting Emissions Across the Field-to-Market Chain

Additionally, flare-gas recovery represents one of the most direct ways to combine emissions reduction with resource utilization. Egypt's updated Nationally Determined Contribution targets a 65% reduction in greenhouse gas emissions from the oil and gas sector by 2030 compared with business as usual. The plan identifies associated-gas recovery as a mitigation measure, allowing recovered gas to be directed toward processing and used to produce natural gas, LPG, and condensates.

Notably, Egypt has cut gas flaring over the past decade, with World Bank data showing a drop from 2.7billion cubic meters (bcm) in 2012 to 2.0 bcm in 2022, highlighting scope for infrastructure expansion. Equally, methane detection and repair can complement infrastructure investment. Methane can escape through valves, compressors, pipelines, tanks, and other equipment, making leak detection and repair an important component of emissions management. Satellite observations, infrared cameras, and continuous monitoring systems can increasingly help operators identify emissions sources and prioritize maintenance, depending on facility requirements.

Therefore, measurement is becoming an important part of Egypt's emissions-management framework. The International Monetary Fund reported in 2026 that Egypt was developing a measurement, reporting, and verification framework covering flaring, fugitive methane, and vented methane emissions at the operator or project level. Consistent measurement can provide the data required to identify high-emitting assets, evaluate mitigation projects, and track progress against emissions targets.

Egypt has cut gas flaring over the past decade, with World Bank data showing a drop from a total of 2.7 bcm in 2012 to 2.0 bcm in 2022, highlighting scope for infrastructure expansion.

At the same time, Compressor and plant efficiency upgrades can cut energy use in gas processing. Egypt's Dahshour project shows waste heat recovery, while future projects may adopt variable speed drives, advanced controls, electrification, and efficient utilities.. Where electricity is increasingly supplied from lower-carbon sources, electrification can also reduce the direct fuel consumption associated with some midstream operations.

Furthermore, gas conditioning and treatment closer to producing fields can facilitate pipeline tie-ins and optimize the movement of hydrocarbons into Egypt's established network. The objective is not simply to add processing capacity, but to optimize where gathering, separation, compression, and treatment take place so that resources can move efficiently from producing assets into the market.

Decarbonizing Midstream, Challenges and Fast Wins

Decarbonizing Egypt's midstream faces a mix of technical, commercial, and institutional hurdles that must be managed deliberately. Technically, many gathering lines, compressor stations, and processing trains were designed for throughput rather than low emissions, so retrofits to reduce methane leaks, electrify compression, or add waste heat recovery can be

complex and costly; projects must weigh retrofit capex against remaining asset life and expected efficiency gains.

Commercially, midstream assets link multiple operators and contracts, so aligning incentives for leak detection, gas capture instead of flaring, and shared upgrades requires clear commercial terms and coordinated scheduling. Financing is another constraint: lenders and investors need predictable regulatory signals, robust emissions baselines, and measurable outcomes to underwrite performance linked loans or blended finance. Finally, capacity gaps in local engineering, LDAR (leak detection and repair) deployment, and supply chains can slow roll out unless paired with training and procurement strategies.

Compressor and plant efficiency upgrades can cut energy use in gas processing. Egypt's Dahshour project shows waste heat recovery, while future projects may adopt variable speed drives, advanced controls, electrification, and efficient utilities.

At the same time, the sector offers high value, near term opportunities to cut carbon intensity while preserving or increasing throughput. Brownfield upgrades—targeted compressor electrification, control system modernization, additional processing trains, and waste heat recovery—can deliver rapid emissions and fuel use reductions with lower capital and land footprints than greenfield builds; the Dahshour compressor expansion's waste heat recovery and recent brownfield increases in processing capacity illustrate this approach. Systematic methane detection using satellites, drones, and continuous monitors can quickly identify the largest leaks and improve product recovery, turning lost gas into revenue. Connecting new wells to existing pipelines and plants, as with recent field to market tie ins, concentrates emissions reduction efforts on fewer nodes and avoids duplicative infrastructure. To realize these gains at scale, Egypt needs project level economic screening that includes emissions performance, stronger regulatory and commercial frameworks that reward lower carbon intensity, and blended financing that bridges retrofit costs—measures that together make green downstream upgrades the default, not the exception.

Decarbonizing Egypt's downstream hinges on upgrading the midstream “field to market” bridge. Targeted brownfield upgrades, systematic methane detection and repair, and efficiency measures such as waste heat recovery and electrification can cut emissions quickly while preserving throughput. Project level economic screening that factors retrofit capex, operating costs, asset life, and emissions performance will ensure upgrades deliver both environmental and commercial value. Coordinated commercial terms, stronger regulatory signals, and blended finance are needed to mobilize investment, while capacity building and supply chain development will speed deployment. With examples like Fayoum North 4 and Dahshour showing what's possible, Egypt can make green downstream the default by prioritizing high impact retrofits and measurement driven mitigation across its midstream network.



SIDETRACK DRILLING: UNLOCKING MORE VALUE FROM EXISTING WELLS

By Doaa Ashraf

Not every well reaches its full potential on the first attempt. A well may encounter a problem, miss its target, or reach a stage where the reservoir is no longer delivering the expected volumes. In mature fields, operators may know that hydrocarbons remain in the reservoir but lack the economic means to drill a completely new well. This is where sidetrack drilling technology can provide another option.

What is sidetrack drilling?

Sidetrack drilling is essentially a way of giving a well a second chance. Rather than starting over at the surface, engineers steer the drill bit away from the original borehole at a chosen depth, creating a new path underground. This allows them to reach zones that were missed the first time or to bypass a blockage.

"A sidetrack can reach a new geological target, bypass unusable sections, or correct poor trajectories. By reusing the upper wellbore, it sharply reduces drilling scope and cost while boosting efficiency," said Hesham Al Khateeb, Founder and Subsurface General Manager for HCS, a geo-engineering consultancy firm.

Sidetracking was introduced at times when directional drilling techniques were integral to the oil and gas industry since the 1920s, according to the International Association of Drilling Contractors (IADC)'s historical review.

The technique became particularly famous during the 1934 Conroe oilfield disaster in Texas, in which a gas kick from a high-pressure zone ignited, and the entire rig was engulfed in flames. After many months and attempts to bring the fire under control, other nearby rigs

had to be closed down, and the field as a whole was threatened. Then H. John Eastman, who introduced directional drilling to the world in 1929, used this technique to create a relief well that intersected the problematic well, killing the blowout on the first attempt and helped bring the uncontrolled flow under control.

Breathing New Life into Aging Wells

Al Khateeb, who is a geoscientist in the oil and gas exploration and production field, noted that sidetrack drilling offers a viable solution for wells that have been temporarily abandoned or are underperforming. "Instead of permanent abandonment, a sidetrack can be drilled to access new reserves when the original zone is depleted."

The technology improves production by correcting wellbore deviations or targeting more permeable zones. It can also be used to increase the contact area with the reservoir, thereby enhancing hydrocarbon recovery, he explained.

"Sidetracking can significantly boost production rates, extend asset life. This strategy effectively breathes new life into aging wells,

maximizing their economic viability and prolonging field production," he said to Egypt Oil and Gas.

Al Khateeb emphasized the benefit of using this technique in high-cost environments, particularly in offshore operations or remote onshore locations, where the capital expenditure for new wells can be astronomical. "Estimates suggest sidetracking can save 30-60% of the total well cost."

In offshore areas, where oil and gas operational costs are inherently higher, technology approaches for deepening an existing well through sidetrack drilling are often more economical than drilling a new one.

"This allows operators to extend the same casing string deeper or to add a lateral leg to access new reserves, all while leveraging the already established offshore platform or drilling rig. It reduces the need for additional costly rig moves and significantly impacts the overall project economics. Many oil and gas projects FID can't be approved for its high operational cost," he explained.

Inside the Mechanics of Sidetracking

The process varies depending on the well and the reason for the sidetrack, but a typical cased-hole operation begins by selecting a suitable depth and direction for the new wellbore.

A whipstock, a downhole deflection tool, is then set at the selected depth. It directs the drilling assembly toward the side of the existing wellbore.

Specialized milling tools are used to cut a window through the casing and prepare an exit for the new wellbore. Once the window is created, the drilling assembly enters the formation and begins building the new trajectory.

Modern measurement-while-drilling (MWD) tools provide real-time information on the well's direction and position, while rotary steerable systems (RSS) can provide greater control over the trajectory.

The new well can then be directed toward a different reservoir target, a previously bypassed interval, or another planned bottomhole location.

Advances in equipment including whipstock systems, rotary steerable drilling as well as surveys and digital well planning have made modern sidetracking faster, more precise and more economically attractive.

Applications in Egypt

One recent example of sidetrack drilling in Egypt is British Petroleum (bp)'s Fayoum-4 well in the West Nile Delta.

"Fayoum gas field is a good case for the value of sidetrack drilling for deepening existing wells to add reserve and enhance production from deeper reservoirs avoiding high-cost marine wells," said Al Khateeb.

"This approach allows operators to extend the same casing string deeper to add a deeper leg to access new reserves, all while leveraging the already established offshore platform or drilling rig.

This improves the overall project economics and extend asset's life," he added.

bp brought Fayoum-4 onstream in August 2026 two years ahead, with the well adding an estimated 80 million cubic feet per day (mmcf/d) to Egypt's natural gas supply.

The company reached additional Messinian reservoir layers by drilling a sidetrack from an existing wellbore at a depth of around 3,000 meters (m). Production is being routed through the existing Giza-Fayoum pipeline to West Nile Delta processing facilities.

Wail Shaheen, President of bp Egypt, said that the start-up of production from the Fayoum 4 well reflects the company's continued support for the Ministry of Petroleum and Mineral Resources (MoPMR)'s strategy to accelerate field development activities, maximize the utilization of existing infrastructure, and deploy the latest technologies to increase domestic natural gas production in Egypt.

Sidetracking technology is also being used as part of efforts to expand exploration and production activity in Egypt's mature fields.

El Hamra Oil Company began its 2026 exploration drilling campaign with the Zain-1X Sidetrack appraisal well in July. The company also planned to drill the NE Yidma#01X Sidetrack appraisal well in September as part of its exploration program.

Another example was in the Gulf of Suez where a sidetrack was drilled to the bottom of the Nubia-M1 reservoir. Open-hole logging confirmed oil saturation in the targeted intervals, and the well was completed at an initial production rate of approximately 1,600 barrels of oil per day (bbl/d).

In another case, a sidetrack from an old plugged-and-abandoned well was used to access remaining reserves in the Nubia and Matulla reservoirs. The well initially produced about 4,500 bbl/d before being choked back to around 3,000 bbl/d for reservoir management.

These examples highlight another role for sidetracking: rather than simply solving a drilling problem, the technique can be used to revisit mature reservoirs and access volumes that were not effectively drained during the original development.

Sidetrack drilling may be more than a century old, but advances in drilling and downhole technology are giving it a new role in the industry's effort to unlock more value from wells that have already been drilled.

🔗 **A sidetrack can reach a new geological target, bypass unusable sections, or correct poor trajectories. By reusing the upper wellbore, it sharply reduces drilling scope and cost while boosting efficiency.** 🔗

Hesham Al Khateeb

Subsurface General Manager, HCS



PIPELINES OF POWER: SECURING AFRICA'S ENERGY FUTURE

By Samar Samir

As global supply chains undergo structural reallocation amid geopolitical volatility, Africa's energy architecture is evolving from isolated extraction points into an interconnected network. The Trans-Saharan Gas Pipeline (TSGP), African Atlantic Gas Pipeline (AAGP), and West African Gas Pipeline (WAGP), alongside Egypt's LNG and pipeline infrastructure, illustrate how complementary corridors could reshape continental energy flows and strengthen Africa's role in global markets.

Inside West Africa's Pipeline Scene

Following the Russia-Ukraine war and instability in the Middle East, Europe has intensified efforts to diversify its gas imports. Two major pipeline projects originating in Nigeria offer distinct routes to international markets.

The TSGP is a proposed 4,128-kilometer inland route crossing Nigeria, Niger, and Algeria, with a planned capacity of up to 30 billion cubic meters (bcm) annually. Gas would reach Algeria's Hassi R'Mel hub before flowing to Europe through export pipelines such as Transmed to Italy and Medgaz to Spain, or being liquefied at coastal terminals for shipment. France 24 has reported that the project could supply approximately 11% of Europe's annual gas imports. About 60% of the route has reportedly been laid in Algeria and Nigeria, leaving around 1,800 kilometers to cross the Sahel.

The Nigeria-Morocco Gas Pipeline, now institutionalized as the AAGP, follows a different trajectory. The proposed 6,800-kilometer corridor would run along the Atlantic coast through 13 countries before connecting to the Maghreb-Europe Gas Pipeline in Morocco. Construction is targeted for 2028, with first gas expected by 2031, according to media reports.

Suleiman Yahyah, founder of RHG Management Support Advisory, emphasizes the distinction between the AAGP and the operating WAGP. The latter spans 678 kilometers from Nigeria through Benin, Togo, and Ghana, with a design capacity of 460 million standard cubic feet per day (mmscf/d). The planned AAGP would extend the regional network westward and northward through Côte d'Ivoire, Liberia, Sierra Leone, Guinea, Senegal, and Mauritania to Morocco. Yahyah notes that WAGP could form the eastern foundation of the larger Atlantic corridor, but the two projects should not be conflated.

Divergent Risk Profiles

The TSGP's engineering feasibility is complicated by political volatility across Niger's Sahel corridor. Security threats and governance challenges along the approximately 1,800-kilometer section yet to be completed could make financing difficult. The AAGP's coastal route, meanwhile, passes through comparatively stable jurisdictions, potentially improving its attractiveness to development financiers.

The projects also serve different commercial objectives. While the TSGP is designed primarily to export gas northward, the AAGP could support regional industrial development and electrification, with prospective European exports strengthening its commercial case. However, both projects face a critical

challenge: securing firm European offtake agreements to provide revenue certainty for lenders.

Egypt Anchors Africa's Gas Triangle

Egypt already has operational infrastructure capable of processing and exporting natural gas. According to U.S. Energy Information Administration (EIA) data, the Idku and Damietta LNG plants have combined liquefaction capacity of 12.7 million tonnes per annum (mtpa), making Egypt a key gas-export hub in the Eastern Mediterranean.

The country's position extends beyond domestic production. The Arab Gas Pipeline facilitates regional gas flows, while the Eastern Mediterranean Gas Forum (EMGF) supports cooperation among regional producers and markets. A 2022 memorandum of understanding among the European Union, Egypt, and Israel also identified Egyptian LNG infrastructure as a route for exporting regional gas to Europe.

Yahyah argues that Egypt's integration into Africa's wider gas network should be market-driven rather than based solely on physical pipeline connections: "Egypt should not be positioned as a physical extension of WAGP, but brought in as a North African gas-market and LNG energy-trading partner."

Egypt's LNG facilities, Mediterranean access, and experience in gas-market development could support a strategic triangle linking West Africa, Egypt, and Europe, with Morocco serving as a western bridge. In this model, Egypt could function as a "pricing and balancing hub rather than merely another consuming country."

Egypt could complement emerging corridors through three services: LNG processing and alternative routing when pipeline transit is disrupted; cargo balancing to help traders manage delivery delays and seasonal demand; and market liquidity that supports price discovery across North African, Atlantic, and Eastern Mediterranean gas flows.

Pipelines Promise, Egypt Delivers

Africa's ability to strengthen its position in international energy markets will depend on infrastructure, financing, and reliable commercial arrangements. Egypt, by contrast, brings operational LNG terminals, the SUMED pipeline, and established regional trading links. Connecting these existing assets with prospective West African corridors could help Africa move beyond fragmented resource extraction toward a more integrated energy system—supporting domestic development while strengthening global supply security.

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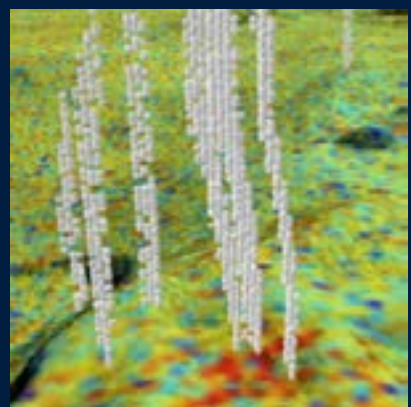
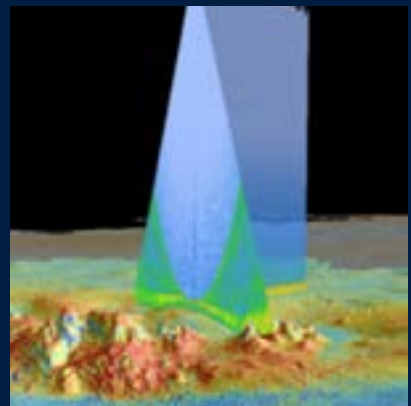
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Drone Warfare and Energy Security

The rapid proliferation of drone warfare has fundamentally reshaped the security profile of global energy infrastructure. Refineries, pipelines, power grids, and offshore platforms, all historically built to withstand heavy strikes, now face severe vulnerability from low-cost, low-altitude unmanned aerial vehicles (UAVs). Because these networks span thousands of kilometers, comprehensive real-time defense is operationally impractical, allowing commercial and lightly modified drones to overwhelm conventional air defenses through swarm tactics.

Two cases show the scale of this asymmetry. In September 2019, a drone-and-missile strike on Saudi Aramco's Abqaiq and Khurais facilities disabled 5.7 million barrels a day, almost half of Saudi output, using drones which costed as little as \$15,000 and triggered the largest single-day oil price spike on record. Since 2024, Ukraine's sustained drone campaign against Russian refineries has disabled an estimated 17- 40%+ of the country's refining capacity at various points, forcing fuel rationing and imports of refined products in a proof that drones can sustain attritional damage over time, not just deliver one-off shocks.

Egypt has its own live exposure. Houthi attacks in the Red Sea and Bab-el-Mandeb since late 2023 have rerouted global shipping and cut Suez Canal revenue directly. The SUMED pipeline, running from Ain Sokhna to Sidi Kerir, is the route large tankers use to bypass the canal and analysts warn that any perceived threat to its terminals would effectively close the Red Sea corridor at both ends, not just the southern one.

To deal with this threat, energy sites need layered protection. Civilian focused counter drone systems should combine tools like radio jamming, energy based interceptors, and physical defenses. These must work with AI powered sensors, using optical, thermal, acoustic, and radar inputs, to quickly tell apart real drones from birds or harmless objects. Facilities should plan for some strikes to get through. Stronger physical defences, varied export routes, and well managed reserves help contain the impact of any single attack, a lesson Russia's refiners have had to relearn since 2024.

Internationally, enforcement on dual use drone parts needs to be stronger. The Wassenaar Arrangement - an export control pact among 42 states - restricts sensitive technologies that can serve both civilian and military uses. The Missile Technology Control Regime (MTCR), a voluntary partnership of 35 countries, aims to curb the spread of missile and unmanned aerial systems capable of carrying weapons of mass destruction. Both rely on members applying controls consistently.

Without real penalties, actors targeting civilian energy sites exploit loopholes. Firm enforcement would close these gaps and deter misuse.

For Egypt, this means treating Red Sea shipping risk and coastal infrastructure risk as one category, building Counter Unmanned Aircraft Systems (C-UAS) -technologies and procedures used to detect, track, identify and neutralise hostile drones and reserve capacity around the Ain Sokhna-Sidi Kerir corridor specifically.

It also requires close monitoring of export control changes: recent U.S. rules eased restrictions on civilian grade drones and components while keeping military systems tightly controlled, and the EU streamlined licensing for commercial UAVs but tightened oversight of dual use sensors and navigation software. These shifts will shape which defensive technologies Egypt can legally acquire.

By Mohamed Atia

Process Engineer, Egyptian Refining Company

How Rare Earths Drive Refinery Efficiency

Due to their thermal stability, exceptionally high melting and boiling points and favorable mechanical and corrosion resistance at high temperatures, Rare Earth Elements (REEs) became the backbone of numerous industries.

Petroleum catalysts-materials used in oil refineries to speed up chemical reactions that transform crude oil into fuels and petrochemicals- is the largest consumer of REEs, accounting for 24%, particularly the elements Lanthanum (La) and Cerium (Ce). Estimated consumption rate of the catalyst for 2026 exceed 800,000 tons per annum (t/a).

The Arab and African region accounts for about 16% of this consumption, driven by the rapid expansion of oil conversion projects, the shift toward petrochemicals, and ongoing refinery modernization.

Petroleum refining and the production of petrochemical raw materials rely on highly efficient and precise catalytic reactions, particularly in Fluid Catalytic Cracking (FCC) units. These processes operate under severe conditions, including high temperatures and the presence of heavy metals that can damage the catalyst. Rare earth elements (REEs) play a pivotal role by enhancing the catalyst's durability under such stresses, thereby extending its operational lifespan.

REEs also boost production of olefins such as propylene and butylene, and aromatics like benzene and toluene, which are essential petrochemical feedstocks. In hydrocracking units, the catalyst further increases output of diesel and jet fuel. So, any disturbance in the REEs supply impacts directly the global market of refinery catalysts that affects production of gasoline and propylene, consequently, effect on refinery profitability.

Lanthanum helps achieve a crucial balance between catalytic activity and thermal stability in refinery units. Its presence increases catalyst activity through Brønsted acid sites, which enhance classical cracking reactions and boost conversion rates and yields of gasoline and light petroleum gases. At the same time, lanthanum stabilises the catalyst's crystal lattice, preventing thermal collapse during steam exposure at 700–800°C. Cerium, by shifting between Ce^{3+} and Ce^{4+} oxidation states, raises the yield of dry gas (hydrogen, methane, ethane, and ethylene) and strengthens resistance to heavy metal poisoning, particularly from vanadium. During operation, vanadium converts into pentoxide (V_2O_5), which erodes and degrades catalysts. Cerium counteracts this through a redox cycle that immobilises vanadium on the catalyst surface, preventing penetration into the structure and extending catalyst lifespan by 30–40%. It also improves coke combustion efficiency during regeneration.

Petroleum and petrochemical sectors are leading industries in Egypt, so there is a compelling case for localizing the manufacturing technology of FCC catalysts to serve in both the domestic market and export needs. This proposal is supported by the availability of key raw materials such as Kaolin that represent the basic of manufacturing the catalyst. Also, REEs, which can be extracted from the mineral Monazite that associated in black beach sands along the Egyptian coast. Meanwhile, incorporating localized industry for recycling spent catalysts to recover both La and Ce could be also yielding significant economic benefits. Such an initiative would help mitigate the risks associated with international crises and market monopolies, particularly regarding REEs.

By Mohamed Sayed Abd El Ghany

Nuclear Materials Authority

HELD UNDER THE PATRONAGE OF HIS EXCELLENCY ABDEL FATTAH EL SISI, PRESIDENT OF THE ARAB REPUBLIC OF EGYPT



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From Discovery to Production: What Makes an Oil & Gas Find Commercial in Egypt?

Egypt's exploration efforts continue to yield new oil and gas discoveries, but their true value depends on economic developability rather than resource volume alone. As the sector seeks to bring new production online while maximizing existing infrastructure, commerciality has become increasingly critical. Commerciality is assessed at the project level, based on whether resources can be developed and produced economically, according to the Petroleum Resources Management System (PRMS).

Size Matters, But Location Can Matter More

Larger recoverable volumes generally offer greater revenue potential and help absorb fixed development costs, but size alone does not ensure commerciality. Proximity to pipelines, processing plants and export facilities can significantly reduce capital needs and accelerate production, making existing infrastructure increasingly important to Egypt's exploration strategy.

In Egypt, the Denise W-1 exploration well, drilled offshore in the Denise area, confirmed gas-bearing formations, with preliminary estimates of 2 trillion cubic feet (tcf) of gas reserves and 130 million barrels (mmbbl) of associated condensate. Just 10 kilometers (km) from existing production facilities, its location could enable faster, more cost-efficient development.

The South Bostan-1X discovery in the Western Desert similarly shows how resource size and location can strengthen commercial potential.

Located just 10 km from existing facilities, it can be rapidly developed and tied in while limiting new infrastructure investment, according to the Ministry of Petroleum and Mineral Resources (MoPMR).

South Bostan-1X Discovery at a Glance



This suggests that, in Egypt's mature producing areas, a smaller discovery close to established infrastructure can potentially be more attractive than a larger resource requiring a completely new production system.

Turning Discoveries Into Commercial Production

Commerciality also depends on how efficiently a discovery can be converted into production. Reservoir quality, well productivity and recovery rates determine how much can be economically produced, while technology can improve output from existing reservoirs.

At Badr El Din Fields-4, 40 hydraulic-fracturing operations added more than 10,000 barrels per day (bbl/d) of oil and over 15 million cubic feet per day (mmcf/d) of gas in fiscal year (FY) 2025/26. The wider use of hydraulic fracturing and horizontal drilling in the Western Desert highlights how technology can improve productivity and unlock additional value from existing reservoirs, according to MoPMR.

Recent exploration results further show the importance of bringing discoveries into production. Four exploratory wells in the Western Desert added around 4,500 bbl/d of oil and 2.6 mmcf/d of gas, while other discoveries were being prepared for production according to the MoPMR.

Additionally, the Nidoco N-2 exploratory well in the West Abu Madi area of the Nile Delta is expected to produce 50 mmcf/d. Drilled from an onshore location using Extended Reach Drilling (ERD) technology, the approach helped reduce operating costs while improving overall efficiency.

The Development Economics of Egypt's Offshore Resources

A technically attractive discovery may still be commercially unattractive if development costs are too high. This is particularly evident in Egypt's Mediterranean region, which accounts for 67% of natural gas production and requires higher investment, advanced technology and longer timelines to first production than onshore developments.

The West Mina development demonstrates how existing infrastructure can help address these development challenges. Mina West-1 well began initial production at around 45 mmcf/d of gas and 1000 bbl/d of condensates. Meanwhile, the Sirius discovery is planned to be connected to production in 2029 as a subsequent phase of the ongoing Mina West development.

The Sirius well benefited from geological and technical data obtained from the Mina West-2 well, avoiding the need for a separate data-collection well and generating cost savings, according to MoPMR.

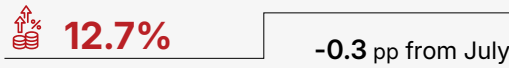
West Mina Field Development Plan

	Natural Gas	Condensates
Targeted Production	160 mmcf/d	3,000 bbl/d
Estimates Recoverable Reserves	245 bcf	5 mmbbl

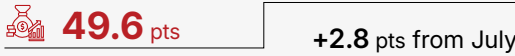
Egypt's 112 discoveries from 149 exploratory wells over the past two fiscal years highlight the scale of exploration activity. Yet, for a mature producing sector, exploration success ultimately depends on what happens after the discovery: whether resources can be developed economically, connected to existing infrastructure and converted into sustainable production. The real measure of exploration success, therefore, is not simply how many discoveries Egypt makes, but how effectively they move from geological potential to producing assets.

Key Egyptian Economic Insights in August 2026

Annual Headline Inflation



Non-Oil Private Sector PMI



Net International Reserves



Avg Exchange Rate



EGX Listed Petroleum Companies' Performance in August 2026

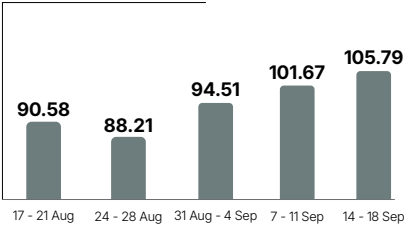
	Close Price	YTD Price Change	P/E*
	16.25 EGP	📈 12.15%	18.2
	Close Price	YTD Price Change	P/E*
	4.69 USD	0%	2.36
	Close Price	YTD Price Change	P/E*
	12.25 EGP	📈 76.77%	10.19
	Close Price	YTD Price Change	P/E*
	58.95 EGP	📈 33.19%	26.42
	Close Price	YTD Price Change	P/E*
	17.79 EGP	📉 9.23%	17.72
	Close Price	YTD Price Change	P/E*
	41.5 EGP	📈 36.07%	10.54

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

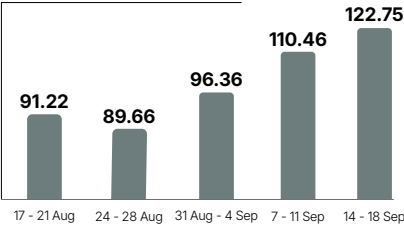
Petroleum Pricing Highlights

Average International Prices

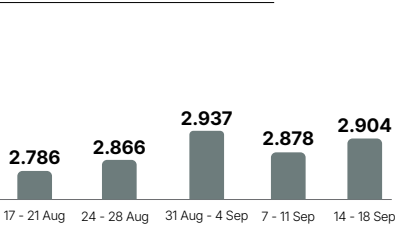
🛢 BRENT OIL (\$/BBL)



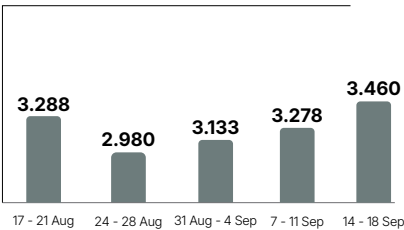
🛢 OPEC BASKET (\$/BBL)



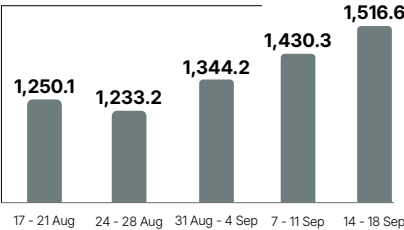
🔥 NATURAL GAS (\$/MMBTU)



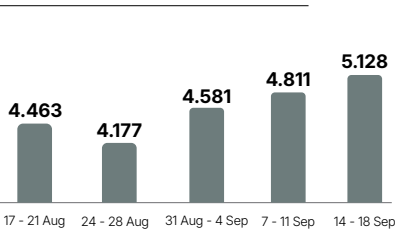
🛢 RBOB GASOLINE (NYMEX) (\$/GAL)



🛢 GAS OIL (NYMEX) (\$/MT)



🛢 HEATING OIL (NYMEX) (\$/GAL)



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