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EDITOR'S LETTER

February has been a special month in the Egypt's petroleum sector since 2017, the year that witnessed launching the first version of Egypt Petroleum Show (EGYPS).

Accordingly, Egypt Oil & Gas dedicates its February issue to discuss the value of human capital in the petroleum sector. This issue gives a special attention to the Middle Management Program, under the umbrella of the sector's Modernization Project.

The middle management special section highlights H.E. Eng. Tarek El Molla's continuous support to the youth through following up on the updates of the Middle Management Program. Moreover, this section explains in four features the updates of the third pillar of the Modernization Project, the Middle Management Program updates, the health, safety and environment (HSE) Program Updates, and the updates of other development programs.

This section also includes three collective interviews with the Ministry's executives who are behind the success of the program, heads of the involved international oil companies (IOCs), and eight of the Middle Management Program's calibers.

In the politics section, we delve into the Libyan Petroleum sector. While in the research and analysis section, we provide our readers with an analytical report that tracks the Nile Delta's oil and natural gas resources.

Egypt Oil & Gas interviewed Drexel's Vice President, Ahmed Shalash, to dig deeper into the company's role in enriching the petroleum sector's landscape.

And as always, we wish you a happy and informative reading!

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COOPERATION AND AGREEMENTS



EL MOLLA SIGNS NINE E&P AGREEMENTS WORTH \$452 M

The Minister of Petroleum and Mineral Resources, Tarek El Molla, signed nine agreements for exploration and production (E&P) activities in the Mediterranean and the Western Desert with investments worth \$452.3 million as well as a signature bonus for drilling 38 wells with \$84 million.

Four agreements were signed between the Egyptian General Petroleum Corporation (EGPC) and Shell for the E&P activities in East Horus, the Western Desert; Abu Sennan; West Fayoum; and Badr 2 and Badr 17.

Another two agreements were inked between EGPC and Apache for the E&P in the West Kanayes and West Kalabsha, respectively.

Moreover, the agreements signed for E&P activities in the Mediterranean included one inked between the Egyptian Natural Gas Holding Company (EGAS), Shell and Petronas Company for E&P activities in Fanar Offshore

Another agreement was signed between EGAS, Shell and Petronas for E&P in North Sidi Gaber Offshore.

FRANCE OFFICIALLY REQUESTS TO JOIN EMGF

France officially asked to join the Eastern Mediterranean Natural Gas Forum (EMGF) during the third ministerial meeting of the forum.

The US also requested joining the forum as a permanent observer.

The Minister of Petroleum and Mineral Resources, Tarek El Molla, welcomed France's membership in the forum as well as the US's request.

He said that these requests will be approved by the forum's members according to its system.

Additionally, El Molla pointed out that he will request environmental measure to be added to the World Bank studies prepared by the forum, in addition to moderating the usage of the renewable energy as well as hydrogen.

EMGF THIRD MEETING TAKES PLACE

The third ministerial meeting of the Eastern Mediterranean Gas Forum (EMGF) was held in Cairo on January 16, headed by the Minister of Petroleum and Mineral Resources, Tarek El Molla.

El Molla said that the EMGF is responsible for the regional cooperation, which aims at overcoming the challenges and embracing the changes in the region.

He confirmed the fruitful cooperation between the forum, US, the European Union (EU), and the World Bank and their support.

From his side, the Cypriot Energy Minister, Yiorgos Lakkotrypīs, said during the forum meeting that the forum's success is a proof for the mutual vision of the forum's members to enhance prosperity in the East Mediterranean.

The Greek Minister of Energy and Environment praised the transformation of the EMGF into an international organization, which achieves its members' goals to exploit their natural resources.

The Economic Affairs consultant for the Palestinian president, Mohamed Moustafa, said that the Eastern Mediterranean witnessed great economic transformation after the natural gas discoveries.

EGYPT, CYPRUS, GREECE DISCUSS NATURAL GAS COOPERATION

The Minister of Petroleum and Mineral Resources, Tarek El Molla, held bilateral discussions on the sidelines of third ministerial meeting of the Eastern Mediterranean Gas Forum (EMGF) with the Cypriot Minister of Energy and Industry, Yiorgos Lakkotrypīs, and the Greek Minister of the Energy and Environment, Kostis Hatzidakis.

The discussion included the latest updates of the region, in addition to ways of enhancing the mutual connections between Egypt, Cyprus and Greece in the oil and gas sector.

During the meeting, El Molla showcased with Lakkotrypīs the shared efforts that encourage bilateral cooperation in natural gas at the East Mediterranean as well as the development plans of Aphrodite Field and the steps taken for establishing a pipeline to transfer natural gas from Cyprus to Idku's natural gas liquefaction plant.

On the other side, the Egyptian petroleum minister and Hatzidakis explained how to support the bilateral cooperation between their countries, in addition to attracting Greek companies to invest in exploration and production (E&P) activities in Egypt.

EL MOLLA: THE MIDDLE EAST IS A NATURAL GAS BASIN

The Minister of Petroleum and Mineral resources, Tarek El Molla, said that the East Mediterranean is considered to be a global basin of natural gas, having great energy potential to support the regional cooperation as well as new partnerships and integrations between the countries and the markets.

He announced this during the Mediterranean Energy Observatory (OME) conference in Cairo, which aims at shedding light on the available opportunities in the Mediterranean and Africa, in addition to discussing the issues and challenges that face establishing an energy regional hub.

He also said that the past developments in the Middle East is due to the huge gas reserves discoveries in the region, in which Egypt had a significant part by Zohr field which is an important milestone in the regional discoveries' history.

El Molla pointed to Egypt's role to establish an efficient regional hub for oil and natural gas supported by strong infrastructure, strategic site and the accumulated experiences in the energy industry.

INVESTMENTS



GPC TO INVEST EGP 2.6 B IN FY 2020/2021

The Chairman of the General Petroleum Company (GPC), Nabil Abdel Sadek, announced that his company targets drilling 40 discovery and developmental wells with an investment cost of EGP 2.6 billion in fiscal year (FY) 2020/2021.

He added that the company plans to reach a total production of about 106,000 equivalent barrels per day, pointing out that this shall be achieved by drilling 40 wells with investments of EGP 2.6 billion, as well as repair and supplement 33 wells, drill 36 developmental wells, and repair 24

others within the framework of a joint work program with a number of foreign companies.

Sadek explained that the company will continue to implement the infrastructure development plan and production facilities in the fields with investments worth EGP 5 billion.

Additionally, he pointed to the continuation of implementing health, safety, and environment (HSE) projects during the upcoming year.

EL MOLLA APPROVES NOCS BUDGET FOR FY 2020/2021

National oil companies (NOCs) are now being prepared to hit new targets and achieve new goals in 2020 in light of the sector's strategy to carry on its Modernization Project to develop its activities and boost the production capacity.

The Head of Egyptian Petrochemicals Company, Mohamed Abdel Aziz, said that his company targets EGP 842 million in new projects, renovations and health, safety, and environment (HSE) projects.

The Head of Suez Oil Processing Company, Mohamed Eleiwa, said that his company

aims at refining 2.4 million ton per year as well as implementing several projects with costs EGP 5.4 billion.

The Head of Nasr Petroleum Company, Mohamed Hassan, said that the company aims at refining approximately 4.85 million tons of crude to produce various petroleum products, including 82,000 tons of butane, 1.2 million tons of naphtha, 410,000 tons of jet fuel, 1.35 million tons of diesel, 1.3 million tons of diesel, 1.3 million tons of mazut and 366,000 tons of asphalt.



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EL MOLLA REVIEWS PETROLEUM PROJECTS IN UPPER EGYPT

The Minister of Petroleum and Mineral Resources, Tarek El Molla, confirmed the ministry's interest in developing and increasing the capacity for petroleum projects in Upper Egypt.

The Chairman of Amreya Petroleum Refining Company (APRC), Ali Badr, said that his company targets pumping investments of EGP 680 million in the planning budget of FY 2020/2021 to refine 3.9 million tons of crude and produce 89,600 ton of butane.

The Chairman of Assiut Oil Refining Company (ASORC), Moahmoud

El Shaboury, said that his company aims at refining 4.4 million tons of crude oil to produce 61,600 tons of butane, 546,600 tons of naphtha, 1.3 million tons of benzene, 952,000 tons of diesel, 2.4 million tons of mazut in addition to 197,400 of airplane fuel.

Additionally, the Chairman of Alexandria Petroleum Company, Medhat Bahgat, said that his company targets investments worth EGP 3 billion to refine 4.9 million tons of crude oil and produce 85,000 tons of butane.

EL MOLLA REVIEWS SECTOR'S 2020 STRATEGY

The Minister of Petroleum and Mineral Resources, Tarek El Molla, reflected on the sector's accomplishments in 2019, indicating that leadership and health, safety, and environment (HSE) were key to that success.

This came as he held a meeting with the Cabinet and the leaders in

the petroleum sector to outline the priorities for the 2020 agenda.

El Molla stressed the importance of the coordination and cooperation between the Egyptian General Petroleum Corporation (EGPC), the holding companies, and the affiliates companies to fulfill the desired results.

Additionally, he confirmed the importance of understanding the governance system and business administration, and to continually follow up with the execution strategies.

El Molla pointed out the importance of digital transformation in increasing the

efficient communication between the ministry, EGPC, and the companies, adding that fastening in ERP system competition leads to facilitating the accurate display and circulation of information.

COPETROLE, MISR PETROLEUM STATE FY 2020/2021 GOALS

The general assemblies of Cooperation Petroleum company (Copetrole) and Misr Petroleum Company were held on January 19, to approve their budget planning of fiscal year (FY) 2020/2021.

The Chairman of Copetrole, Adel Ayad, said that his company plans to achieve revenues worth more than EGP 60 billion during FY 2020/2021.

He pointed out that the continuation of the ongoing work plan to develop distribution warehouses and service stations have investments estimated

at EGP 132 million and EGP 75 million, respectively.

The Chairman of Misr Petroleum Company, Hussein Fathi, stated that his company's investment budget for FY 2020/2021 is intended for the first time to achieve revenues of EGP 72 billion, indicating that the targeted sales volume is about 8.8 million tons of petroleum products, oils and chemicals.

Fathi also said that the company aims to pump investments worth EGP 755 million in a large number of projects.

PRICES

EGYPT REPRICES PETROLEUM PRODUCTS

Egypt is maintaining prices of all three types of petroleum products in the local market at EGP 6.5 per liter for octane 80, EGP 7.75 per liter for octane 92, and EGP 8.75 per liter for octane 95.

The pricing committee responsible for the automatic indexation mechanism decided to keep the price of diesel at EGP 6.75 per liter and the price of mazut for non-users of electricity and bakeries at EGP 425,000 per ton.

These decisions aim at stabilizing the selling cost and making petroleum

products available in the local market due to the high global Brent prices during Q4 2019, increasing by 1.7%.

Additionally, the committee recommended to fix petroleum products' prices to be consistent with the rise in value of the pound against the dollar during Q4 2019 as the average price of a barrel during the period from October to December 2019 is about \$62.5 per barrel.

EL MOLLA, CERAMIC DIVISION DISCUSS NATURAL GAS' PRICE REDUCTION

The Minister of Petroleum and Mineral Resources, Tarek El Molla, is searching with the ceramic division in the Federation of the Egyptian Industries (FEI) to decrease the natural gas' prices for the factories and install the debts of the Egyptian Natural Gas Holding Company (EGAS).

The Chairman of Ceramic Division, Sherif Afifi, said that they agreed upon holding several working sessions and meetings with heads in the petroleum ministry to discuss the demands of the division to reprice natural gas, down to

\$3 for 1 million thermal unit compared to the current \$5.5, in addition to install the debts of the companies' factories.

He provided that the discussions were positive and directed towards solving the problems of the industry as well as facilitating any obstacles in increasing the production capacity.

Afifi noted that these demands will save EGP 15 billion and 400,000 job opportunities for 33 factories.

IMPORTS AND CONSUMPTION

CRUDE OIL IMPORTS DROP \$280 MM YOY

The cost of the sector's total crude oil imports decreased in the first 10 months of 2019 to \$1.29 billion, compared to \$1.6 billion in 2018, a \$280 million year-on-year (YOY) decline.

The imported fuel quantities amounted to \$8.31 billion, in comparison to \$11.3 billion in 2018.

The imports of petroleum products were worth \$5.64 billion in the period

from January to October, comparing to \$7.5 billion in 2018.

The cost of coal imports declined to \$492 million, in contrast of \$508 million in 2018.

Egypt's current crude oil and condensates production reached to 650,000 barrels per day (b/d).

BUTANE CONSUMPTION DECLINES 6% IN FY 2019/2020

The Minister of Petroleum and Mineral Resources, Tarek El Molla, announced that butane consumption had decreased by 6% in fiscal year (FY) 2019/2020 and it is expected to reach to 6.5% at the end of FY 2020/2021.

El Molla confirmed that his ministry's strategy aims to continuously support the butane market through increasing its strategic stock, especially after implementing new butane projects in some governorates, in parallel with

implementing the natural gas grid projects to replace butane with natural gas.

The Head of Petrogas, Raafat Abdel Hady, said that they target to fill 3.8 million tons of butane equivalent to 304 million cylinders to fulfill the local market's needs.


He added that the planning budget aims to include investments of EGP 163 million to maintain the production and increase its efficiency.



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SDX ENERGY'S NATURAL GAS RESERVES FROM SOUTH DISOUQ REACH 86 BCF

SDX Energy said that its proved and probable natural gas reserves at Egypt's South Disouq operated concession have increased by 35%, reaching 86 billion cubic feet (bcf).

Gaffney, Cline & Associates (GCA) reported that the company's 2P reserves reached 86 bcf of natural gas, in addition to 0.6 million barrels of condensate from South Disouq's concession by the end of 2019.

This is equivalent to gross 89 billion cubic feet equivalent, up from gross 66 billion cubic feet equivalent included in the company's reserves audit covering all of its concessions as of the end of 2018.

The company said that "the increase in South Disouq 2P reserves is as a result of the 2019 reprocessed 3D seismic data providing a better understanding of the structure and distribution of the reservoir around the production wells."

EDISON STARTS DRILLING NORTH THEKAH CONCESSION

Edison Egypt announced that it started drilling operations at its first exploration well in North Thekah concession located in the Egyptian Eastern Mediterranean waters.

The company declared that the operation for which the semi-submersible rig Maersk Discoverer has been contracted,

is estimated to take two months to reach the reservoir target Ameeq-1X situated at a total depth of 5,200 with 982 meters of water depth.

Edison exploration and production (E&P) holds a 100% working interest in the North Thekah concession.

ENPPI INSTALLS A PRODUCTION PLATFORM FOR PETROSALAM

As a leader of a consortium with Petrojet, Engineering for the Petroleum & Process Industries (Enppi) successfully designed, fabricated, and installed a production platform with the use of a drilling jack-up rig for Petrosalam Northwest October (NWO) Field on a Lump Sum Turn Key (LSTK).

Enppi has proficiently completed the conceptual, feed, detailed engineering, procurement, installation, coiled-tubing pipelines laying, overall management and pre-commissioning.

The company demonstrated that the benefits of utilizing the drilling rig for

platform installation are summarized in the optimization on the installation cost and schedule, which substantially improves the return of investment (ROI) of the marginal fields, as well as being a favorable method in severe weather conditions.

Enppi said that it selected this concept for being one of the constructional systems used in offshore minimum facilities platforms.

The company managed its technical potentialities to overcome the challenges and risks associated with the implementation of this concept.

SDX EXPECTS PRODUCTION TO EXCEED 68-74% IN 2020

SDX Energy succeeded in linking South Disouq to production in Q4 2019. Accordingly, it managed to achieve high production rates because of the high performance of the Central Processing Facility (CPF) and wells at the concession.

This enabled the company to accomplish an accelerated ramp up to plateau of gross 50 million cubic feet equivalent of natural gas per day (mmcf/d) in mid-December.

For 2020, SDX plans to continue South Disouq's preparations for two exploration wells at the same horizons encountered in the company's four discoveries to date. The first well is expected to spud in mid/late February

and be completed in April 2020. A third well targeting deeper prospectivity in a potential new play fairway may be drilled later during 2020.

SDX is anticipated to direct capital expenditure (capex) estimated at \$25.5 million to the completion of the Moroccan 12-well drilling campaign, two exploration wells planned for South Disouq in Egypt, and up to three development wells planned for the Meseda and Rabul fields in Egypt's West Gharb concession.

SDX Energy expects its production to reach 6,750-7,000 barrels of oil equivalent per day (boe/d) in 2020.

SHELL CONSIDERS EGYPT'S LIQUEFACTION PLANTS

Shell is studying the potential of importing natural gas from Cyprus to the liquefaction plants in Egypt during the next period.

Shell's Deputy Chairman, Moataz Darwish, said on the sidelines of Al Ahram's Energy Conference that his company owns 35% of the Aphrodite gas field in cooperation with Nobel Energy and other companies.

He pointed out that the company aims to participate in the bid rounds that will be offered in the petroleum sector during the upcoming time to capture more concessions for more oil and gas exploration and production (E&P) activities.

BOROUGE ESTABLISHES MARKETING COMPANY IN EGYPT

Borouge company announced that it has established a new marketing company in Egypt to support its MENA growth strategy through meeting the customer requirements in the region.

"Opening a marketing company for Borouge in Egypt, the first-of-its-kind in the Middle East outside Abu Dhabi, is a necessary step to ensure a better understanding of our customers' needs and opening a regular dialogue on how we can better help them improve their businesses and products," Wim Roels, CEO of Borouge, said.

He added that the investments are being progressed through its new marketing company in Egypt, which will enable the company to strengthen its capability to support its customers' business growth.

The new company will further enhance its strategic partnerships in the Middle East and North Africa (MENA) region where customers can directly benefit from its new developed and differentiated plastics solutions as well as the technical services which create value boosting their product competitiveness.

EPSCO WINS CONTRACT TO SUPPLY CARAVANS

The Egyptian Petroleum Services Company (EPSCO) has obtained a new contract for supplying and installing ten caravans for International Petroleum Company and two others for El Wastani Petroleum Company with investments worth more than EGP 4 million. The Chairman of EPSCO, Mohamed Moustafa, said that his company is keen on the quality and accuracy while executing these caravans in order to build on the company's achievements, which goes back to its leadership and employees.

Meanwhile, EPSCO has announced its registration in the Egyptian Federation for Construction and Building Contractors to obtain the federation's seventh category card for integrated operations.

The registration came due to broaden the company's activities to include general contracting and enable it to work officially. Moustafa commented saying that the benefits of this card give EPSCO the right and priority to work with governmental and private agencies in this field and import any equipment by half of its price.

EGYPT, EXXONMOBIL INK TWO AGREEMENTS WORTH \$332 MM

The Minister of Petroleum and Mineral Resources, Tarek El Molla, signed two new exploration and production (E&P) agreements with ExxonMobil and the Egyptian Natural Gas Holding Company (EGAS), according to a press release. The two agreements are worth \$332 million, with a signature bonus of around \$17 million to drill seven wells.

The signature was conducted between El Molla; EGAS Chairman, Osama El Bakly; and the East Mediterranean Exploration Manager at ExxonMobil, Don Bagley, in the presence of other petroleum leaders. The first agreement was signed for conducting E&P activities in the East Ameryah offshore with investments reached around \$220 million and a signature bonus of \$10 million to drill four wells. Meanwhile, the second one was signed for E&P activities in North Marakia offshore with investments

worth \$112 million and a signature bonus of around \$7 million to drill three wells.

El Molla remarked that ExxonMobil is a strategic partner to the Egyptian oil and gas sector; hence, its return to invest in Egypt represents an added value to the Egyptian sector's success. This is because ExxonMobil is distinguished by its fast and advanced performance, as well as maintaining high levels of safety in its operations, he added.

Additionally, the minister pointed out that signing numerous petroleum agreements will help intensify the E&P activities in Egypt and develop the production of oil and gas, besides, the country will be able to achieve more discoveries to enhance production rates and reserves.

Moreover, El Molla noted that the number of signed agreements by the ministry since 2014 has reached around 82 agreements, with investments worth \$16 billion.



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SAUDI ARABIA

Saudi Aramco plans to launch five major expansion projects, in order to boost Saudi Arabia's crude oil and natural gas production. These expansions will include four crude oil projects and one natural gas project at the company's offshore oil fields. These projects will help Aramco reach its maximum sustainable capacity (MSC) by adding more 1.45 million barrels per day of crude oil (mmbbl/d) to its production capacity.

Kuwait and Saudi Arabia brought in an international consultant to study the development plan for the Dorra offshore natural gas field. The consultant's main mission was to study the field's production volumes, storage options and cost of development, in order to determine both countries' shares in the field's production of natural gas. This is planned to help both countries provide and fulfill their growing natural gas consumption for power generation, and boost the countries' exports. It is worth pointing out that the Dorra field has an estimated production capacity of around 10-11 trillion cubic feet (tcf) of natural gas and around 300 mmbbl of crude oil.

Saudi Arabia's International Maritime Industries (IMI) signed two rig purchase agreements (RPAs) with ARO Drilling, in addition to a subsequent sub-contract agreement with Lamprell Energy Ltd (LEL) to build two Keppel LeTourneau Super 116E jack-up drilling rigs. With these projects, IMI will be the largest full-service maritime facility in the Middle East and North Africa (MENA) region. Its annual capacity will be four new-built offshore rigs and over 43 new-built vessels including VLCCs, in addition to servicing more than 260 maritime products. Major production operations are expected to commence by the end of 2020, and the facility is anticipated to reach its full production capacity by 2022.

Aramco Trading Company (ATC), Saudi Aramco's trading arm, has managed to sell its first liquefied natural gas (LNG) cargo to South Korea's S-Oil Corporation. ATC sold the LNG shipment from Singapore, according to Aramco's CEO, Amin Nasser. It is worth remarking that Saudi Aramco has been trying to increase its production of LNG and to expand its business in the oil and gas industry. Furthermore, Saudi Aramco plans to buy a stake in the Middle East's largest petrochemicals maker, Saudi Basic Industries Corporation (SABIC), and invest in refineries in Asia and beyond.

PKN Orlen, the Polish oil refiner, announced that it will increase its monthly imports of crude oil from Saudi Aramco to around 400,000 tons. It is worth noting that Poland has been receiving oil from Saudi Aramco since 2016. Thus, boosting their crude oil purchases by 100,000 tons comes as a part of the company's strategy to diversify its supply.

Saudi Arabia's Minister of Energy, Prince Abdulaziz bin Salman, said that the kingdom is committed to reducing emissions by increasing its investments in renewable resources over the next few years. The minister added that the kingdom will increase its production of natural gas to utilize it as a fuel to generate power. Saudi Arabia aims to expand its energy sources by adding cleaner sources of power to its energy mix; this will allow the kingdom to free up more oil for export. Saudi Arabia currently produces 10 mmbbl/d of crude oil and has around 260 billion barrels of proven oil reserves. It is also among the top 10 natural gas producers globally with over 900 billion cubic meters (bcm) of proven natural gas reserves.

U. A. E

SNC-Lavalin won an engineering services contract to work on Haliba field in Al Dhafra Petroleum's concession area in Abu Dhabi. The agreement has a time-frame of nine months. During which, SNC-Lavalin will provide front-end engineering and design (FEED) services for the second phase of the Haliba field. Under the contract's scope of work, SNC-Lavalin will be responsible for the verification of the conceptual studies and design, carrying out FEED services required for processing production, execution planning, and designing facilities to handle production from other close-by prospects.

The Abu Dhabi National Oil Company (ADNOC) renewed and expanded an agreement with Japan to store and trade crude oil in Asia's second-biggest economy. The new agreement is set for an initial three-year period. Under the agreement, ADNOC will store more than 8 million barrels of crude oil (mmbbl) at a storage facility in Japan, taking into consideration that certain quantities of crude oil remain available in the case of any oil shortage in Japan.

ADNOC signed three deals with Indonesia's Pertamina and Chandra Asri. ADNOC and Pertamina inked a preliminary agreement to explore the development of crude oil to a petrochemical complex in Balongan. The complex would improve Indonesia's path towards

petrochemicals self-sufficiency. Additionally, a sales agreement was signed as well between ADNOC and Pertamina. Under which, ADNOC will supply Pertamina with up to 528,000 tons of liquefied petroleum gas (LPG) by the end of 2020. Furthermore, ADNOC and Indonesia's Chandra Asri inked a memorandum of understanding (MoU) to explore the potential supply of naphtha to Chandra Asri that would be utilized as a feed-stock for their current and potential new cracker complex in Indonesia. This MoU will further expand ADNOC's reach in Indonesia and is expected to help lay the groundwork for other potential areas of collaboration between the two companies.

Crescent Petroleum is seeking to further reduce its already low levels of gas flaring from operations. The company has managed to bring down its gas flaring rate to about 0.7% of production. Majid Jafar, Crescent CEO, pointed out that the company is considered a leader in delivering clean natural gas for power generation in the region, with a current natural gas production forming more than 85% of its total production. It is worth mentioning that by replacing diesel with natural gas to generate power, Crescent has managed to avoid 33 million tons (mmt) of carbon dioxide (CO₂) over the past decade.



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OMAN

Masirah Oil Limited (MOL) announced the successful drilling of an appraisal well in the Yumna oil field, in Block 50 offshore Oman's eastern seaboard. MOL declared in 2014 that this is the first-ever hydrocarbon discovery in the 17,000 square kilometers (km²) concession off the sultanate's east coast. A second exploration well was successfully drilled and reached a depth of more than 3,000 meters into the Cambrian formation. Hydrocarbons flowed and the well achieved a restricted flow rate of 3,500 barrels per day (bbl/d) of light crude oil with

high quality and without water production in 48 hours only. Furthermore, the Yumna-1 well production testing was expected to commence in January 2020 with oil produced during the field's appraisal planned for temporary storage on an Aframax tanker. The tanker's capacity is less than 120,000 metric tons. Block 50 is estimated to have gross mean unrisks prospective resources of around 4,743 million barrels of oil equivalent (mmboe).

KUWAIT

Kuwait's production of crude oil from the Neutral Zone shared with Saudi Arabia is expected to reach around 250,000 barrels per day (bbl/d), according to Khaled Al-Fadhel, Kuwait's Minister of Oil. It is worth remarking that the total production of the zone before the two countries' dispute was approximately 500,000 bbl/d. Additionally, the Neutral Zone agreement, signed in December 2019, is projected to enable Kuwait to develop its shares of the Dorra gas field to produce 500 million cubic meters of natural gas per day (mmcm/d), which will help boost the country's natural gas and crude oil reserves.

Wafra field, located in the Neutral Zone, will restart its oil production by March. The field stopped its operations since 2015 due to the dispute between Kuwait and Saudi Arabia. After signing the agreement between the two countries to solve this issue, the two jointly-run fields, Khafji and Wafra, will resume production and they are expected to pump up to 0.5% of the world's oil supply. Kuwait's parliament voted to ratify the reached agreement between the two countries to resume production at the shared oilfields in the Neutral Zone.

Kuwait Petroleum Corporation (KPC) announced that its international marketing sector has sold its first shipment of low Sulphur diesel with a Sulphur content of 10 ppm, in cooperation with Kuwait National Petroleum Company (KNPC). The corporation said that this shipment was planned to be exported during January 2020, which is considered to be the first fruits of low Sulphur diesel production with international standards. This progress is done in parallel with the beginning of operations in clean fuel project units in the KNPC refineries. The corporation stressed on its aim to fulfill its international market needs in line with environmental demands, which allow new opportunities to enter new markets in the future.

KNPC requested a renewal contract with Mitsubishi Hitachi Power Company. Mitsubishi would work towards upgrading the boilers in unit number 29 in Mina Ahmadi Refinery at a cost of \$48.36 million (KD 14.69 million). The refinery's production capacity is estimated at approximately 446,000 barrels per day (bbl/d).


IRAQ

Iraq plans to increase its crude oil production capacity in the next two decades, according to Thamer Al-Ghadhban, Iraq's Oil Minister. This is going to be done through proper work and planning to enhance the national content to keep pace with the great developments in the global oil industry. Iraq's crude oil production is estimated at more than 4.45 million barrels per day (mmbbl/d). The ministry, however, plans to increase oil and gas production "to reach rates from 6 to 8 million barrels in the next two decades," according to an official statement.

Genel Energy succeeded in boosting its production rates in 2019 despite the decline in its revenues because of payment delays from the Kurdistan Regional Government (KRG). Genel, which has a 25% working interest in Tawke field and 44% interest in Taq Taq field, increased its net production to reach 36,250 bbl/d of crude oil during 2019, compared to 2018's 33,690 bbl/d. Bill Higgs, Genel Energy CEO, added that the company's production will continue to increase as its Sarta field, in which it owns 30% stakes, will come on stream this summer.

Iraq plans to raise its crude oil exports to China to reach 300,000 bbl/d, according to Mudher Saleh, Iraq's Financial Advisor. Doubling the Iraqi crude oil exports to China is part of an oil-for-reconstruction agreement signed between the two countries in 2019. Per the 20-year agreement, Iraq is going to export 100,000 bbl/d of crude oil to China. This agreement enabled China to begin working on two projects in the power and oil sectors.

The Iraqi Minister of Oil, Thamer Ghadhban, announced the completion of the pre-qualifying process for countries interested in participating in the Iraqi-Jordanian oil pipeline project bid. The ministry noted that May 2020 will be the final date to receive offers, and winners will be announced by the end of the year. In February 2019, the two countries' prime ministers agreed to move forward with the project, and for Jordan to buy 150,000 barrels of oil transferred through the \$5-billion pipeline project. The project is divided into two phases, the first phase includes installing a 700-kilometer-long pipeline with a capacity of 2.250 mmbbl within the Iraqi territories, Rmeilah-Haditha. While the second phase includes installing a 900-kilometer pipeline in Jordan between Haditha and Aqaba with a capacity of one million barrels.



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EGYPT'S STRIDES TOWARDS DEVELOPING OIL, GAS HR STRATEGY IN 2019/ 2020

EL MOLLA REWARDS 20 EMPLOYEES IN MIDDLE-MANAGEMENT PROGRAM

The Minister of Petroleum and Mineral Resources, Tarek El Molla, handed out certificates for 20 employees in the petroleum sector from the middle management program trained by Halliburton. This came in light of the human resources (HR) management pillar in the Modernization Project.

The celebration was held in light of Halliburton's 100th anniversary, in the presence of some heads in the petroleum sector along with Colby Fuser, the Vice President of Halliburton in Egypt and Libya.

El Molla said that since HR is the main source of development in the sector, a number of programs were designed to advance it. This could be done through integrated programs for the petroleum sector. Such programs have a positive impact on the sector, in addition, they contribution to the Egyptian economic growth.

The minister pointed out that this program aims at preparing young cadres in the sector starting from youth to the highest management positions.

Moreover, El Molla confirmed that the youth qualifications play a vital role in the sector's success; hence, the middle management program aims at creating a group of qualified individuals capable of leading the future of the Egyptian oil and gas sector, as well as appreciating the role of the sector's foreign partners in supporting this program.

El Molla also pointed out to the importance of health, safety, and environment (HSE) in the petroleum industry, confirming the importance of people's commitment to safety measures. He added that this program offers a broad vision about the industry, enabling it to focus mainly on exploration and production (E&P) activities, in addition to developing management skills such as strategic thinking and finance.

EL MOLLA MEETS 25 CALIBERS IN MIDDLE MANAGEMENT PROGRAM

The Minister of Petroleum and Mineral Resources, Tarek El Molla, met with 25 members from the Middle Management Program, who finished up an advanced training program under the Modernization Project.

The training program was presented in cooperation with Baker Hughes for three months in its locations in the US, England, Italy, Germany and the UAE. The program aims at enhancing the levels of scientific and professional skills as well as the experiences of young calibers through engaging them in the company's work environment.

El Molla said that the petroleum ministry targets to establish qualified competences who are able to take the responsibility in the future. He also pointed out the importance of the foreign partners' roles in supporting this program, praising these partnerships and their efforts in putting a suitable framework for the youth and enabling them to have new experiences in the technical and management fields.

Moreover, the minister said that the experiences that the youth have obtained abroad will benefit the petroleum sector in Egypt, as the youth will transfer their experiences to contribute in advancing the sector's operations' efficiency.

He also praised the youth's desire to work and exert efforts in achieving more progress in the sector, in addition to guarantee sustainable success, noting that this program aims at coping with digitizing the sector and using modern technologies in business administration.

The youth stressed on the importance of this program in strengthening their strategic planning and dynamic thinking skills by exposing them to different work experiences.

The young calibers mentioned the skills they acquired from these programs, including how to apply the most efficient practices in their fields using new available technologies in the international oil companies (IOCs), in addition to the models and practices related to health, safety and environment (HSE) as well as digitization to increase their efficiency and enhance their creativity, leadership and problem-solving skills through Baker Hughes' teamwork.

ENPPI SIGNS COOPERATION PROTOCOL FOR HR DEVELOPMENT

The Engineering for Petroleum and Process Industries (Enppi) signed a cooperation protocol with Alexandria University to improve the skills of the company's employees.

The signature ceremony was held in the presence of the Minister of Petroleum and Mineral Resources, Tarek El Molla, Enppi's Chairman and CEO, Ashraf Bahaa, and the President of Alexandria University, Essam El Kordi, in addition to other top officials.

This protocol comes in a line with President Abdel Fattah El Sisi's directives to achieve more cooperation between companies and educational entities, and link the higher education curricula with scientific research that upgrades the higher education according to Egypt's Vision 2030.

El Molla held a meeting after the signature ceremony to discuss the importance of the joint work and the future cooperation plans to follow up on the protocol's outputs. He asserted on the petroleum sector keenness to consolidate cooperation with the scientific and academic entities, and exchange experience to link the practical side with the academic one.

Additionally, El Molla pointed out that these protocols contribute to maximizing the benefits of both parties' scientific and practical experiences in holding mutual training programs and courses, in addition to providing specialized technical training services to university students and offering them training opportunities in the contracting companies.

On the other side, Bahaa emphasized that Enppi seeks to build qualified young cadres to fit the labor market. Consequently, this enables them to promote the industry.

EL MOLLA DISCUSSES NEW HR PROGRAM

The Ministry of Petroleum and Mineral Resources has started training 60 young people in light of the Human Resources (HR) pillar of the Modernization Project.

This came as the Minister of Petroleum and Mineral Resources, Tarek El Molla, held a meeting with the Deputy Minister for Mineral Resources Affairs, Alaa Khashab, and other petroleum leaders to discuss the plans and targets that are expected to be achieved through 2020, saying that Egypt has enough mineral resources to be on the international production map through the new strategy, mining law and the executive regulations.

El Molla also talked about the importance of new technology and digitization in executing digital geologic maps to cope with the global progress in the industry. In addition to that, he asked the leaders to communicate with the employees and make them aware of their future plans.

EL MOLLA APPROVES SECTOR EMPLOYEES HOUSING FUND

The Ministry of Petroleum and Mineral Resources, Tarek El Molla, announced that he approved the budget for the housing fund of the petroleum sector's employees during his presidency of the petroleum sector companies' general assembly.

The study included increasing the severance pay form 22 months to 25 months as well as the personal loans and the housing loans offered to the employees of the sector.

SCHLUMBERGER TO PUMP MORE INVESTMENTS IN EGYPT

Schlumberger plans to increase its investments in Egypt in the upcoming period, according to Karim Badawi, Managing Director – Egypt and East Mediterranean at Schlumberger.

Badawi noted that Schlumberger supports the Modernization Project of the oil and gas sector, stressing that the company is cooperating with the Ministry of Manpower and Immigration to develop young cadres, as about 120 industry leaders were trained using the latest technologies.

Additionally, Badawi mentioned during his participation in Al Ahram Third Energy Forum held in December 2019, that Schlumberger will continue its support to upgrade the exploration and production (E&P) activities in the Egyptian oil and gas sector, remarking that the sector's digital transformation is a top priority for Schlumberger, in order to achieve efficiency, enhance performance, and attract more investments. Moreover, Badwai highlighted that Schlumberger has signed several memoranda of understanding (MoUs) to prepare new young professionals for the petroleum sector in the future, especially the middle management program.



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THE MINISTRY'S ROADMAP TO GENERATE FUTURE LEADERS

Thanks to the vision of the Minister of Petroleum and Mineral Resources, Eng. Tarek El Molla, the Egyptian oil and gas sector has begun its journey towards developing the sector for a brighter future. This was achievable through the Modernization Project, which stemmed from the ministry's belief in creating motivated, talented, and well-developed young professionals to succeed in this journey and accomplish its future ambitions. The Modernization Project specified a whole pillar, the Human Resources (HR) Management, for this aim.

One of the most prominent programs under this pillar is the Middle Management Program. This program was initiated by the minister, who has assured over the years that the Egyptian oil and gas sector is enriched by young talents. Thus, the minister was keen on discovering these talents and developing them to be the sector's future leaders. That is why being enrolled on this program has been seen as an achievement in its own. "This Middle Management Development Program is part of our aim to prepare the future leaders of the oil and gas sector. [This] will [help] ensure [achieving] sustainability and success in our sector in the near future," El Molla previously commented on this program.

This program is inspirational to the sector's employees as it does not only aim to build creative professionals, on a technical and managerial levels, but it also helps improve their personalities. This goal becomes easier by providing the sector's young professionals with distinguished, valuable trainings through the Middle Management Program. "I am really confident that what we are currently [doing] with such ambitious development program will lead us at the end to make sure that we have proper skills [and] proper talented young generation that will take the sector to prosperity [and] success," the minister stressed.

RECOGNIZING THE MINISTER'S EFFORTS

Throughout this program, the minister was decisive on developing five core values which are innovation, ethics, safety, transparency, and efficiency. Candidates acquire these core values while developing the Middle Management Program.

Building on that, the minister was eager to include all the sector's talented young professionals in this program. He affirmed that this program's implementation process was based upon transparency and honesty; especially during the selection phase to ensure a fair chance to all applicants. The candidates applied online first through the ministry's web portal. After that, they were assessed meticulously, then selected candidates had to spare no effort to succeed in the program's examinations.

Since the minister has always believed in the vital importance of this program, he has always been keen on meeting the program's participants to follow up on the latest updates. Throughout these meetings, the minister was able to evaluate the program's efficiency, as well as create any changes needed for further improvement.

Moreover, El Molla confirmed that the youth qualifications play a vital role in the sector's success; hence, the Middle Management Program will help create a group of qualified individuals capable of leading the future of the Egyptian oil and gas sector, as well as appreciating the role of the sector's foreign partners in supporting this program.

El Molla also pointed out to the importance of health, safety, and environment (HSE) in the petroleum industry, confirming the importance of people's commitment to safety measures. He added that this program offers a broad vision about the industry, enabling it to focus mainly on exploration and production (E&P) activities, in addition to developing management skills such as strategic thinking and finance.

FOLLOWING UP WITH THE CALIBERS

In February 2019, El Molla met with trainees from the first batch of youth enrolling in the young and middle-management program, comprising of 117 men and women who succeeded in the required tests and are ready to enroll into the program. Around 450 men and women had passed the tests and were divided into three batches that will be trained one after the other.

The minister met with the HR Management pillar team in May 2019 to review the recent updates in the HR Management projects. The meeting reviewed the recent updates in the Middle Management training program as 114 young people enrolled into the first batch of the training and joined developed programs prepared in cooperation with Schlumberger in March 2019.

Moreover, the ministry prepared to launch phase two of the HSE training to further develop the capabilities of employees in the HSE departments as the first phase ended successfully.

Later in May, El Molla met with 74 young engineers and chemists from HSE departments of several oil and gas firms. The young professionals had previously enrolled in a training program that aims to develop their abilities in HSE after they had passed qualification tests and the first phase of the training program.

The meeting was held at the end of the first phase of the program, which had been launched as a part of the ministry's Modernization Project to invest in developing the oil and gas sector's human resources and support young talents. During the meeting, El Molla encouraged trainees to exert every effort to benefit from the upcoming phases that provide great potential and nontraditional programs.

The ministry was preparing to enroll other groups into the program in collaboration with the IOCs in Egypt.

COLLABORATIONS WITH IOCS

Furthermore, the minister believed that the cooperation with international oil companies (IOCs) will help improve the implementation of the Middle Management Program through providing them with several trainings in the companies' premises. These trainings have led to developing an enriched environment in the oil and gas sector through the provided advanced technical trainings. During these trainings, the IOCs provide a different view of the global oil and gas industry. Through the ministry's collaboration with various IOCs, trainees get the chance to immerse themselves in a new culture and fully understand the benefits and effects of working in a diverse workforce.

A number of programs were signed with IOCs to advance the HR. Such programs have a positive impact on the sector; in addition, they contribute to the Egyptian economic growth. The minister pointed out that this program aims at preparing the sector's young calibers starting from youth to the highest management positions.

One of the main fruits of this program was established on December 3, 2019, in which the minister handed out certificates for 20 employees from the Middle Management Program trained by Halliburton. The celebration was held on the sidelines of Halliburton's 100th anniversary, in the presence of some heads in the petroleum sector along with Colby Fuser, the Vice President of Halliburton in Egypt and Libya.

Additionally, on January 8, the minister met with 25 members from the Middle Management Program, who finished up an advanced training program. The training program was presented in cooperation with Baker Hughes for three months in the US, England, Italy, Germany and the UAE. The program aims at enhancing the levels of scientific and professional skills as well as the experiences of young calibers through engaging them in the company's work environment.

El Molla pointed out the importance of the foreign partners' roles in supporting this program, praising these partnerships and their efforts in putting a suitable framework for the youth and enabling them to have new experiences in the technical and management fields. Moreover, the minister pointed out that the experiences that the youth have obtained abroad will benefit the petroleum sector in Egypt, as the youth will transfer their experiences to contribute to advancing the sector's operations' efficiency.

El Molla also praised the youth's desire to work and exert efforts in achieving more progress in the sector; in addition to guarantee sustainable success, noting that this program aims at coping with digitizing the sector and using modern technologies in business administration.



“

I am really confident that what we are currently [doing] with such ambitious development program will lead us at the end to make sure that we have proper skills [and] proper talented young generation that will take the sector to prosperity [and] success.

”

H.E. ENG. TAREK EL MOLLA

The Minister of Petroleum and Mineral Resources

In recognition of the IOCs' efforts to contribute with the minister to achieving his goal, El Molla praised their real commitment not only to the oil and gas sector but also to Egypt; in addition, they did not spare any efforts, time, or resource to help the ministry put together a program to develop potential future leaders.

Moreover, this all stems from El Molla's perception in the power of human capital and its ability to push the sector forward towards development and sustainability.

THE FEEDBACK

The Middle Management Program helps foster the culture of accountability; which is a main characteristic of good leadership. By instilling an urge of responsible behavior; the minister guarantees providing a safe space in the workforce.

With an eye on the feedback on the program, the minister commented saying, "I am really pleased because of the feedback we received from both [our foreign partners] and the candidates, [which] was very positive and really ensures and demonstrates that we are on the right track."

For their part, the youth stressed on the importance of this program in strengthening their strategic planning and dynamic thinking skills by exposing them to different work experiences. They mentioned the skills they acquired from these programs, including how to apply the most efficient practices in their fields using new available technologies in the IOCs, in addition to the models and practices related to HSE, as well as digitization to increase their efficiency and enhance their creativity, leadership and problem-solving skills.

“

This Middle Management Development Program is part of our aim to prepare the future leaders of the oil and gas sector. [This] will [help] ensure [achieving] sustainability and success in our sector in the near future.

”

H.E. ENG. TAREK EL MOLLA

The Minister of Petroleum and Mineral Resources

“

I am really pleased because of the feedback we received from both [our foreign partners] and the candidates was very positive and really ensures and demonstrates that we are on the right track.

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THE MIDDLE MANAGEMENT PROGRAM: REBUILDING EGYPT'S HUMAN CALIBERS



In accord with Egypt Vision 2030; the Ministry of Petroleum and Mineral Resources under the patronage of Minister Eng. Tarek El Molla, has been revamping the oil and gas sector by an efficient, sustainable and modern strategy; also known as the Modernization Project.

Launched in 2016, the Modernization Project strives to develop a coherent, methodical energy sector, bringing it to the international standards. The project aims to develop the oil and gas sector in all aspects whether under technical or managerial prospects.

MIDDLE MANAGEMENT TRAININGS

The Modernization Project has seven pillars that cover all the sector's needs, ranging from structural and human resources development, passing by upstream and downstream performance enhancement, or to information technology. The third pillar of the project is centered around the human resources, which aims to develop existing calibers and to attract young graduates to the sector. As a part of the ministry's initiative to advance in human resources management; the ministry launched the Middle Management and Young Professionals Program in 2017. The program provides equal opportunity to all applicants and primarily focuses on empowering professionals and future leaders to efficiently manage the oil and gas sector.

The Middle Management Program is divided into three phases; the first phase began in December 2017 by announcing the program's criteria and giving an equal opportunity for a wide range of candidates to register. This resulted in receiving over 3,000 applications from candidates across the sector. The second phase consists of assessing, shortlisting, and selecting high calibers through a careful screening of all applicants. The third phase is a talent development plan through on-the-job training, secondment, and coaching and mentorship. Out of the 3,000 applicants, 462 candidates were chosen and grouped into three different tracks; the fast track, the management track, and the technical track.

In 2019, a total of eight international oil companies (IOCs) were a part of the fast track axis including; Schlumberger, BP, Eni, Halliburton, Baker Hughes, Total Co. Apache, and Saipem. Over 500 participants began their trainings provided by these companies in different areas of the world in Egypt, the UK, Italy, Germany, Kuwait, and France.

The fast track consists of two main axes; the first one being the Foundation Program which focuses on the field of upstream technologies. The program is done in collaboration between the Ministry of Petroleum and Mineral Resources and Schlumberger. In 2019, through five rounds of trainings, 107 trainees were chosen for the fast track-foundation program axis. The trainings are presented using deductive approaches aimed to implement various technologies in the upstream area. Such trainings include - but not limited to - areas of digitization, health, safety, and environment (HSE), as well as introducing the latest technologies used in exploration and production (E&P).

Meanwhile, the second axis is an overseas on-the-job training which is done through a collaboration between the ministry and a variety of IOCs. The second axis offers a great learning experience through dealing with real-life events in the field where the trainees actively engage with the program. IOCs present far greater deal than hands-on technical experience, as through the program, they manage to implement a wide range of training in human resources management, risk management, and leadership skills in addition to providing real-life simulations based on international standards.

The technical track has developed extensively since its first-round launched back in 2017, where it began with 207 trainees. The technical track focuses on a myriad of areas of development on a technical level and a business level in the oil and gas sector. It offers technical courses related to numerous aspects of the oil and gas industry such as; HSE, E&P, Quality, administration, finance, human resources and other integral aspects that sustain the sector. On top of that, the technical track provides a culture change leadership program that ensures the sector is sustainably acquiring calibers.

The last track in the Middle Management Program is the management track. In its initial commencement, the management track consisted of 141 trainees from the oil and gas industry. The track offers comprehensive developmental courses that allow its trainees to enrich their knowledge and

experience on leadership and management. Remarkably, the management track is not limited to certain areas in the sector, rather involves various areas such as information technologies (IT), contracts, and procurement.

In 2019, the management track engaged 123 trainees in different IOCs including; Halliburton, ExxonMobil, Schlumberger, and Apache. The ministry collaborated with IOC to elevate the standards and efficiency of the sector, and in 2019, it went the extra mile and collaborated with the American Chambers in Cairo (AmCham) for an executive development program.

CHANGING MINDSETS

The Executive Development Program aims to develop the sector's managers in order to further sustain and gain human capital and meet the sector's challenging demands. The program aims to broaden one's mindset through exploring the domains of innovation, change management, and strategy and leadership. The program offers valuable content that focuses on leading change and innovation through an array of methodologies. Studying theoretical approaches, case studies, and creating business simulation enhance not only the learning process, but also achieves significant results.

Furthermore, the program offers a nimbler mindset of accepting and embracing change through six modules. These modules go by the name of; Business Models & innovation, Influencing Skills, Coaching for Optimal Performance, Leading Change, Strategy Formulation and Execution, and Team Empowerment. By appreciating the value of change and the prosperous future it brings with it to the sector, one can understand the crucial measurements needed to create that change.

It is without a doubt that the Modernization Project has managed to create a cultural shift within the oil and gas sector. Bringing forth a vision of innovation and sustainability through the Middle Management Program will pave the way to more successes in the foreseeable future.



MODERNIZING HUMAN RESOURCES: A PROPELLING POTENTIAL

The Ministry of Petroleum and Mineral Resources (MoP) has succeeded in achieving a chain of unprecedented milestones through the Modernization Project. The project was launched at the end of 2016, aiming at modernizing the Egyptian oil and gas sector. The implementation of such an inclusive strategy plays a vital role in boosting the country's economic growth, in addition to transforming Egypt into a regional energy hub.

The Modernization Project consists of seven pillars and its execution has been passing through three phases. The first phase began in 2016 by conducting a diagnostic study, followed by the second phase which included the project's planning and launching in 2017 and 2018. After that, the project commenced its implementation phase from January 2019 to June 2020. Consequently, the oil and gas sector witnessed many achievements and reforms, with expected returns of about \$7-9 billion.

One of the project's seven pillars is the Human Resources (HR) Management pillar. Human resources are seen as a key element in developing any industry, even for the oil and gas sector. Under the Modernization Project, the HR Management pillar focuses on two aspects; soft skills and hard skills.

HR PILLAR TARGETS

Developing the oil and gas industry's human resources and strengthening their skills will help the industry leaders make right decisions, work efficiently, overcome major challenges, and put the sector on track.

Building on this, Eng. Tarek El Molla, the Minister of Petroleum and Mineral Resources, dedicated a whole pillar to enhance the sector's human capital and improve their capabilities, especially middle management calibers and young professionals.

For this pillar to accomplish its aims, it requires adopting new systems to develop employees and prepare future leaders, which in return will enhance the sector and achieve its goals.

HR DEVELOPMENT STRATEGY

In order to develop the sector's human capital, the MoP has been following a strategy, under which, the HR Management pillar comprises two subprograms; 3A and 3B. 3A main objective is to craft and institute a comprehensive talent management system.

Meanwhile, 3B focuses on driving efficiency in core activities and leverage people in new growth areas.

One of the instances of the 3A theme is the Zohr Development Program. This program aims at supporting the ministry's HR Management pillar. The program was launched in August 2017 with an initial number of participants of around 35,122, receiving 287,874 training hours, yet by the end of the program, the total number of participants reached around 74,695. Under the HR Management Pillar, several programs were launched to empower the sector's young professionals and create future leaders such as:

I. MIDDLE MANAGEMENT PROGRAM

The Middle Management Program consists of three phases. The first phase included the design of the program itself to attract talented employees. Followed by the second phase, which included evaluating applicants, shortlisting and selecting the highly skilled ones. Then, the third phase was conducted in cooperation with international oil companies (IOCs) to host the program's participants and provide them with on job training sessions in their premises.

II. JVS MODERNIZATION

As part of the MoP's efforts to modernize the oil and gas sector, it launched the Health, Safety and Environment (HSE) Program. This program aims at spreading awareness among employees on the importance of HSE, in addition

to providing them with the needed procedures and precautions to overcome potential risks and hazards.

Moreover, the ministry has intensified its efforts to implement the Modernization Project on Joint Ventures (JVs) as well. In August 2017, designing the organizational structure of Petro Shorouk Company was completed. The same year witnessed finalizing the diagnostic study of developing Badr El Din Petroleum Company (BAPETCO). Consequently, BAPETCO was selected by the MoP to be a role model when it comes to the implementation of the new JV model. For further developments in BAPETCO, the ministry launched a program, in cooperation with Shell, in February 2018.

Furthermore, Eni, BP, and Apache coordinated together to implement such development programs on their JVs.

III. SENIOR MANAGEMENT SUCCESSION PLANNING PROGRAM

The ministry paid a great deal of attention to senior management as well through conducting the Senior Management Succession Planning Program. This program aims at collecting sufficient information about the competencies of the National Oil Companies' (NOCs) heads. This information will be used to improve their managerial skills to cope with the current levels of the International Oil Companies' (IOCs) Chairpersons.

Additionally, a new structure, prepared by the ministry, is anticipated to be announced during the upcoming period. This new structure targets improving the sector's efficiency and transparency.

The Senior Management program seeks to establish a balanced view on the professional careers of senior managers. This could be done through figuring out individual professional experiences, business visions and perspectives, career ambitions, in addition to considering the variety in talents, leadership styles and personalities.

This program includes four key steps. The first step is to establish the program's foundations which depends on specifying targeted candidates for new leadership positions.

At the second step, senior managers conduct two surveys to fill required information about their professional profiles and personalities.

This is followed by a third step, in which the MoP conducts in-depth interviews with senior managers to discuss their experiences and preferences, in addition to joining several workshops to discuss the sector's diversified perspectives.

After that comes the fourth and final step, under which, the ministry provides a recommended shortlist of leaders for new positions, depending on the information gathered during the previous steps.

HUMAN CAPITAL ANALYSIS AND DATABASE

With an eye on the 3B aspect, it focuses on modernizing the database of the sector's human capital through which, the MoP intends to ensure that organizations' employees are managed and evaluated effectively; in terms of performance, competencies, skills, creativity, and productivity. This plan will help identify the employees' critical issues that need to change.

This strategy began in January 2018 when the program asked the sector's employees to update their information on their companies' database.



This model helps determine the skills of each company's employees, have deeper insights into their strengths and weaknesses, as well as identifying risks and opportunities needed to develop their companies. That is why the MoP addressed on June 2, 2019 all companies to assure updating their employees' data regularly. Additionally, the ministry has been developing analytical reports on human capital's strengths and weaknesses points. This analysis included 102 entities of the sector.

Another model developed was the job description template. This model enables employees to understand their duties, responsibilities, as well as being effective in the recruitment and selection processes, performance management, training and development initiatives, and succession planning. Besides, this model allows better determination and utilization of human capital's qualifications to enable authorized decision makers to put the right person in the right place, and further develop the sector's human calibers.

Moreover, the MoP provided the Optional Early Retirement model which was implemented in February 2019. This model covers administrative and financial terms, in addition to the development of the early retirement calculator to reap the system's benefits.

Another model adopted by the ministry is the Manpower Redistribution. This model depends on announcing vacancies according to each company's needs through the MoP web portal.

Furthermore, a Part Time Scheme model was implemented in March 2019. This model executes new regulations, in which all state-owned enterprises (SOEs) sent letters to the affiliates. This mainly helps the ministry in achieving its mission of digitalizing the sector's employees' databases.

All above mentioned models and programs marks the MoP's determination to enhance the employees' skills, and build well-qualified leaders for a better future.

DEVELOPMENT PROGRAMS: AN EFFICIENT FUTURE FOR HUMAN RESOURCES

Egypt has embarked on a development plan in collaboration with international oil companies (IOCs), as human resources (HR) training programs play a key role in Egyptian oil and gas companies. These trainings are a catalyst to attracting valuable talents, developing their technical know-how, and qualifying them to take on leadership positions in the future.



UNIVERSITY TRAINING

After encouraging entry into the energy world, the development programs ensure to enhance talented individuals' paths. The Ministry of Petroleum and Mineral Resources (MoP)'s initiative to turn Egypt into a regional energy hub begins by developing the skills of future professionals. In collaboration with a variety of IOCs, the MoP began to implement several training programs for university students.

These training programs aim to guide the students to gain extensive knowledge and technical skills of the applicable techniques in the oil and gas sector. Not only that, but by implementing progressive methodologies in training, the learning environment proved to be even more beneficial. These trainings are divided into three parts: theoretical trainings, classroom practice, and practical training.

The theoretical training includes deductive learning techniques, where students fully grasp the material at hand. This methodology is delivered in a classroom environment where the trainer explains topics in front of the participants with the support of a whiteboard, flip chart, video projector, etc. The participants listen to the lecture, take notes and ask the trainer.

On the other hand, the classroom practice actively involves the participants. The trainer facilitates and organizes activities on basis of the exercise. It is complementary to the exposition of the theoretical part and offers a good opportunity to check and apply the learning of the participants.

To top it all off, and in addition to theoretical learning techniques, the practical training include hands-on experience in the field. Here, the theoretical notions acquired during the theoretical training module, are transformed into execution capabilities. This phase of the teaching process is mainly carried out with simulators and in laboratories and workshops. This will complement the theoretical part learned earlier, and thus, companies will ensure the application of a

real-life learning environment for their trainees.

Other methods use case studies, for instance, to enrich students' knowledge and broaden their horizon to become more open to new, innovative ideas. Moreover, through the latest technological advances in the oil and gas industry, the trainings also provide a real-life simulation where trainees can safely and analytically execute theoretical learning.

Not only that, but the trainings provides peer-to-peer sharing which leads to an inclusive learning environment among the trainees and encourage self-reflection.

The trainings guarantee a future economic and development stability in Egypt's oil and gas sector. Through providing a variety of training programs in different energy fields, the ministry is keeping up with the changes and challenges that face the oil and gas industry worldwide.

MANAGERIAL TRAINING

The MoP also knows that human resources management is an integral part of elevating any entity. Thus, the ministry highly regards the development of its managerial positions through collaborative trainings with the IOCs. Managerial

trainings do not only aim to improve the overall workflow, but ensures creating a safe environment for all employees. These trainings aim to develop a growth mindset that enriches the entire oil and gas sector.

Through presenting innovative leadership techniques and strategic change management techniques, the trainings provide an eye-opening experience to the trainees. These trainings aim to help employees build connections and lead an industry like the oil and gas industry. Accordingly, the trainings provide coaching techniques and methodologies; thus, fostering a culture of enhanced performance, engagement, and accountability. Conducting these trainings provide a great deal of technical and managerial approaches that in turn promote and sustain the sector's development.

The programs and training developments, which are supported by the Minister of Petroleum and Mineral Resources Eng. Tarek El Molla, fortify the growth and expansion of Egypt's oil and gas sector in the long run. These trainings encourage a culture of change and evolution, creating curious minds that will shift the industry and taking it to a whole new level.





HSE COMPLETES THE MODERNIZATION PROJECT'S PICTURE

Under the umbrella of the Modernization Project, health, safety and environment (HSE) comes as a top priority to secure the industry's work environment. This stems from the belief that the oil and gas industry's success is based on lowering its risks. Thus, the Ministry of Petroleum and Mineral Resources (MoP) has endeavored to ensure safety on both levels; the employees' safety and the occupational safety.

The MoP, through assessing the sector's incidents, found out that the main factor of those incidents goes back to the human element. As a result, the ministry directed its efforts towards enhancing the HSE system in the petroleum activities and operations. This system will ensure operations' sustainability in high levels of security and safety for the employees and assets.

THE MINISTRY'S ACHIEVEMENTS

In this regard, the MoP followed several tracks to secure the oil and gas sector. The ministry seeks at all times to achieve the highest levels of international performance of HSE and commit to the HSE regulations and laws. To provide a proper HSE management and a risk management approach, the ministry provides training programs and workshops to the employees to enhance their HSE awareness.

I. HSE EVENTS

The ministry was notably keen to organize a number of prominent events to promote the execution of its belief. The ministry conducted the annual Safety Day, along with its Safety Week, to make sure that every petroleum entity follows a robust HSE system.

During the Safety Day event, held in December 2019, international oil companies (IOCs) as well as national oil companies (NOCs) followed up on the latest HSE system implementation, discussing the importance of this approach to increase employees' awareness.

On the same track, Tarek El Molla, the Minister of Petroleum and Mineral Resources, announced at the annual Safety Day that each company will be assessed by its application of an HSE system, similar to those of the IOCs. Furthermore, HSE measurements will be included to individual assessments of all employees on a quarterly basis to enhance their safety behavior.

El Molla said that the ministry is going to establish a high HSE committee to be responsible for governing the safety system and posting unified rules and policies in line with the international standards, in addition to supervising law's execution.

II. SAFETY DRIVING, CONTROL OF WORK, CONTRACTOR'S MANAGEMENT

The ministry studied the main reasons behind the sector's accidents, and found out that driving vehicles, control of work (CoW) in addition to contractor's management are the most fields causing problems in the sector. So, the ministry seeks to tackle these through improving the employees' culture and behavior towards safety as well as rising the awareness of applying the control of work system and following the security and efficiency standards in the contracting system.

On the topic of safety driving, a safety driving workshop has been conducted in cooperation with the MoP to review the seven elements of the driving policy with a focus on the technology that has been implemented to manage journeys and affect drivers' behavior.

For the CoW, a workshop has been conducted focusing on the indicators of HSE leadership, how to commit to change as well as commit to zero incidents, in addition to how to abide by the nine life-saving rules and spread their awareness.

In addition, workshops were held for contractor's management, addressing six main challenges; lack of HSE

leadership and culture, lack of communication in the oil and gas sector, shortage of qualified resources, no proper documentation, lack of competency, and no clear rules and responsibilities.

III. HSE REGULATIONS AND LAWS

The Egyptian minister selected Occupational Safety and Health Administration (OSHA), which is an international agency implementing Process Safety Management (PCM) systems, to be the main guideline followed by the Egyptian petroleum companies.

OSHA sets standard regulations for managing hazards in the work processes to ensure the availability of a safe and secure working environment for the sector's employees.

The agency has 14 elements that are required to be implemented by employers. The first element requires the employees' participation in the development and execution of the PCM program, especially the ones related to hazard assessment. The second one ensures the employer provides enough information about the possible chemical hazards as well as the know-how of the equipment and technologies. The third element requires the employer to conduct accurate hazard analysis.

The fourth element is about the development and implementation of the written procedures. The fifth focuses on providing all involved contractors and employees with appropriate training before beginning any process to ensure safe work practices. The sixth element states that all contractors involved directly or indirectly in the processes must be evaluated to affirm that they have the appropriate capabilities as well as a safety history.

The seventh element focuses on performing a detailed review of any new or a modified system. The eighth relates to mechanical integrity aiming at developing and implementing a methodical program for performing appropriate maintenance to discover any deficiencies in the equipment. The ninth element is about developing a formal program to prevent fire and explosions from occurring. The tenth is management of change, which institutes documented procedures that aim to ensure safe system operation when changes occur to the system.

The eleventh element addresses incident investigation to ascertain the causes behind incidents and develop recommendations on how to avoid them later. The twelfth is emergency planning and response in which employers put in place plans to face emergencies. The thirteenth one deals with compliance audits, through evaluating a PSM program with an implementation duration of three years at least. The last one focuses on trade secrets, which allow employers to protect their processes that are considered trade secrets.

IV. HSE CAPACITY BUILDING PROGRAM

The MoP has developed the HSE Capacity Building program. This program is designed to evaluate a group of potential HSE reliable professionals who represent oil and gas segments. Additionally, the program aims at developing those potentials and raise the efficiency of the employees on the working sites. This shall create new trust based on responsibility, in a way that merges safety concepts in different activities.

The capacity building program is designed in participation with a number of international specialized companies like DNV and DuPont to utilize their experiences and help in

determining the training program's content according to the most recent safety programs.

The program consists of four essential elements. The first one is education and training, which is fundamental to the strategy of the program. The second one is human resource development which focuses on the development of effective employees through a structured approach, enabling the companies to evaluate the human resources needs for their program.

The third one is knowledge management, which provides the needed information to the individuals to carry out their tasks. The last element is the knowledge networks that are established to support sharing the technical, safety and sustainability knowledge and experiences at national, regional and international levels.

The Capacity Building Program was delivered over three phases, conducted from January to May of 2019. Phase one was the nomination and screening of 74 participants, who were assessed by the end of the phase. Fifty-nine participants were selected for the next phase.

Phase two is divided into two parts A and B. In Phase 2A, 59 talents were trained for DuPont HSE Leadership (an HSE management system auditor using ISRS). They have undergone an assessment at the end of the phase and 30 of them were selected for Phase 2B. Phase 2A was developed in the period from September to November 2019.

In phase 2B, 30 participants were trained to obtain professional certificates in the fields of risk management and securing the vital systems (functional safety engineer). This phase was planned to be conducted from December 2019 to January 2020.

The last phase is on-the-job training where the qualified trainees will win a master's scholarship in HSE for one year in an international university. Finally, the third phase is planned to be submitted in 2020.

V. HSE DIGITALIZATION

Some of the sector's companies utilized digitalization while applying an HSE strategy. This came in line with the MoP's directive toward digitalizing oil and gas sector. These digitalizing initiatives were also introduced during the Safety Week.

Companies are using digitalization in CoW, developing an effective system that can control operations in an efficient way and minimize risks.

Safety systems can leverage digital transformation through establishing a complete interactive model which includes all the sites' data and records it in a real-time 3D mapping. This optimizes the safety system, enhances productivity, improves the quality of products, reduces operating costs, and mitigates potential hazards.

Digitalizing safety reporting was another method that was explored, where reporting systems with huge amounts of information can be turned into an electronic system to overcome different HSE problems faced while managing projects. This also provides an accurate way to create and track journey management plans.

Meeting the Minds Behind the Middle Management Program

When it comes to the human resources in the oil and gas sector, the Middle Management Program is all the rage. The efforts done under the directives of the Minister of Petroleum and Mineral Resources, H.E. Tarek El Molla, and the Modernization Project to cultivate the sector's employees should not go unnoticed. Such efforts require a shrewd business acumen; thus, Egypt Oil & Gas was keen to interview the masterminds behind the Middle Management Program.

AN ASSET TO THE MODERNIZATION ENDEAVOR

"We believe that the human is the main tool to guarantee a sustainable bright future for our sector," Osama Mobarez, Undersecretary of the Minister's Technical Office at the Ministry of Petroleum and Mineral Resources, said. In this regard, Mobarez explained that the Modernization Project was derived from that belief, as a main pillar in the Modernization Project was dedicated to the human resources development. The team behind this initiative ensured that middle managers would have an imperative role in the program; and thus, an imperative role in the whole sector.

Mobarez further shed light on the team's continuous hard work to introduce programs for middle managers to help them realize their potentials through a succession plan. "These programs were designed to discover the sector's hidden talents through a fully transparent process," Mobarez added.

What is also unique about these programs is that they aim to solely focus on the human development and the sector's employees only. Other programs tend to target upstream

or downstream production. These programs, however, were in place to guarantee the presence of highly qualified, motivated and well-trained calibers, Mobarez elaborated. "These programs were even different as they provided employees with on job training and practical experience. The programs focused on several pillars, besides improving technical skills, they enhance business mindset as well as develop their leadership and communication skills," he added.

THE KPIS

The Program's Sponsor, Hisham Nouredin, believes that to determine the success on the employee level, it was crucial to measure the difference these development programs added to them.

Nouredin revealed that this was done by a robust assessment that identifies their existent competencies to be able to build on their skills and enhance their overall performance. This was manifested not only on a technical level, but also their character and ideologies, he added. Nouredin recounted that this was evident during the last meeting between H.E. the Minister of Petroleum and Mineral Resources and the youth when they presented their experience.

As for the current calibers who finished this round, Nouredin said that the team is currently revisiting the calibers' career paths to make them befitting for their new experience. Some of those calibers can even be assigned to different positions or can receive job shadowing with senior leaders and more development programs to further develop their skills and enhance their performance.

REAPING THE FRUITS

Maha F. Attia, Vice Head of the Technical Office at the Ministry of Petroleum and Mineral Resources, said that the program has already started bearing and reaping its fruits. She explained that the main purpose behind the Middle Management Program was to create a pool of qualified candidates and further develop their skills to prepare them to take on leadership positions in the future. "Since a lot of the candidates finished their programs, we can see the change in their ideas, spirit, overall character and the way business is done. Being exposed to international work environments away from their comfort zone and abiding by international standards will surely be reflected on their daily work and thus benefit the whole sector in a short period of time," Attia observed.

She also explained how she thinks these candidates will be the change agents in the future, as they are now acting as agents in different companies to help the sector continue its modernization journey that was started in mid-2016. "They are spreading the knowledge and skills they were exposed to during their development program and by time, this will enhance the overall sector culture. We are currently evaluating their acquired skills and strengths to fully benefit the sector as a whole," Attia said.

"Overall the candidates were impressed with the full process from the starting point. They were very excited to engage in such new development program. They believed in this program's core values, which are transparency, diversity and giving an equal opportunity for everyone. Now I feel that they are more loyal to the sector and trust in our aim to invest in the human asset and develop their skills," Atef commented.

He further said that building a network with high-level executives in IOCs will allow the candidates to be exposed to new experiences abroad and on-the-job trainings in the most reputable international organizations that polish their skills.

WHEELS BEGINNING TO TURN

Eman Wafy, the Program Leader, has disclosed where the program has reached so far. According to Wafy, 45 of fast-track candidates have just finished their capacity building and job shadowing programs conducted in the US, UK, Germany, Italy, and the UAE, which were sponsored by BP, Baker Hughes, and Kuwait Energy, while 15 candidates are still participating in their programs in the US, UK, and Italy, which were sponsored by Eni and Apache.

Moreover, 20 candidates finished their three months' local program sponsored by Halliburton and top candidates will start their abroad program in the US next month. Other abroad job shadowing programs, which are sponsored by Schlumberger, Saipem, Total, Shell, and Lukoil are under development. The 141 managerial track candidates have finished a two-month leadership training program at the American Chamber of Commerce in Egypt (AmCham), which was sponsored by Exxon Mobil, Schlumberger and Apache.

As for the 160 technical track candidates, they are currently participating in a two-month managerial training at the American University in Cairo (AUC), which is sponsored by Shell. Meanwhile, 37 other candidates from exploration and drilling streams participated in a five-week technical training at Schlumberger.

THE FUNDAMENTALS

"All capacity building programs are designed as an eye-opener and refresher to create a new adaptive mind set with three main objectives: How to become a change-agent? How to become a better leader? How to develop a strategic focus?" Wafy said.

She indicated that the programs adopted different capacity building tools such as business schools' selective courses, coaching, and mentorship; with a main focus on job training and secondment in real job shadowing assignments in different international oil companies (IOCs) covering all the oil and gas value chain.



OSAMA MOBAREZ
Undersecretary of the
Minister's Technical
Office at the Ministry of
Petroleum and Mineral
Resources.

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We are creating a fully integrated HR system to ensure highly motivated and qualified candidates across the sector.

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HISHAM NOURELDIN
The Program's Sponsor



The IOCs' support will continue as we will sign a number of agreements with them during EGYPs to secure several rounds of development programs over the next three years.



MAHA F. ATTIA
Vice Head of the
Technical Office at the
Ministry of Petroleum and
Mineral Resources.



All capacity building programs are designed as an eye-opener and refresher to create a new adaptive mindset.



Topics like corporate governance, emotional intelligence, strategy formulation and execution, stakeholder management, and leading change were the main ingredients in all programs. In addition, all programs are followed by innovative projects to apply all the gained knowledge in the workplace.

OVERCOMING CHALLENGES

With that being said, being part of a fresh program offers a fresh perspective for all its challenges as well as solutions. According to Wael Atef, Finance and Economic Affairs General Manager at the Ministry of Petroleum and Mineral Resources, working on the Middle Management Program exposed the team on board to a myriad of challenges. Convincing the candidates that the program was not a hoax was challenging at first, Atef said, as the transparency of the program made it seem too good to be true. The selection procedures were unlike others that are usually tainted with bureaucracy. The candidates were chosen based on assessments and not any personal recommendations, which ironically left room for skepticism.

However, the downside of it was the time aspect. Atef pointed out that as the process was all manual, it required so much time to ensure that the screening, selection and results were free from any manual error. "Since we wanted to ensure transparency throughout the whole process, we left it to the IOCs to choose the candidates themselves, which also took extra time. All these challenges were taken into consideration and will allow the process in the future rounds to be faster and smoother making use of digital technology," Atef remarked.

ON BEING SUSTAINABLE

To guarantee sustainability, Mobarez believes that collaboration is the key. The ministry is working closely with several IOCs to ensure they are a major part of this development program. "We are creating a fully integrated HR system to ensure highly motivated and qualified candidates across all the sector," he said, adding that this will be a win-win situation to develop a new generation of qualified calibers seeking a common goal.

"The first experience is always the most difficult one. There are many challenges that we are working hard to overcome to guarantee a fully automated and smooth process to continue for years to come," Mobarez mentioned.

Nouredin ensured that the Middle Management Program is an ongoing development process that will continue for many years to come. He added that "We are currently preparing for the second round of the program. In addition, the IOCs' support will continue as we will sign a number of agreements with them during EGYPs to secure several rounds of development programs over the next three years."

A BETTER FUTURE

From the IOCs standpoint, all companies gave positive feedback and were extremely impressed, Attia clarified, adding that IOCs consider it as a win-win situation where they were excited to be involved in developing their skills. "We received further commitments from several IOCs to sustain these development programs and engage in the future rounds to come. We are also building up on all the evaluations that were done and the gap analysis identified to further develop their skills and make use of them in different fields in the sector," Attia said.

On the other hand, Nouredin concluded that "looking broadly on the industry level, I believe such development programs will provide a lot to our sector. Our vision is to enhance the sector performance focusing on efficiency, creativity and innovation as well as to contribute more to Egypt's economy. This will happen only through the presence of highly qualified caliber capable of adapting to any change and leading the future of the sector. These programs are the optimal solution to expose our youth to international standards and advanced work environment to enhance their skills," he concluded.



EMAN WAFY
The Program Leader



All capacity building programs are designed as an eye-opener and refresher to create a new adaptive mind set with three main objectives: How to become a change-agent? How to become a better leader? How to have a strategic focus?



WAEEL ATEF
Finance and Economic
Affairs General Manager
at the Ministry of
Petroleum and Mineral
Resources.



Overall the candidates were impressed with the full process from the starting point. They were very excited to engage in such new development program.



IOCS, MINISTRY OF PETROLEUM COOPERATE IN VISUALIZING MIDDLE MANAGEMENT PROGRAM

International Oil Companies (IOCs) have shown great interest in cooperation with the Ministry of Petroleum and Mineral Resources in accomplishing Middle Management Program's targets. They were also very interested in translating their enthusiasm into programs, trainings and workshops to help oil and gas workforce to promote the sector's achievements.

ENRICHING HUMAN CAPACITY

The programs developed by some of IOCs were mainly dedicated to building and enriching the human capacity, believing that it is an important factor in the process of preparing efficient future leaders.

Hussam Abuseif, Director and General Manager of Baker Hughes Egypt, Sudan and South Sudan, said that "Baker Hughes has been a dedicated partner to the Ministry over the years; and therefore, when His Excellency Eng. Tarek El Molla, the Minister of the Petroleum and Mineral resources, presented to us the Middle Management Training Program initiative, we were very keen to support it."

Abuseif added that the program focused on building competency and enriching the leadership skills for future leaders in the sector. Furthermore, he noted that leadership training is crucial for the company which is honored to be partnering with the ministry in adding value to their initiative and help shape the program in ways that benefit the participants.

On the same sequence, Karim Badawi, Managing Director of Egypt and East Mediterranean at Schlumberger, said that "Schlumberger was one of the very first companies that reached out to the ministry's modernization program leaders in order to support the program pillar three which is concerned with the people development in the Egyptian Oil and Gas sector."

"One of Schlumberger core values is people that's why we wanted to share our knowledge and expertise in oil and gas industry with the sector different parties as part of our commitment to the sector and society," he added.

Badawi explained that his company has designed training programs mainly delivered by Schlumberger personnel; each program is designed for a specific target group from the sector: undergraduates; sector newly hired employees and the middle management group.

He said that via middle management program, the company managed to train all the pre-selected fast track group who are more than 100 trainees in addition to 40 middle management technical profiles.

"The fast track program was divided into two phases; the first phase was for one month covering soft skills; change management; project management; technical overview about oil and gas life cycle and a special overview of all support functions i.e. HR, IT, legal and finance with a special focus on HSE. The second phase is planned to be an overseas training

to some of the fast track trainees to pass the international experience to the trainees."

Kamel AL Sawi, the President of Kuwait Energy Egypt, said that his company designed a program aims to provide a true leadership development exposure that equips participants with the mindset, skill-set, and tool-set required for leadership progression roles at their organizations. This program will affect the performance of oil and gas sector positively.

Additionally, Al Sawi said that the company has tailored a tensed program that lasted for six months namely "Emerging Leaders" with the support and cooperation of all the parties.

"We have honored to sign a memorandum of understanding with the Egyptian Ministry of Petroleum and Mineral Resources to implement the program intensively." He added

For Halliburton, the Vice President of Halliburton Egypt and Libya, Colby Fuser, said that his company offers a two-phase training program that has worked well in helping the company collaborate with the Ministry.

"Phase one is a three-month long training program held in Egypt for 20 selected candidates. For phase two, we select five candidates from the original 20 for a 3-month training program in the United States, said Fuser, who announced that the company plans to hold the next training session in Houston, Texas, on March 16.

"The program includes instruction in diverse disciplines where the candidates learn business processes, HSEQ, advanced presentation skills and participate in practical onsite training, said Fuser who referred to the program as an opportunity for candidates to build a network of mentors and friends within Halliburton who they can call on for support throughout their careers.

CRITERIA OF DEVELOPING JOINT PROGRAMS

Each company adopted certain standards and criteria to be applied when developing the joint programs.

From Baker Hughes, Abuseif, said that the main criteria they applied, is understanding the objective of the program and the initiative as well as working together to co-develop a solution that meets the programs needs and finally working on a gap analysis if needed.

"Definitely, having a proper structure to the program encourages us to participate, and we were impressed by the level of organization and dedication from the ministerial team in charge

of the program", he commented.

For his part, Badawi said that his company held an internal brainstorming session at first to shape the outline of the programs based on the target audience; then they had the first meeting with the ministry team to present the draft and know their requirements and feedbacks. After working on the final edition, a final meeting takes place with all stakeholder to agree on the program content, timeline and the target groups in addition to the expected outcome.

He added: "Our main criteria are always to avoid any conflict of interest; ensure confidentiality and ensure passing a good first-hand experience to all the trainees."

As for Kuwait Energy Egypt, Al Sawi said that "Any joint program should be of an added value to all parties and the objectives should be agreed from the beginning in order to realize the expected outcome from the program."

He emphasized that joint programs should serve the strategy of the company and in the meantime the strategy of the other party. "I think the Middle Management Program is a real example for this, where we realized the importance of the program which will shape the business mindset of the future leaders that will in turn lead to better business environment for us as an international oil and gas company investing in Egypt," he added.

TARGETED QUALIFICATIONS OF THE PARTICIPANTS

The participated IOCs in the Middle Management Program, selected the participants in the program according to some qualifications and skills.

The Director and General Manager for Baker Hughes Egypt, said that "Education qualifications and area of expertise were major components to screen potential candidates. It was also helpful for us to accommodate different business functions such as Finance, Human Resources (HR) and Health, Safety and Environment (HSE). Moreover, we expanded the criteria to cover upstream and downstream expertise."

On the same sequence, the President of Kuwait Energy Egypt, said that "During the process of selecting the candidates for the middle management program, Kuwait Energy Egypt made sure that each participant should have a minimum level of both personal and technical competencies"

"For the personal competencies, Kuwait Energy Egypt selected candidates who are eager to learn, committed and the ones



COLBY FUSER
the Vice President of
Halliburton Egypt and
Libya



The program {Halliburton's Middle Management Program} includes instruction in diverse disciplines where the candidates learn business processes, HSEQ, advanced presentation skills and participate in practical onsite training, said Fuser who referred to the program as an opportunity for candidates to build a network of mentors and friends within Halliburton who they can call on for support throughout their careers.



HUSSAM ABUSEIF
Director and General
Manager of Baker
Hughes Egypt, Sudan and
South Sudan



When we are successful in developing such culture {Lead, Grow, Collaborate and care} in our trainees with such powerful values including HSE and a structured career path then we have set those trainees to be more contributing to their own life and the community around them.





who are self-motivated and willing to go the extra mile and convey what they have learnt to other people for sustainability purposes. This is important because the program requires a lot of dedication and work, accordingly we were looking for those who will get the most out of this program and will be able later on to apply what they have learnt," he explained.

"As for the technical competencies, we have searched for candidates who have managed to progress in their career ladders and those who have diversified technical knowledge and were able to transfer the technical know-how to others," he added, noting that the company's focus was to make sure that the candidates are from different disciplines to enrich their knowledge when they interact together.

PREPARING THE TRAINEES

For Baker Hughes, Abuseif explained that the majority of the trainees graduated from different engineering disciplines. "The first step was ensuring that all participants received proper HSE training and qualification in order to work in the oil and gas industry. This induction was followed by different induction process, and not limited to Information Technology (IT) security, Compliance and company's Policy and Values," said Abuseif.

He continued: "Following such process, the trainees are then assigned to their respective businesses and the first three years of their career are covered with structured career development technical and operational path. Moreover, the new hires in all other support functions run equally the same induction for engineers and pursue different career and progression path."

As for Schlumberger, Badawi said that the trainees were pre-selected by the ministry's modernization team and they all have very strong profiles from different backgrounds.

"Schlumberger made sure to put them all on the same ground via the designed fundamental training program as each one was expert in specific area after the training, they became very well knowledgeable in different areas i.e. a reservoir engineer became aware of all support functions fundamentals and HSE culture," he added.

Meanwhile, Al Sawi elaborated that business awareness is very crucial to understand the big picture. Understanding business language, business models and comfortable communication about all facets of the business to be able to make recommendations that support organizational goals and makes decisions that drive people capabilities to the organization's advantage.

He added that Kuwait Energy Egypt aim is to develop the leadership skills by focusing on leading self, others and organizations noting that understanding the current level of skills and capabilities is very essential. He resumed that second step is leading others by developing their leadership skills; finally leading their organization by focusing on the achievement of the overall strategy to translate it into realistic actions.

IOCS PROGRAMS' ROLE

IOCs developed some programs that can play a vital role in developing the human resources in line with the targets of Middle Management Program.

Baker Hughes' Abuseif, said that imbedding his company's core, which are Lead, Grow, Collaborate and Care, was key to drive the participants' experience on the program and truly gives them an opportunity to engage with the Baker Hughes culture.

"When we are successful in developing such culture in our trainees with such powerful values including HSE and a structured career path then we have set those trainees to be more contributing to their own life and the community around them," he added.

For Schlumberger, it's Managing Director of Egypt and East Mediterranean, clarified that, they created a very strong team on the personal level and using their own words they become one big family. "They shared good memories and stories as well as the different experiences they gained from different companies and departments.

He added: "On professional level, they {trainees} gained very high-level knowledge in so many new topics and they became aware of the industry's top notch technologies in different domains; they are all now HSE oriented and understood the importance of safety. The training also open the opportunity for them to think big; to work on graduation projects that should make the Egyptian sector more efficient one."

Kuwait Energy Egypt's Kamel Al Sawi, clarified that the program contributed in the development

of the trainees on the professional level through having them exposed and engaged in the work activities taking place in the company in the different departments.

He added, "In addition, each trainee had certain work objectives that were set for him before joining the program through which, he was assigned a technical mentor who guided him to meet these objectives. Additionally, all trainees, regardless of their disciplines, were engaged in cross departmental orientation across all departments within Kuwait Energy Egypt."

AL sawi noted that this strategy helped the trainees in getting better insights into the different work activities within the department.

"As for the personal level, throughout the whole six months of the program, there were regular one-on-one coaching sessions for all trainees which tackled the development on both the professional and the personal levels. In addition, trainees were involved in different training programs some of which were outside Egypt. These programs provided the trainees with a good exposure that helped in enlarging and enhancing their personal and managerial skills," Al Sawi explained.

RECOMMENDATIONS FOR THE FUTURE

Some of the IOCs provided their views on some aspects of the Middle Management Program that need to be improved in the future.

Schlumberger's Karim Badawi said that his company always looks for continuous improvement as one of its strategies. "So these improvements already took place after each batch to make sure the program meets the audience needs and includes all new topics and technologies," he said.

Kuwait Energy Egypt's Al Sawi notified that the ministry is setting certain competencies for the future leaders and the development programs should be designed to assess these competencies as well as define the gaps that need to be bridged, followed by development activities to close the gaps and finally to reassess these competencies again to catch the progress.

"The improvement could be by ensuring more alignment between all IOCs that participated in this project and implementing same assessment mechanism that will help in evaluating the development of all the participants," he added.

MIDDLE MANAGEMENT PROGRAM EFFECTS

Middle Management Program effect is evident in the performance of the IOCs' employees.

The President of Kuwait Energy Egypt, Kamel Al Sawi pointed out that "The success is to achieve the project objective by having emerging leaders capable to be a change agent in their companies and support the modernization project. The assessments before and after the program revealed a great improvement in the competency level of all participants."

MIDDLE MANAGEMENT AND IOCS' VISION

Some of the IOCs demonstrated that Middle Management Program concept is aligned with their visions towards both the companies' level and the Country's level.

Baker Hughes' Abuseif, elaborated that his company is committed to take the oil and gas activities forward by making it cleaner, safer and more efficient for people and the planet.

He stressed: "This is our main purpose and drives our obligation and commitment towards Egypt's oil and gas sector and therefore the main reason for Baker Hughes to support strategic initiatives by the ministry such as the Middle Management Training Program."

He noted that, his company believes that collaboration always results in better outcomes for them and their customers. "Baker Hughes truly believes that being part of such program is one of the best ways to invest and support the sector," he added.

On the same frame, Al Sawi said that the program concept aligned with Kuwait Energy Egypt vision in two parts. First part is serving the community and the Oil and Gas sector which is an integral part of company's corporate social responsibility (CSR) strategy and one of its main pillars that help to achieve CSR mission and vision. Second part is focusing on the leadership development of company's future business partners which will ensure better investment environment for it and will guarantee a promising future for the sector and Egypt.

For Schlumberger's Badawi, the Middle Management Program dealing with the employees is consistent with the company's core which is "people".



KAMEL AL SAWI
the President of Kuwait
Energy Egypt



The improvement could be by ensuring more alignment between all IOCs that participated in this project and implementing same assessment mechanism that will help in evaluating the development of all the participants.



KARIM BADAWI
Managing Director
of Egypt and East
Mediterranean at
Schlumberger



Schlumberger made sure to put them {trainees} all on the same ground via the designed fundamental training program as each one was expert in specific area after the training, they became very well knowledgeable in different areas i.e. a reservoir engineer became aware of all support functions fundamentals and HSE culture.



THE MIDDLE MANAGEMENT PROGRAM INTRODUCES THE LEADERS OF TOMORROW



Enabling calibers to reach their full potential has always been on the top of Egypt's agenda. The Ministry of Petroleum and Mineral Resources, led by the Minister Eng. Tarek El Molla, aims to bring its calibers at the forefront of the oil and gas sector, with the minister's Modernization Project continuously developing the sector's human resources (HR). One of the programs embedded within the Modernization Project is the Middle Management Program; which focuses on empowering young calibers in the sector. Egypt Oil & Gas has had the honor to interview eight outstanding calibers who have been a part of the Middle Management Program.

THE ANNOUNCEMENT

One common step shared among the eight calibers was how they all began their Middle Management Program journeys. Most of them heard of the program in 2017 when the program was first launched, however, each was introduced to it by different means. For instance, Mohammed Helmy, Technical Studies Section Head at Cairo Oil Refining Co (CORC), was advised by his manager to apply for the program, while others, like Mohamed Abbas, Reservoir Engineering Acting Section Head at Qarun Petroleum



THIS WAS SUCH A HUGE STEP TOWARDS EMPLOYEE'S EMPOWERMENT, HAVING DIFFERENT OPPORTUNITIES AND BEING ABLE TO EXPRESS THEIR CAPABILITIES IN THE WHOLE SECTOR RATHER THAN THEIR OWN COMPANIES.



RANDA ESMAT
HR Manager at ENPPI



I TRULY BELIEVED THAT THE PROGRAM WILL YIELD A GROUP OF WELL-PREPARED CHANGE AGENTS READY TO CONTRIBUTE IN DRIVING BETTER OPERATION EFFICIENCY.



MAHA ZAHARAN
Department Manager at Petroleum Projects and Technical Consultations Co. (PETROJET).

Company, were introduced to the program through a memo by Egyptian General Petroleum Corporation (EGPC). To Abbas, it sent a wave of hope as he believes that "the most valuable asset for any company or sector is their human resources."

THE SELECTION PROCESS

One noticeable feature that was commended by all the calibers in the program was transparency. The selected calibers all submitted their online applications and then went through a series of different examinations, beginning with the Graduate Management Admission Test (GMAT), which assess the applicants' analytical, writing, and verbal skills. This was followed by a panel interview. "This was such a huge step towards employee's empowerment, having different opportunities and being able to express their capabilities in the whole sector rather than their own companies," Randa Esmat, HR Manager at ENPPI, commented. The selected candidates start their trainings in international oil companies (IOCs), in collaboration with the ministry, and later on get a second panel interview which will allow them to continue their training abroad.

A STEP FORWARD

The Middle Management Program has played an integral part in developing the talents and honing the caliber's skills. Many of them have agreed that the program was a step forward towards reaching their full potentials and a mean to enhance their management and technical skills. Helmy said that, to him, the program became a "SWOT analysis for my personal and professional behaviors; I defined it as a great chance of self-development."

Echoing the same sentiment, Abbas said that the program aligns with his plan to improve his managerial skills so as to proceed to the next step in his career. The program has definitely resonated with the calibers; "I truly believed that the program will yield a group of well-prepared change agents ready to contribute in driving better operation efficiency, especially that it includes a comprehensive development plan designed and tailored according to the needs of the Egyptian oil and gas sector," Maha Zahran, Department Manager at Petroleum Projects and Technical Consultations Co. (PETROJET), remarked.

BECOMING A CHANGE AGENT

As the program became an integral part of the calibers' lives, it not only affected their professional development, but influenced their personal development as well. "I have a new responsibility to be a change-agent to spread positive thinking and be more aware of the change management process. [It] made me a safety-oriented person with an interdependent safety culture in work and even in my personal daily life," Ahmed Shehata, HR Development General Manager at Abu Qir Petroleum, commented. Just as the program changed Shehata's mindset, the program improved "both of my soft and managerial skills through the intensive training courses," Mohamed AbdElkader, Senior Electrical Maintenance Engineer, Rashid Petroleum Company (Rashpetco) added. He further elaborated on the enhanced strategic planning, governance and leadership skills gained throughout the program.

UNLOCKING FULL POTENTIALS

The key to any successful organization is human resources as they are the core of any entity. On a larger scale, the oil and gas sector need to allow a communication link among its calibers. The Middle Management Program's key achievement is that it paved the way to establishing an integrated communication. Gaining contact with the upper level management in the ministry is an asset, Helmy noted. Not only that, but it has completely changed the way some trainees view themselves; "[the program changed] the way I think



I HAVE A NEW RESPONSIBILITY TO BE A CHANGE-AGENT TO SPREAD POSITIVE THINKING AND BE MORE AWARE OF THE CHANGE MANAGEMENT PROCESS.

AHMED SHEHATA

HR Development General Manager at Abu Qir Petroleum.



THE PROGRAM WAS FOCUSED ON SHIFTING OUR MINDSET TO BEING MORE AGILE.

MOHAMED FOULA

Department Head, Global Maintenance Department at Egyptian Maintenance Company (EMC)



"[THE PROGRAM CHANGED] THE WAY I THINK AND JUDGE, THE FLEXIBILITY I GAINED DUE THE WIDE SPECTRUM SKILLS I HAVE LEARNT, AND THE PROFESSIONAL LOOK TOWARDS THE CONTRACTORS AND INVESTORS IN ORDER TO ATTAIN THE BEST SITUATION FOR MY ORGANIZATION.

AMR EL SAYED HASSAN

Department Manager at Egyptian General Petroleum Corporation (EGPC).



CAPITALIZING ON YOUTH WILL CREATE BETTER FUTURE FOR OUR SECTOR AND WILL CREATE A POOL OF QUALIFIED CALIBERS WHO ARE READY TO LEAD THE REQUIRED CHANGE AND TAKE THE RESPONSIBILITY.

MOHAMED ABDELKADER

Senior Electrical Maintenance Engineer, Rashid Petroleum Company (Rashpetco)

and judge, the flexibility I gained due the wide spectrum skills I have learnt, and the professional look towards the contractors and investors in order to attain the best situation for my organization," Amr El Sayed Hassan, Department Manager at EGPC.

Shehata added on this note that the program helped him encourage a culture of open communication, and inspired a culture that promotes integrity, commitment, learning and developing. "[The program] also helps you build an interdependent safety culture; to be safety oriented and proactive; to feel empowered to stop any unsafe actions; and to adopt risk analysis even for all decisions," he continued.

Esmat shared a story from one of the meetings the calibers had with the minister. He once asked them if they are ready now to be the leaders of tomorrow, and she thought to herself that she was not; "but now if the question is repeated, my answer shall be yes," she said.

WALK THE TALK

As the calibers discussed their journey within the Middle Management Program, they acknowledged how they utilized their newly-gained knowledge and skills moving forward. Abdelkader mentioned that the program filled many competency gaps; whereas creating an engaging work environment and taking effective decisions were of utmost value to him. Mohamed Foula, Department Head, Global Maintenance Department at Egyptian Maintenance Company (EMC), said that "the program was focused on shifting our mindset to being more agile." He elaborated that due to the program, he can now efficiently "incorporate some skills like effective listening, problem solving, and decision-making processes," which both Abdelkader and Zahran agreed on as well.

Utilizing advanced technology influenced the calibers on so many levels; for Helmy, this was a major change after completing the program. He integrated the usage of technology in his day-to-day tasks, adding that "I am currently working on having effective follow-up activities through better arrangements, time management, meeting preparations, data archiving, and asset integrity." Esmat advocated that the program was key to enhance change management as "persistence and resilience are considered main competencies for perusing our objectives and conquering the challenges that each leader meets," she said. The program helped her incorporate effective negotiation skills, adopting win-win solution alternatives, conflict resolution, and interactive communication.

A ROOM FOR IMPROVEMENT

While all the trainees agree that the program was an essential step in their professional and personal growth, they also noted that it could use a little tweaking. For instance, Foula and Helmy found that the timeframe beginning with the announcement phase to the training phase was all too long. On the other hand, Zahran thought that adding psychometric test to the selection and filtration process would be a great asset, but it will also increase the timeframe.

Most of the trainees agree that the program's transparency should be equally met with a detailed agenda of the program's plan. "That would lessen the ambiguity about the question that some of us had in mind," remarked Esmat. They also agreed that a data bank of the collective experience should be shared not only among the program's trainees, but to be shared within the whole sector.

Abbas suggested that in addition to the technical and soft skill acquired, gaining a managerial training would be a supplementary asset to the program. Shehata reverberated the same idea saying that "offering a shadowing process to let [the trainees] attend budget

meetings, bidding committees, steering committees, general assemblies and board meetings," would add more value to the program.

A SUSTAINABLE FUTURE

Through thorough assessments and evaluations, the Middle Management Program managed to let us glimpse in the future of Egypt's oil and gas sector. Zahran firmly believes that the program pushed the competent and qualified youth to the front lines and that they will contribute to the sector's advancement. Furthermore, in the era of big data, the sector could easily capitalize on intellectual diverse calibers, Esmat pointed out.

Abdelkader concurred saying that "capitalizing on youth will create better future for our sector and will create a pool of qualified calibers who are ready to lead the required change and take the responsibility." Shehata made an excellent point noting that the Middle Management Program will gradually eliminate the seniority-based promotion system, and decrease the turnover rate within the sector. Zahran added on that note that "bridging generations will create a sustainable future for the oil and gas sector by the full engagement and empowerment of youth with their new ideas and enthusiasm."

THE NEXT WAVE

The calibers' experience in the Middle Management Program proved to be a journey worthy of time and effort, and the selected calibers highly recommends joining the next wave. Throughout the program, the candidates broke the barriers of fear and embraced change, which allowed them to grow on both the personal and professional levels. Esmat recommends the youth to take initiative and join the program saying that "[You would] serve as change agents and catalysts to the process of transforming our sector and our country to the state where we could really compete with the international pace towards modernization."

Hassan also said that the program would help the selected candidate gain a better understanding of Egypt's oil and gas sector. Helmy strongly advocated for the program saying that "Throughout the program, calibers will be able to break their boring work routine, define new points of interest, gain more knowledge, add new flavors to their work environments, and adject new skills to theirs."

ONE FOR THE MEMORIES

Finally, the calibers recounted one memory throughout the program that they cherish the most. Many of them; including Abbas, Shehata, and Helmy recounted their first meeting with El Molla; "I went to the meeting thinking of a potential development opportunity, but we all left with a great feeling of trust, commitment and inspiration," said Shehata.

Zahran mentioned that training with Eni in a new environment in Milan, Italy was a challenging and a rewarding experience. Being exposed to a different culture and overcoming language barrier have "created a great sense of responsibility and accountability towards doing more than my best during the training," Zahran noted.

Hassan recalled his time at Halliburton; "I will never forget the business finance simulation game that we did... we learned how to set long-term strategy, how to modify the strategy based on the market status, and we learned about finance, marketing, and management."



THROUGHOUT THE PROGRAM, CALIBERS WILL BE ABLE TO BREAK THEIR BORING WORK ROUTINE, DEFINE NEW POINTS OF INTEREST, GAIN MORE KNOWLEDGE, ADD NEW FLAVORS TO THEIR WORK ENVIRONMENTS, AND ADJECT NEW SKILLS TO THEIRS.

MOHAMMED HELMY

Technical Studies Section Head at Cairo Oil Refining Co (CORC)



THE MOST VALUABLE ASSET FOR ANY COMPANY OR SECTOR IS THEIR HUMAN RESOURCES.

MOHAMED ABBAS

Reservoir Engineering Acting Section Head at Qarun Petroleum Company



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MEDIA DIVISION

A GUIDE TO THE NILE DELTA'S OIL AND GAS RESOURCES

BY AMINA HUSSEIN, REHAM GAMAL & TASNEEM MADI

The Nile Delta is one of the oldest petroleum production areas. The region witnessed the first natural gas discovery in 1967, the Abu Madi field. Since then and until the end of Fiscal Year (FY) 2018/19, the region has achieved 173 discoveries in addition to drilling 387 wells with success rate of 45%. In FY 2018/19, the region's petroleum production recorded about 89.5 million barrels (mmbbl), representing 16% of Egypt's total petroleum production, according to the Egyptian Natural Gas Holding Company's (EGAS) and the Egyptian General Petroleum Corporation's (EGPC) data.

The Nile Delta went through notable changes and updates during FYs 2017/18 and 2018/19 covering different aspects, such as bid rounds, agreements, and production rates.

Bid Rounds

In 2018, the EGAS launched an international bid round, which offered 16 blocks; three of which were onshore blocks that are located in the Nile Delta, according to the EGAS Annual Report 2017/18.

EGAS INTERNATIONAL BID ROUND IN 2018



The bid round results were announced in February 2019, on the sidelines of the Egypt Petroleum Show (EGYPS 2019). Five blocks were awarded to major companies; two of which are located in the Nile Delta. The two blocks were awarded to Wintershall Dea, International Egyptian Oil Company (IEOC) and BP. In fact, the signature bonus of the two blocks totaled \$16 million. In addition, the total financial commitments recorded \$71 million to drill 12 exploratory wells, according to the MoP's official website.

EGPC AND EGAS 2018 BID ROUNDS' RESULTS FOR THE NILE DELTA

Company	Blocks	Signature Bonus (\$ million)	Minimum Financial Commitment (\$ million)	Exploratory Wells	Area (km ²)
Wintershall Dea	East Damanhur Onshore-Block (10)	11	43	8	1,418
IEOC/ BP	West Sherbean Onshore-Block (11)	5	28	4	1,535

Active Agreements

Since the late 1960s, many International Oil Companies (IOCs) have signed agreements to exploit different concessions in the Nile Delta. Until June 2019, the region reached five active agreements to develop five concessions by Dana Gas, Eni, the EGPC, IPR, SDX, BP and Edison. Dana Gas only has interests in two active blocks; one in the Nile Delta (Block 3) and the other in the Eastern Nile Delta (Block 6), representing the most dynamic operating company in the region, according to the EGAS and Dana Gas's website.

The IOCs are granted the rights to carry out different types of activities depending on the type of agreement signed. However, the region's current active agreements concentrate on development activities.

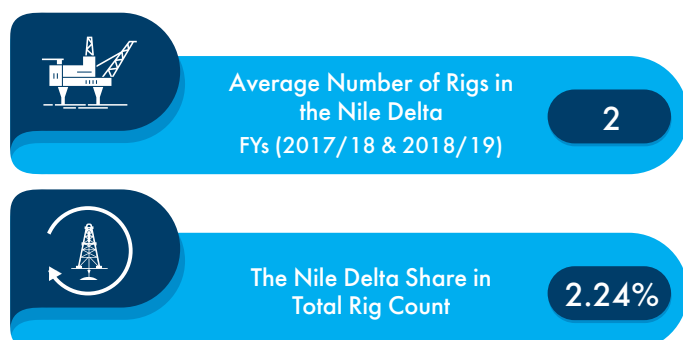
Drilling Activities

The average number of drilling rigs in the Nile Delta fields in FY 2017/18 reached three rigs, contributing 2.8% of Egypt's total drilling rigs. On the other hand, in FY 2018/19, an average of two drilling rigs was recorded in the region, contributing 1.7% of total drilling rigs, according to the EGPC data.

In FY 2017/18, the Nile Delta witnessed two natural gas discoveries out of a total 16. The discoveries added reserves of 53.28 billion cubic feet (bcf) of natural gas. Consequently, the region witnessed no discoveries in FY 2018/19, according to the EGAS annual reports 2017/18 & 2018/19.



THE NILE DELTA'S RIG COUNT



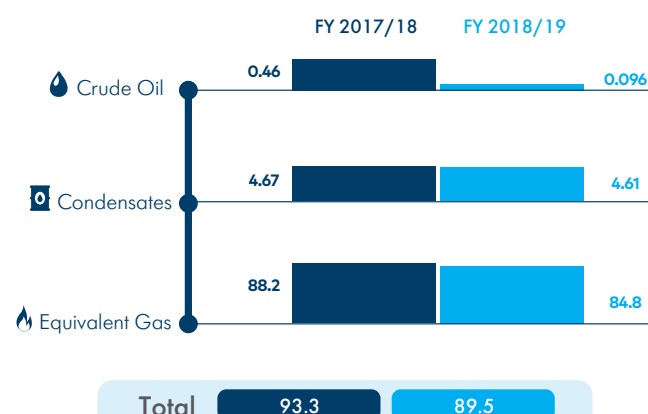
2 DISCOVERIES IN THE NILE DELTA IN FY 2017/18



The Nile Delta's Petroleum Production

In FY 2017/18, condensates production contributed 5% of the Nile Delta's petroleum production, as opposed to nearly 5.2% in FY 2018/19. Moreover, crude oil production contributed 0.11% of the region's petroleum production, in FY 2018/19, in comparison to 0.5% in FY 2017/18. The equivalent gas share in the region's production increased from 94.5% in FY 2017/18 to 94.7% in FY 2018/19, according to the EGPC and the EGAS data.

THE NILE DELTA'S PETROLEUM PRODUCTION (mmboe)(YoY)



Main Operators

1. DANA GAS

Dana Gas is an Emirati company, which mainly focuses its operations in the natural gas field. The company has been an active player in Egypt since 2007, through its subsidiary Dana Gas Egypt. Since then, Dana Gas operations have grown rapidly, making it the country's fifth largest natural gas producer. The company's activities in Egypt have been focusing on developing and providing natural gas, condensates, and Liquefied Petroleum Gas (LPG).

Dana Gas's focal point of operations is located in the Nile Delta region. The company's operations in the Nile Delta started when it purchased two onshore concessions that were operated by Centurion Corporation.

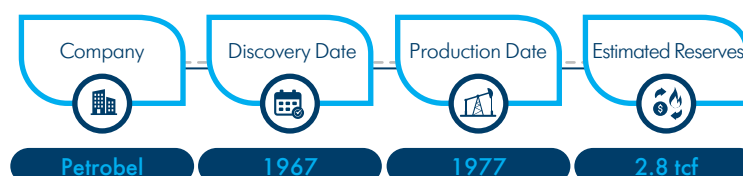
Currently, Dana Gas is operating in four onshore concessions with 100% working interest including: El Manzala, West El Manzala, West El Qantara and North El Salhiya. However, the North El Salhiya was relinquished in 2018. The concessions include 15 development leases producing natural gas and condensates from 15 fields. The four concessions cover an area of 796 km², and hold reserves estimated at more than 89 million barrels of oil equivalent (mmboe), according to Dana Gas's website.

Moreover, in 2014, Dana Gas was awarded a 100% working interest in Block 6 North El Arish offshore Concession, covering 3,039 km², in addition to 50% non-operated interest in Block 3 El Matariya onshore Concession, covering 1,525 km², as stated on the company's website.

2. ENI

The Italian Eni has been operating in Egypt since 1954 through its subsidiary, IEOC. Remarkably, Eni through its Joint Venture (JV), Petrobel, discovered Egypt's earliest natural gas field, Abu Madi field, according to Hamdy El Banby's book entitled "The Egyptian Crude Oil: Past Experience and Future Insights".

ABU MADI FIELD



Through its focused operations, Eni continued to achieve and put on production other significant natural gas discoveries in the Nile Delta. These discoveries include: the onshore East Delta and El Qar'a, as well as Darfeel, Barboni, Anshuga, Baltim East, Baltim North, and El Temsah.

In July 2014, Eni announced the discovery of Nooros field in the Great Nooros Area located in the Nile Delta. Nooros discovery was estimated to contain reserves of about 530 bcf of natural gas in addition to the associated condensates. The discoveries continued in 2016, as the company announced the discovery of Nooros East-1, which has natural gas reserves of 24.3 bcf, according to Eni's website.

In addition to natural gas Exploration and Production (E&P) activities, Eni has a 40% share in the Damietta Liquefied Natural Gas (LNG) plant, which is constructed and operated by SEGAS. The facility is constructed to process natural gas coming from the Nile Delta fields. The facility also ships the natural gas to Europe in form of LNG, according to the company's report published in 2016, entitled "Eni in Egypt".

Main Fields

1. NOOROS AREA

Among the recent field developments are those in the Nooros Area, which include the Nooros and the Baltim Southwest fields.

» NOOROS

The Nooros field, a Nile Delta offshore field, was discovered in July 2015. The natural gas produced from the field's seven operational wells is transported to the Abu Madi treatment facility to be treated and then linked to the national grid.



The Nooros field commenced production in August 2015. By 2016, the average daily production of the field reached 900 million cubic feet per day (mmcf/d). In 2017, the level of production achieved the targeted production of 1 billion cubic feet per day (bcf/d) and it continued to increase in 2018 to reach 1.2 bcf/d due to the drilling of a new successful well, as stated in the MoP press release published in January 2019.

» BALTIM SOUTHWEST

The field was discovered in June 2016. The natural gas reserves of the field represent 30% of the natural gas reserves in the Great Nooros area, according to Eni.

The Baltim Southwest field is operated by Petrobel, while Eni and BP each hold a 50% stake. The field is located 12 km off the Mediterranean in the Baltim South development lease; specifically, 10 km from the Nooros field.

The Baltim South West field started production in September 2019, at an initial rate of 100 mmcf/d. After brining two wells on stream, the production from the field increased to 190 mmcf/d in November 2019, according to a statement by the cabinet.

The potential production is expected to reach a maximum of 500 mmcf/d of natural gas by Q2 2020, when a total of six wells are brought online, according to the MoP.

2. DISOUQ

The Disouq concession is located in Kafr El Sheikh, one of Egypt's natural gas rich areas in the Nile Delta region. In 2004, Wintershall Dea was awarded the Disouq concession with a 100% stake. The total area of the concession is 3,217 km², according to Wintershall Dea's website.

The development project of the concession consists of developing seven natural gas fields in order to produce around a total of 402 bcf of natural gas, according to the company's official website.

Wintershall Dea initiated production from the onshore concession in 2013, with an average daily production of 49 mmcf, which was delivered to the Egyptian National Gas Grid. The peak of the production was achieved in mid-2014, when an average daily rate of 140-158 mmcf was reached. This increase was mainly due to the central treatment plant that was added to production, as stated on the company's website.

As part of the development plan, Wintershall Dea was able to put six wells on production in 2019 with initial production rates of about 50 mcf/d, according to the MoP.

3. SOUTH DISOUQ

The South Disouq is located 65 km north of Cairo, in Kafr El Sheikh in the Nile Delta region. The concession has a total area of 828 km², according to SDX's website.



The exploration activities in the concession started by drilling the SD-1X exploratory well in 2017, when natural gas was discovered in the Messinian-aged Abu Madi formation, as stated in SDX's Energy Inc. 2018 Q2 Interim Report.

In 2018, the development lease application was approved by the relevant authorities. The development project for the concession targets producing about 50 mcf/d. Furthermore, SDX drilled four wells, including Ibn Yunus, SD-4X and SD-3X. The four wells were connected to the treatment facilities in the area of South Disouq and Ibn Yunis, through an early production unit with a capacity of 60 mcf/d. The treatment facilities are connected to the national grid through a 30-cm diameter pipeline with 10 km length, according to the MoP.

DEVELOPMENT PROJECTS IN THE NILE DELTA IN FY 2017/18



Date



Project



Operator

Initial
Production Rate
(mcf/d)Cost
(\$ million)

Start Up

FY 2017/18

Nooros
(Phase 1 Cont.)

Petrobel

30-245

-

Aug 2016

Faraskour
CompressorWASCO/
Dana Gas

5

2

Sep 2017

FY 2018/19

Disouq
Phase BDisouco/
Wintershall Dea

100 (Planned)

30

Dec 2018

Abu Madi-
El Gamil PipelinePetroShorouk
(Petrobel)Filling ullage of El-Gamil
& Abu Madi plants

300

May 2019



The ministry further added that the field was put on production in November 2019 with an initial production rate of about 45 mmcf/d. The total cost of the project reached about \$49 million.

Infrastructure

CRUDE OIL INFRASTRUCTURE

The crude oil extracted from the fields of the Gulf of Suez is transported from Cairo to refineries in Tanta and Mostorod, then to Alexandria through two pipelines, Mostorod-Tanta pipeline and Tanta-Alexandria pipeline.

CRUDE OIL INFRASTRUCTURE IN THE NILE DELTA

Pipeline	From	To	Length (Km)	Diameter (Inches)
Mostorod-Tanta	Mostorod Refinery	Alexandria	75	12
Tanta-Alexandria	Tanta	Alexandria	123	12

NATURAL GAS INFRASTRUCTURE IN THE NILE DELTA

Pipeline	From	To	Length (Km)	Diameter (Inches)
Abu Madi-Talkha I	Abu Madi	Talkha Distribution Station	35	12
Abu Madi-Talkha II	Abu Madi	Talkha Distribution Station	35	22
Abu Madi-Damietta	Abu Madi	Damietta	42	16
Damanhur-Tanta	Damanhur	Tanta	60	28
Talkha-Tanta-Cairo	Talkha Distribution Station	Cairo	125	28
Meadia-Damanhur	Abu Qir Development Area	Damanhur	50	20
Alexandria Network-Damanhur	Alexandria	Damanhur	45	24
Cairo Ring-Port Said Line	Cairo Ring	Port Said	130	16

The Nile Delta has eight natural gas pipelines, four of which spread across the region while four exist within it; two pipelines of the latter mainly connect Abu Madi field with Talkha distribution station. The Abu Madi-Talkha pipelines either directly provide the consumers in Talkha with natural gas or further extend to feed electric stations with natural gas in Cairo through the Talkha-Tanta-Cairo pipeline.

For decades, the Nile Delta has been one of the most productive areas in Egypt. The region witnessed intense offering of international bids for oil and gas exploration activities, which received expected turnouts from IOCs such as Dana Gas, BP, SDX and others. Hence, these IOCs attained concession rights in a number of offshore blocks and have succeeded in making new discoveries.

For instance, in FY 2017/18, SDX and Dana Gas achieved two discoveries in the Nile Delta, Ibn Yunus-1 and East South Abu Elnaga-1, which contributed 30% of the total added reserves of natural gas in Egypt. Consequently, in FY 2017/18, the region's production of natural gas represented 25% the natural gas produced in Egypt, as explained by the EGAS. The discoveries led to achieving a great leap for the natural gas sector in Egypt as a whole, which had a clear reflection on the development path in Egypt.

FY 2018/19 also witnessed a tremendous change when Egypt achieved self-sufficiency in natural gas by September 2018. This was a result of high natural gas production rates from the Nile Delta and Mediterranean region which represented about 80% of the total natural gas produced in Egypt, as stated by the EGAS. With this regard, the MoP is exerting more efforts towards the development of the fields in the region.



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THE LIBYAN PETROLEUM SECTOR ENTERING A NEW POLITICAL AGE

BY TASNEEM MADI

Since the 17th February Revolution in 2011 – which saw Muammar Gaddafi's old regime being ousted – the Libyan oil and gas sector has been disrupted.

Although in August 2011 the petroleum production started to recover quickly, this recovery did not last long due to the conflicts between local armed groups led by either Marshal Khalifa Haftar or Fayez Al-Serraj. Subsequently, oil production and exports were disabled for a while. Workers started striking in July 2013, ceasing the Gulf of Sirte oil terminals.

In 2014, local competition started emerging with the aim to control oilfields, leading to further disruptions in the oil export terminals. Mabrak oil field became managed by local militias, while al-Ghani oilfield in the Sirte Basin was attacked by those militias in February and March 2015. After three years of continuous expansion by Haftar, he launched a military campaign on Derna in 2018 and another military operation to control the Libyan capital Tripoli in 2019.

After almost completely taking over El Sharara and El Feel fields, Haftar was finally outmaneuvered. The civil conditions that followed became increasingly more complex, especially after Haftar was defeated by the terrorist militants in Gharyan, southwest of Tripoli in June 2019. Politically speaking, the two powerful Libyan men were said to be accused of obtaining military support outside their powers.

LIBYAN PETROLEUM SECTOR AT AN ECONOMIC LEVEL

Libya's economy is dependent on its petroleum sector. The petroleum sector contributes about 69% of the country's exports, where crude oil exports reached 998,500 barrels per day (b/d), natural gas exports reached 4.25 billion cubic meters, and petroleum products exports recorded 25,400 b/d in 2018. Crude oil reserves recorded 48.3 billion in 2018. The country also has a refinery capacity of 380,000 barrels per day (b/d). Essentially, the oil and gas sector represents about 60% of Libya's GDP.

El Sharara and El Feel oil fields are the largest fields in Libya. The National Oil Corporation (NOC) Chairman Mustafa Sanalla, stated that El Feel field has been shut down again in December 2019, causing a loss of about 73,000 b/d. The field's production capacity could reach 90,000 b/d but had been producing 73,000 to 75,000 b/d in recent weeks. El Feel and Sharara oil fields produce crude oil of about 120,000 b/d from Zawiya refinery.

BETWEEN OPPONENTS, PROPONENTS

Haftar garnered support from a number of countries such as Egypt, the United Arab Emirates (UAE), Saudi Arabia, Russia, France and the US. As for his rival, Al-Serraj, he depended on the support of Qatar and Turkey solely.

The current instability threatens oil companies, especially BP and ENI, however, they announced their return to Libya after they ceased their operations more than once and are scheduled to start 2020.

THE US, RUSSIA

Recently, the US became a supporter for Marshal Haftar since a phone call in April 2019 between the US President Donald Trump and Haftar, discussing the future democratic path in Libya. Haftar's role was often praised by Trump in combating terrorism and securing oil resources in Libya.

Haftar received military studies in Russia and visited Moscow several times in recent years, specifically in 2017, 2018 and 2019. Moreover, Haftar was honored during a grand ceremony held on the Russian aircraft carrier Kuznetsov in January 2017. It is expected that there will be no Great Russian expansion in Libya as Russia is still considered a part of the conflict partners in Syria.

FRANCE, ITALY

Supporting the United Nations (UN)-led peace processes, France attempted to play the strong mediator role by bringing Haftar and Al-Serraj together at the same table in July 2017 and in May 2018, but without any success. France denies providing any support to the Libyan National Army (LNA) forces in its attack on Tripoli, although there were French missiles found inside Haftar's military base near Tripoli in July 2019.

Italy, on the other hand, is still highly interested in its former colony, Libya, especially through its oil company Eni. Italy criticized France for playing the mediating role. Thus, Rome deals cautiously with Marshal Haftar, who controls most of the oil fields located in the Eastern Libyan, to avoid the expansion of the French Total at the expense of Eni.

TURKEY, QATAR

Haftar accused Qatar with supplying his opponent with weapons. Qatar regularly reiterates its accusation to Haftar of obstructing external efforts and international support by other countries.

Meanwhile, Turkey is part of the Libyan conflict and declared its support for the National Accord government through supplying the Libyan forces with drones, vehicles and weapons in 2019. There were two signed Memoranda of Understanding (MoUs) on security and maritime cooperation between Turkey and Al-Serraj.

EGYPT, GREECE

On the sidelines of the two signed MoUs between Turkey and Libya's government, the Egyptian Minister of Foreign Affairs, Sameh Shoukry, and the Greek Minister of Foreign Affairs, Nikos Dendias, and condemned Turkish intervention in Libya. Shoukry and Dendias agreed to build exclusive economic zones (EEZs) in the sea near their countries' borders to protect their oil and gas resources in the Mediterranean

Region from any external attacks to avoid the repetition of the Libyan and Syrian crises' scenarios. It was mentioned that Serraj is not allowed to participate in any legally-binding international agreements without the acknowledgement and agreement of Libya's cabinet on board.

The Libyan NOC mentioned that the Egyptian oil companies intended to continue their activity in Libya despite the civil war to increase the Libyan oil production.

THE UAE, GULF COUNTRIES

The UAE is more involved than Saudi Arabia in the Libyan conflict, where the UAE and Jordan were accused by UN experts of supplying military material to Haftar's forces. Concerning Saudi Arabia, King Salman personally received Marshal Haftar in March 2019, although Saudi Arabia is still focusing more on the war in Yemen, leaving its Emirati ally in the front row regarding the Libyan file.

TUNISIA, ALGERIA

The Turkish President Reep Tayyip Erdoğan made an unexpected visit to Tunisia to discuss the developments in Libya. Tunisia, Algeria, and Qatar participated in the Berlin Conference in January 2020, concerning the Libyan issue. Tunisia announced that it will not be part of any coalition and condemned statements mentioned by Libya's Minister of Interior. On the other hand, foreign journalists were not allowed to join a press conference by Erdoğan and Tunisia's President Kais Saied.

Meanwhile Algeria is a neutral country, denying any foreign intervention in the countries' issues. Algeria's borders are threatened by the terrorists' acts and wars in Libya. The Egyptian and the Algerian-led efforts, have failed to achieve any improvement for the crisis.

POTENTIAL SCENARIOS

There are three expected potential scenarios for the Libyan future. The first scenario is that Haftar will succeed to set his power over Tripoli. The Presidential Council will be expected to break down as a result for Al-Serraj's connections with extremist militias in Tripoli and Misrata and the failure of any Turkish endeavors to support it. The second scenario is that Turkey will still support Tripoli and Misrata forces with equipment. The third scenario is that the Egyptian military and other countries' military will intervene in order to maintain the Egyptian national security and protect the Libyan coasts against any potential exterior intervention. Concerning the plans set by the Libyan government, the country intends to preserve its crude production at its current level of between 1.25 million and 1.3 million b/d, as cited by Sanalla.

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SHELL CELEBRATES GRADUATES FROM MIDDLE MANAGEMENT PROGRAM

BY DINA EL BEHIRY

In conjunction with the efforts exerted by the Ministry of Petroleum and Mineral Resources in preparing well-qualified leaders, Shell Egypt celebrated their first batch of graduates from the American University in Cairo (AUC) Leadership Program, as part of the ministry's Middle Management Program under the umbrella of the Modernization Project. The ceremony was held on February 3, at Shell's premises in Cairo.

Inaugurating the event, Khaled Kacem, Country Chairman and Managing Director at Shell Egypt, stressed on the importance of safety as Shell considers health, safety and environment (HSE) to be a top priority, saying that, "We always say that everyone has to go back home safe every day." Kacem clarified that "If we have the right people, if we have the right skills, if we do things properly, if we plan for our activities, if we comply with our goals, and if we take our time, we will do things right and our Goal Zero becomes achievable."

Kacem remarked that the Ministry of Petroleum and Mineral Resources has a significant contribution to the economic development of Egypt, adding that "under the economic reform, we believe [that] we all have a great opportunity to play a much bigger role in the economy."

Afterwards, Kacem affirmed that Shell believes in the importance of human resources, as much of the company's social investments are directed towards capacity building. Considering the Leadership Program in partnership with the AUC, Kacem said that "we are really very proud of you, and I am sure you are all very proud of the great achievement you have accomplished through this program." Concluding his speech, Kacem stressed that "Shell is very committed to Egypt, and we look forward to continuing [this] collaboration."

The ceremony continued with a key speech by Osama Mobarez, First Undersecretary of the Ministry of Petroleum and Mineral Resources. Mobarez thanked Shell and the AUC for supporting such programs, pointing out that "this program is a key milestone. This is not the end of your career." He added that "this program is an important step in the Middle Management Program, and it will be followed by other steps."

Mobarez stressed on the vitality of the Modernization Project, saying "through this project, we aim to achieve a huge progress in the sector and the country as a whole, in addition to achieving sustainability." Furthermore, Mobarez clarified that the ministry pays a great deal of attention to its human resources, as "without having motivated and well-qualified talents, we will not be able to achieve our ambitions."



THIS PROGRAM IS AN IMPORTANT STEP IN THE MIDDLE MANAGEMENT PROGRAM, AND IT WILL BE FOLLOWED BY OTHER STEPS.

OSAMA MOBAREZ

First Undersecretary of the Ministry of Petroleum and Mineral Resources.



Additionally, Mobarez commented on the Middle Management Program, saying "this program began with an idea by the minister himself as we do not have a shortage in talents, yet we need to find a way to discover these talents. Accordingly, we had to initiate those programs to help them develop their careers." Building on that, the ministry collaborated with several international oil companies (IOCs) to take part in these programs for further enhancement, Mobarez elaborated.

Hussein Behery, Professor of Executive Education at the AUC, participated in this celebration as well. Behery said that the program has been designed to establish an advanced leadership. He noted that "the program's main goal is to optimize your organizational development through planning and managing business properly." Furthermore, Behery noted that there are some elements that need to be considered for this program's success, saying "you need to have committed management, highly qualified vendors, and ambitious participants."

Behery highlighted that "at the end of the program, you could look for opportunities not only threats, and that was one of the major objectives of the program."

Then, Benjamin Mee, Exploration Manager at Shell Egypt, showcased Shell's success story in Egypt, stressing that the sector's road towards digitalization is considered as a transition in the company's vision. He added that Shell focuses on achieving its Goal Zero, with no harm to anyone or to the environment.

Additionally, he clarified that "[in Shell], we ask our customers what do you want. Egypt comes first, and Shell second."

Moreover, Mee noted that "it is absolutely crucial that we contribute to society," adding that "we control and contribute to the labor market, invest in the future, and ensure that we support universities through increase education and academia."

After that, the ceremony was concluded by awarding the program's participants appreciation certificates for their efforts throughout this journey.



IF WE HAVE THE RIGHT PEOPLE, IF WE HAVE THE RIGHT SKILLS, IF WE DO THINGS PROPERLY, IF WE PLAN FOR OUR ACTIVITIES, IF WE COMPLY WITH OUR GOALS, AND IF WE TAKE OUR TIME, WE WILL DO THINGS RIGHT AND OUR GOAL ZERO BECOMES ACHIEVABLE.

KHALED KACEM

Country Chairman and Managing Director at Shell Egypt



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Manal El-Jesri, Methanex Public Affairs Manager



OVERCOMING HUMAN CAPITAL FLIGHT IN EGYPT'S OIL AND GAS INDUSTRY



BY JASMINE SHAHEEN

The oil and gas industry is always changing; seeking advancement and improvement, whether it is in areas of technology or operations. However, acquiring and developing human resources should not be ignored, as calibers are the linking point between the present and the future. There is a myriad of qualified engineers, geoscientists, and professionals in the oil and gas industry. However, the abundance of one entity could lead to drastic changes in the future. According to a research published by the Italian National Research Council titled 'The History of Brain Drain' defines Brain Drain as "the emigration of highly trained or qualified people from a particular country". This would mean that "the national sector would eventually lack the necessary skills and competencies required to better plan and lead the Oil and Gas sector, the biggest investment-attracting sector in Egypt," Ayman Hosny, Senior Reservoir Engineer at Shell, said.

HISTORY OF BRAIN DRAIN

Brain Drain, also known as Human Capital Flight, describes the emigration of experienced, highly-qualified individuals from developing countries to seek better opportunities in developed countries. In most cases, the migration of expert professionals and skilled youth in the industry tend to create a void in the competition which could lead to an economic dilemma. This phenomenon gradually decreased in Egypt from 2011 to 2016. However, in the past few years this phenomenon began to rise again.

According to Fragile States Index, powered by the Fund for Peace, on a scale from one to ten (one being the lowest and ten the highest), Egypt scored 4.7 points, in 2017. This marks Egypt's tipping point on the index, which measure the progress of developing countries on the Human Flight and Brain Drain scale. Meanwhile in 2019, it increased to reach 5.3 points, ranking at 34 out of 178 countries. It should be noted that this surge covers all of Egypt's sectors, including oil and gas.

Mazen Mohamed, Reservoir Simulation Engineer at Gulf of Suez Petroleum Company (GUPCO), weighed on the topic by stating that, "Sometimes the lack of robust managerial system

in the organization can be the main driver to the individual to quit the job and go abroad."

Hosny echoed the sentiment and elaborated that in terms of financial compensation, the gap between the national and private sector is a key element that contributes to Egypt's Brain Drain. Furthermore, in an online survey conducted by Egypt Oil & Gas (EOG) in January of this year on Egypt's Brain Drain in the oil and gas sector, findings have shown that out of 48 individuals, 44.1% advocates for the need of having a better financial compensation. Hosny added that "the system in the national sector does not allow the out-performers to faster-track their

career paths and get to leadership seats faster than others, so far it is all dependent on years of experience regardless of how competent or skillful you are, which may be frustrating to some people who could have better careers elsewhere."

HUMAN CAPITAL FLIGHT

The gap between professionals in the field and students is also one of the reasons for Human Capital Flight. According to Society's Petroleum Engineers (SPE), the number of members in 2018 included 53.6% professionals in the industry, while 46.4% consisted of students on a global level; in which the percentage of professionals and students in Africa was 5% and 10%, respectively. The rates increased in 2019 to include a total of 53.9% professionals, 46.1% students, of which professionals and students in Africa represent 5% and 12%, respectively. While the discrepancies could pass by unnoticed, it reflects the limited range for finding a place for all of the sector's human capacity.

Our survey has shown that 76.5% work in Egypt's oil and gas sector, in which 61.8% of them plan to work abroad in the future. These statistics indicate a grave imbalance and a shortage of competent professionals in the oil and gas industry. Brain Drain is becoming a global phenomenon and its effect could drastically change the industry in developing countries. Human capitals need trainings and, accordingly a luxurious financial budget, noted Radwa Tolba, International Human Resources Generalist at Apache. Tolba added that the "redistribution of manpower across the sector may help in raising the awareness and enrich the human capital all over the oil and gas sector".

ELIMINATION TECHNIQUES

"I think providing students with beneficial workshops to apply the things they learned in real life, give them projects and case studies to work on I think this way students can learn and try for themselves," Farah El Tatawy, Petroleum Engineer at Tank Oil Group, commented.

In light of those findings, the government implemented several training programs to further eliminate Egypt's human flight migration. These programs are structured and oriented to improve the abilities of versatile people at the oil and gas industry; ranging from engineers to geoscientists and other professionals. The government also cooperated with a variety of international oil companies (IOCs) which allows it to provide a worldwide view of the industry as a whole to the Egyptian participants of these programs.

Such programs have shaped the geoscientists of today. For instance, Al Amal Program is considered one of the most well-received programs among the community, which was founded by the Egyptian Geophysical Society (EGS) in 2007. The program aims to develop and hone skills of future geoscientists in Egypt, so that they would be able to easily adjust to today's petroleum industry. "Al Amal program is designed to introduce the graduates to the industry to understand the working environment and how they can apply what they have learned in the real life," Samir Abdelmoaty, founder of Al-Amal Program and Country Manager at Rockhopper Egypt, said. Abdelmoaty mentioned the value of creating a connection among graduates and experts not only to share their expertise, but to give them hope as well.

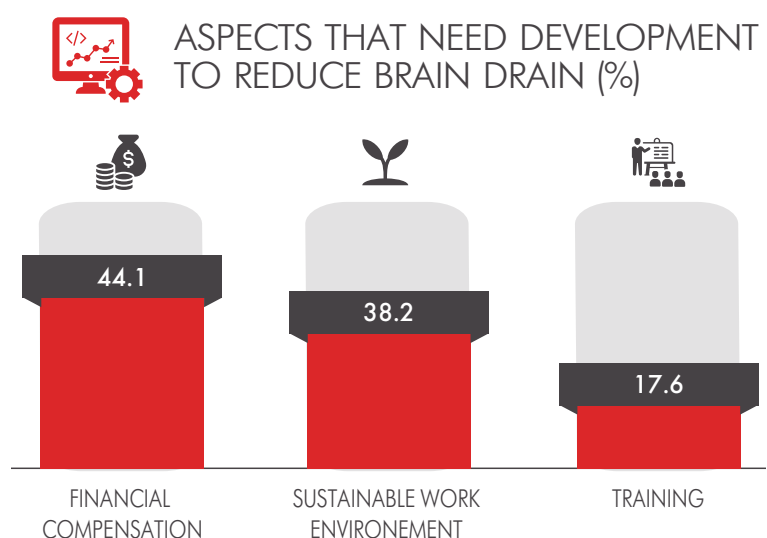
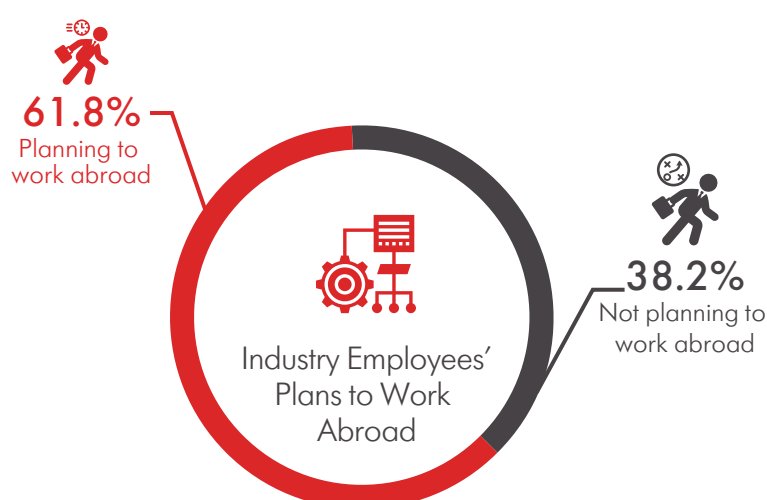
Another impressive initiative is BP's Egypt Cambridge scholarship, which encourages graduates to pursue a Master's degree in the UK so as to build on their knowledge and expertise. After successfully finishing the Master's program, the students return to Egypt and implement the techniques and operating strategies they have learned within the local industry. Thus, elevating the sector's standards while also enhancing production.

In addition to the BP's Masters program, there is a dozen opportunities for anyone to learn and develop skills through the countless programs offered by Eni Corporate University, which is an entity of Eni. The university offers programs such as Eni's Masters Program, where they offer up a great number of scholarships in different Energy fields. The Masters Program allows the meritorious students to, not only access to advanced academia, but also includes practical training in the field of choice so as to create a carefully composed and a balanced individual. Not only that, but Eni also offers an internship at the company along with the scholarship which encourages the improvement of one's capabilities. This ultimately gives a boost to the awarded students to excel, allows them to broaden their minds, as well as exploring the untapped areas of the oil and gas sector.

However, our EOG survey has indicated that 67.6% of professionals in the oil and gas sector were not aware of most training programs as students, thus promoting them among students should be a priority. Tolba elaborated that these programs "will help in sustaining the youth and the professional human capital in Egypt as they will also have engagement to their sector and their country, and it will make them eager to give more to their homeland."

A LOOK INTO THE FUTURE

While the programs provided by the government and IOCs have contributed in decreasing Egypt's Brain Drain in the oil and gas sector, improving the educational infrastructure and providing adequate research facilities could also go a long way. Abdelmoaty provided a forward-thinking approach regarding this, stating that "we should not wait for the graduates to join the industry. We need to start at the universities, develop and update the curriculum, provide experienced advisors or lecturers, provide case studies and build the partnership with the universities to work on real projects. Companies have projects, and universities have research capabilities. We need to develop a partnership." As the oil and gas sector vastly changes, it faces many challenges along the way, including Brain Drain. However, one should not forget to improve the bane of its existence; human resources.



EXPANDING THE OIL, GAS LANDSCAPE:

AN INTERVIEW WITH
AHMED SHALASH,
VICE PRESIDENT AT DREXEL



A growth strategy usually starts by identifying and accessing opportunities within the market. Egypt currently has one of the highest potentials in the Middle East. Our growth strategy is based on how Drexel is evolving to meet today's challenges as well as the challenges of tomorrow. Thus, we ensure to keep working towards goals that go beyond what is happening in the market today. We keep our shareholders focused and aligned to make decisions not only for today, but for an emerging market in the future. This growth strategy is being carried out by continuous coordination among a cross-functional group of stakeholders in the Egyptian market. Drexel has been building partnerships with Egyptian customers and delivering a distinctive and integrated customer experience for more than 30 years.

What areas are you focusing on in Egypt?

We have a well-trained workforce, advanced equipment, and state-of-the-art facilities, which earned Drexel Oilfield its solid reputation for delivering client-focused services for multinationals in the business. We are currently focusing on new oil and gas projects and expansions, in addition to petrochemicals and fertilizers.

Are you looking to expand your business in Egypt?

Of course, as we previously highlighted, Egypt is booming and becoming an oil and gas hub, which encourages us to increase our investment in assets and personnel to serve the local market with the best up-to-date services and technologies.

How has the business landscape changed in Egypt over the last few years?

Drexel's business landscape has changed over the last few years from acting as leaders to major reputable companies, to being a very specialized service provider. We have established downstream and upstream business units, in addition to safety and specialized units.

We have diverted from only serving other companies, to covering refineries, petrochemicals, gas, fertilizers and even new industrial construction projects.

What is your outlook for Egypt's oil and gas industry?

We are developing the business within each of our companies, growing our upstream and downstream businesses. Within the upstream, we are currently pushing through our safety division within Drexel, which provides safety services for around 30% of the Egyptian market, in the same time we are looking into new acquisitions.

Within the downstream business, we are also working very hard, not just for oil and gas, but also by providing services for petrochemicals and fertilizers companies. We are aiming to be one of the top safety providers in training, Personal Protective Equipment (PPE), hydrogen sulfide (H₂S), drilling operations, etc. We are providing these services across the whole industry, not just for oil and gas.

Do you see an opportunity in Egypt's downstream sector?

We have invested in the downstream business to ensure covering full integrated services. This covers catalyst handling services, professional power services

(PPS), and specialized mechanical services, in addition to specialized safety solutions. We have invested in new up-to-date nitrogen pumping units, vaporizers, tanks, flange management and hot tapping equipment, in addition to leak sealing services.

Our portfolio covers services required during the pre-commissioning of new projects and also specialized services during shutdowns and turnarounds. We would like to note that we worked on Zohr gas field in the downstream part of the gas plant. Furthermore, we have invested in our safety equipment and gas monitoring tools. We are also investing in logistics, transportation and workshops. Our eyes are focused on working with new refining and petrochemical for new upgrading projects.

We have just successfully completed works with Methanex, completing the mechanical works and heat exchangers hydro jetting works. We also completed new catalyst loading for Egypt Refining Company (ERC) refining and BP's West Nile Delta Giza Fayoum and Raven plants including the full safety service for all the activities.

This is in addition to the nitrogen purging service of Gulf of Suez Petroleum Company (GUPCO)'s shutdowns and the Intermediate Chemicals (NICIC) of Ain Sokhna's second ammonia tank.

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- PPL Cleaning
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- Straub (Pipe Couplings)
- SAFI Plastic Valves
- Pipes Sealing & Corrosion Protection
- Cathodic Protection
- Pipe Joint Fills and Foam Products
- Shrink Sleeves

LEGAL ESSENTIALS FOR LNG, SPAS

BY MOHAMED AGAMY

Managing Partner at Links & Gain

LINKS & GAINS
ATTORNEYS AT LAW



As one of the leading countries in the Mediterranean as well as the Middle East and North Africa (MENA) region, Egypt is becoming a hub for liquefied natural gas (LNG) infrastructure.

Egypt is renowned for having world-class importing facilities as it is on its way to gain its position as an LNG exporting hub. Egypt has two LNG plants that include three trains; with a combined capacity of around 610 billion cubic feet (bcf) per year.

The main producer or exporter of LNG having liquefaction, storage, and export facilities is the Spanish Egyptian Gas Company (SEGAS), which has an LNG Complex in Damietta, Northern Egypt.

Egyptian Liquefied Natural Gas Co. (ELNG) is also sponsored with a diversity of mega up-streamers such as; Shell, Petronas and Total, specializing in LNG on both the Egyptian and international levels. EGAS and EGPC are also significant equity shareholders in these LNG projects.

EGYPTIAN REGULATORY APPLIED TO LNG

The Gas Market Activity Law no. 196 of 2017 (which was amended by the law no. 13 of 2019) has been issued to regulate the natural gas activity related to the storage and pipelines before the transmission to the ports and sites, and all procedures relating to its restoration. The Prime Minister Executive decree no. 239 of 2018 also regulates the activities of the gas market.

The government acts as a regulator and takes the key role in monitoring industry players to ensure the government objectives and establish the rules and incentives to develop the market across the value chain.

The Suez Canal Authority Circular No. 7/2017 regulates administers LNG Tankers operating between the American Gulf, the Arabian Gulf, India and its eastern ports.

The decree is encouraging more LNG vessel's owners and operators to have transit in the Suez Canal. The Suez Canal Authorities (SCA) have decided to grant LNG tankers in loaded or in ballast operating between the American Gulf, the Arabian Gulf, India and Eastern ports the following Suez Canal tolls discounts:

1. The Arabian Gulf and west of India up to port of Kochi are granted a reduction of 30% of Suez Canal normal dues.
2. East of port of Kochi, India west of India and up to the port of Singapore receive a reduction of 40% of SC normal dues.
3. Singapore and its eastern ports have a reduction of 50% of SC normal dues.

The tanker has no right to benefit from other rebates

(reduction) granted by SCA to LNG tankers, beside the rebate (reduction) subject of this circular.

LNG SALE, PURCHASE AGREEMENTS (SPAS):

In most cases, LNG supply contracts take the form of long-term sales and purchase agreements, which can be renewed or extended. However, before concluding such contracts, some aspects has to be considered, such as the integrated commercial structure. The producer of natural gas is the owner of the LNG export facilities as well as the upstream. The revenues are derived from the sale of LNG under the SPAs entered into by the participant or the integrated project company, which usually take the structure of a joint venture (JV) company.

The price indexation is one of the significant conditions that determine the payment terms. Such a pricing mechanism is markedly different from one found in traded gas markets. In the UK, for instance, the index of pricing is called national balancing point (NBP), but other oil index price could have a leverage in long-term contracts if they co-exist. In Asia-Pacific the pricing rely on the Japanese custom cleared crude (JCC) as used in long term agreements as well. Some other players are using the indexation of coal such as Italy, Netherland and Norway.

Other terms and conditions as transportation and discharge, level of commitment, volume of cargo, cargo diversions, transfer of title and risk, and gas feedstock are on top of the discussion while negotiating these types of agreements.

FLUCTUATIONS IN PRICES UNDER SPAS

As a common standard in the LNG market, SPA contract's price should have an index to manage the price of LNG cargos. However, prices of LNG as set out in agreements that do not reflect the real market price for natural gas. The parties of the SPAs mainly have an agreement on the contract price for LNG at a given point in time, which is a period of 15-25 years. Thus, there is a usual loophole on both sides that, whilst the SPA at the early commencement date represents a reasonable margin for both parties, in the future, it can turn out to be an extremely bad margin for one party and a very good margin for the other. For such reason, price reviews should be included in the SPAs in order to settle how the long-term commitment for the price may change in case of unanticipated fluctuations in

the market. As a general advice, the price review condition will grant both parties to notify the other to reconsider the prices in light of the market at the time of change.

Price Review Principles in SPAs

There are different forms of principles concluded from different agreements, for instance; parties should not have the control over determination of the price. Also, the change shall be material on a reasonable evidence to avoid potential disputes. In addition, the changes should be unforeseeable and unpredicted.

The date of the price adjustment is necessary to consider, as it may take effect starting from the date of initiation of the price review process or from the date that the adjustment is agreed upon. This point has to be clear under the pricing mechanism under the SPA.

Diversion Rights in SPAs – Terms of Negotiations

The parties should consider the diversion terms and conditions in the SPA, mainly for example: the alternative destinations (unloading ports where the buyer nominated to deliver the cargo); and other diversion rights from a commercial perspective, such as: (i) quantifying the amount of LNG cargo that can be diverted, (ii) allocation of extra profits obtained by either party and should be diverted by other parties, and/or (iii) if the diversion of the cargo will change the pricing provisions of the SPA.

TERMINATION PROVISIONS

The seller under some circumstances might fail constantly to deliver the LNG cargoes, and then the termination would be in the buyer's right as a penalty of default. The buyer under this event will have right to procure the LNG replacement, in addition to claiming for the seller's default liability obligation.

In some other circumstances, the termination rights for the buyer may not be sufficient as a sole remedy. However, it exposes the buyer to the hardships of finding a quick replacement for the required volumes of LNG, even though damages for such breach cannot be distinct as a fair remedy for the buyer to cover its loss of bargain. Buyers has to secure other remedies from sellers such as; retention scheme, insurance, and set a maximum percentage of limitation of liabilities, may be more than the contract total value.

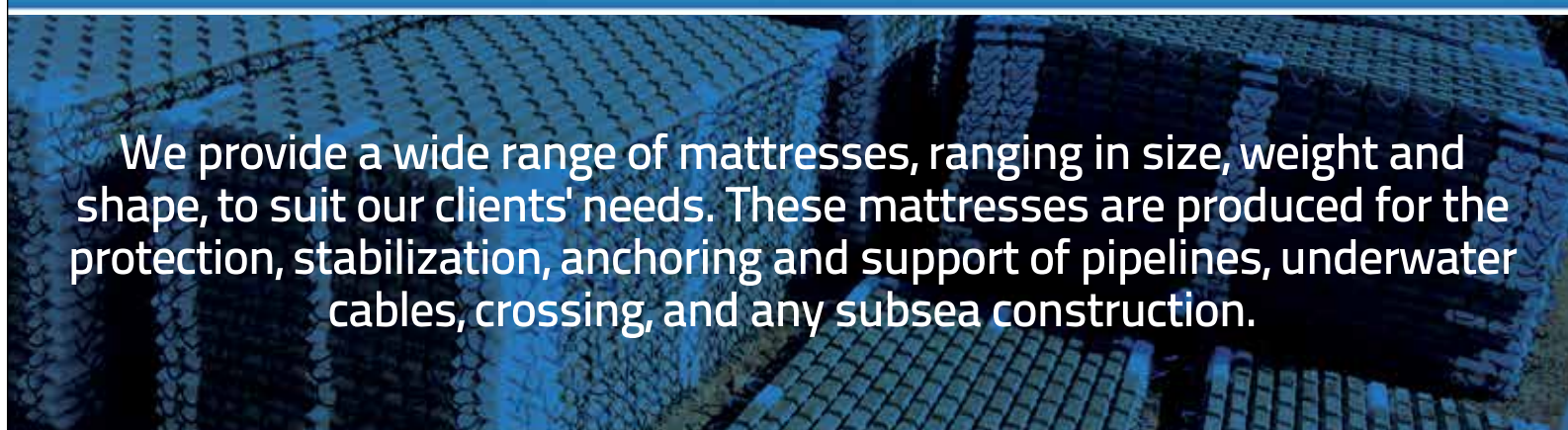


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TURNOVER MODEL ANALYZES OIL, GAS WORKERS' MINDSETS

PREPARED BY DINA EL BEHIRY

For over 20 years, the national oil companies (NOCs) in the Egyptian oil and gas sector have been suffering from a high turnover rate, notably among experienced engineers. Having such a conundrum has made the Egyptian sector face numerous technical problems.

A sample paper entitled Determinations of Engineers Turnover Working for National Oil and Gas Companies in Egypt, written by Abdallah Farahat from Agiba Petroleum Company in 2018, has shed light on this issue. This paper proposes a conceptual turnover model, specifically for the Egyptian oil and gas sector.

Accordingly, this paper recommends a framework to analyze and control the turnover phenomenon among workers, specifically in Egypt's oil and gas sector.

TURNOVER REASONS AMONG WORKERS

Speaking of the turnover problem, Egypt has been witnessing this trend as a result of the high immigration rate among well-educated and experienced workers, including seniors and managers who occupy significant positions in their institutions. Their immigration should be alarming to organizations, scholars and governments, as they should pay greater attention to this phenomenon to curb the increasing turnover rate. Accordingly, retaining those experienced workers help ensure success, provide competitive edge for firms, and encourage new workers to be enrolled in the sector.

When it comes to the Egyptian oil and gas sector, several NOCs form joint ventures (JVs) between the Egyptian General Petroleum Corporation (EGPC) and/or international oil companies (IOCs). These companies are managed by the Egyptian side, and are subject to national and local labor laws. It has been found that the turnover problem lies in the strategy of these companies because they suffer from the lack of a robust human resources management system, as well as insufficient plans in training, recruiting, or retaining workers. Consequently, the turnover rate inevitably increases.

THE TURNOVER MODEL

This paper introduces a framework which mainly aims to understand the reasons why Egypt's oil and gas employees leave their work, and how to eliminate this phenomenon. The model considers turnover as a dependent variable, which is measured in an experiment or evaluated in a mathematical equation. The model also includes independent variables which include the job fit, alternative opportunities and organization factor. These variables are interchangeable and are used to test the effects of the dependent variable.

Furthermore, the model contains moderating variables to measure the direction and the strength of the relation between the dependent and independent variables. These moderating variables are labeled as job stress which measures the relation between job fit and turnover, oil prices that influences the relation

between alternative opportunities and turnover, in addition to the organization's culture, financial system, and supervisory level.

MODEL'S HYPOTHESIS

Concerning the hypothesis of the turnover model, it mainly consists of three paths.

The first path is where the job stress is the moderating variable. Since there is a reverse relationship between the turnover and job fit, increasing job stress will lead to raising turnover intentions.

Job stress is witnessed in the oil and gas industry because the employees work in harsh environments and under stringent conditions. Among these conditions is that the employees might be working away from their families, as well as working for long hours. In addition to that, employees might be working around the clock to solve technical problems and/or monitor critical situations because a little mistake could lead to catastrophes.

Furthermore, job stress does not affect the work performance only, but it also has a direct impact on the employees' health and life. In other words, stress accumulation negatively affects employees' health and performance; which often results in being nonproductive. That is why maintaining a work/life balance is critical. To do so, companies need to observe their employees' behaviors and attitudes to release their stress regularly.

In the second path, an alternative job is directly related to turnover, with oil prices as a moderating factor. When oil prices increase, more jobs will be created; hence, the turnover rate will increase accordingly. This can be seen when experienced employees seize the opportunities they receive and move to other companies. From the employees' perspective, they believe that this move will satisfy their self-esteem in new powerful positions; thus, it will help enhance their careers and increase their outcomes.

Moreover, when oil prices increase, new exploration and production (E&P) activities become available in the oil and gas market. Consequently, investors are encouraged to boost their investments and create new job opportunities.

Speaking of the third path, organization factor has a reverse relationship with turnover. This is because if an organization has a good culture, professional managers, and fair payment system, the turnover rate will drop. It is also important to consider the several factors which lay under the organization such as policies, regulations, management, treating employees, firm culture, organization structure, facilities, and

compensation. However, this model focuses mainly on policies, laws, and regulations.

As for the organization's policies, they are defined as a set of principles and rules adopted by an organization to help reach its goals, determining employees' rights and responsibilities. Thus, any vague rules will cause work disorder and instability. Accordingly, successful firms always update their systems in order to cope with the workers and market requirements. Such type of companies always succeeds in attracting the most skilled and responsible workers.

Looking at the organization's culture, it mainly specifies the shared values and beliefs within the organization. Thus, the organization factor can be enhanced, improving unity and teamwork.

Moreover, the organization's payment system is really important for workers. Thus, when this system or the key performance indicators (KPIs) are not clear enough, this could lead to having inequality. This may happen because salaries do not always reflect employees' responsibilities and their duties.

Furthermore, the organization's management is crucial for its success and stability as it reflects its strengths, in addition to its managers' ability to direct their workers efficiently. Hence, any lack of communication between managers and workers will create a skills gap.

RECOMMENDATIONS

The oil and gas sector is one of the most promising industries in Egypt, which help in achieving Egypt's vision 2030 and in boosting its economy. Consequently, investing in developing and supporting the sector's employees is crucial. Thus, the conceptual model proposed in this paper is considered as a seed to analyze the employees' behaviors and the reasons behind the high turnover in the oil and gas sector. It can be seen as a role model to improve organizations' policies in order to support employees and upgrade their performance.

It is critical to note that the factors used in this model were selected in compliance with the Egyptian situation. According to the model, the organization is acknowledged as the most important factor that governors have in order to establish a solid system that works for the sake of employees and employers alike. This model can further be tested practically and academically to measure the significance of these factors. This will help human resources managers and decision-makers to enhance their policies and retain professionals.



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GEOLOGICAL FIELD WORK: UNDERSTANDING THE SUBSURFACE

When the available data is not sufficient enough to evaluate basins, geoscientists tend to work hard to understand and map the surface geology. Field geology and field work are both used in their broadest sense to include the observation, study, and investigation of natural resources and their processes in a wide spectrum of procedures, techniques, and instruments.

Exposed rocks introduce the best method to understand the equivalent successions in the subsurface. The primitive exploratory drilling was mainly based on surface geological mapping before the advent of geophysical techniques. One of the benefits of field work is that it reduces the risk in the interpretation process of the subsurface. It provides the interpreter with a 3D visualization of both the structure and stratigraphy of the area under study. Also, samples can be gathered from the exposed rocks especially if the source crops out on the surface. These samples can be studied, giving a preliminary evaluation of the source potentiality and maturity.

The idea that the same natural laws and processes that operate on earth today have operated in the past is an assumption many geologists use in order to better understand the geological history of Earth. It is also defined as "the present is the key to the past". The better identification of the main exposed stratigraphic units, boundaries, truncation features and events, the easier it will be to identify the depositional environments and the geological record that had preserved.

According to Geological Consultant, Denise M. Stone, geological field work is an important tool in finding oil and should be included in the broad range of available technologies that assess technical risks in an exploration play. The time-efficient gathering of data, relevant to exploration objectives, is essential to the success of any geological field effort. The key is identifying the main exploration questions and determining if and where a field might contain the answers. Field work does not necessarily lower exploration risk, but it may improve how risk is defined. Good planning and logistics are required for any successful field program as the objectives and methodologies of doing field work vary according to the nature of the basin.

Ahmad Mostafa

Exploration Department Head at Ganoub El Wadi Petroleum Holding Company (Ganope)



TRAINING PLANS FOR BETTER PERFORMANCE EVALUATION

For the new year's resolution, most human resource (HR) managers help other managers and supervisors identify training needs in their departments, and after each manager selects a set of training programs, s/he sends them back to the HR manager, who arranges these training programs and coordinates their preparation and implementation accordingly.

This way, HR managers act like haphazard consumers that find themselves purchasing goods that they do not need. Similarly, the staff often gets training programs that may or may not suit their training needs.

The disadvantage of this method is; the lack of a linkage between the training and the institution's strategy, poor relationship between the training and employee performance programs, lack of clarity of training needs, and difficulty in evaluating training programs.

The question now is: How is a training plan prepared?

In the beginning, we must distinguish between two types of education programs within

the institution. The first is the training programs which make employees able to improve their current job performance.

The second is the development programs which make employees able to perform more tasks after being promoted or transferred in the future.

The training plan deals with these two types of programs. This plan must ensure that all employees are able to perform their functions as well as equip a group of employees to suit the future status of the organization whether by promotion or transfer.

The completion of the evaluation of the employee's performance will result in two cases. The first deals with employees with deficiencies, identifying the areas of actual deficiencies that relate to their current job description. Accordingly, we choose specific training programs for this shortcoming.

The second deals with employees who have performed their duties to the fullest extent. This determines employees' future, such as preparing them for a higher position. We strive to develop and teach them new jobs.

Therefore, we propose to provide managers with courses to help them determine what the workers need through their career stages, classified as each department of training portfolios.

This includes professional and behavioral trainings from the beginning of the assessment. Employees' participation in vocational training programs assist them in their performance and career development. Furthermore, continuous updates on the latest training materials keep employees' standards with the international ones.

Accordingly, the training of staff members is fully appropriate to the training needs of their performance evaluation, either because they have deficiencies in their current functions or preparing them for future positions.

By Safaa Soliman

Director of Information and Media Department at the Egyptian General Petroleum Corporation (EGPC)



تحت رعاية صاحب السمو الشيخ خليفة بن زايد آل نهيان رئيس دولة الإمارات العربية المتحدة
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Annual Inflation Headline CPI (%)

NOV 2019 **3.60** ↑ DEC 2019 **7.1**



Net International Reserves (\$ billion)

NOV 2019 **45.35** ↑ DEC 2019 **45.42**



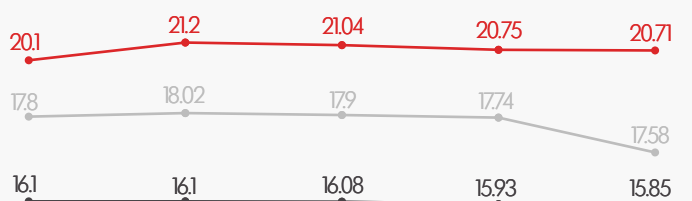
Non-Oil Private Sector PMI (Points)

NOV 2019 **47.9** ↑ DEC 2019 **48.2**



Exchange Rates

— British Pound — Euro — USD



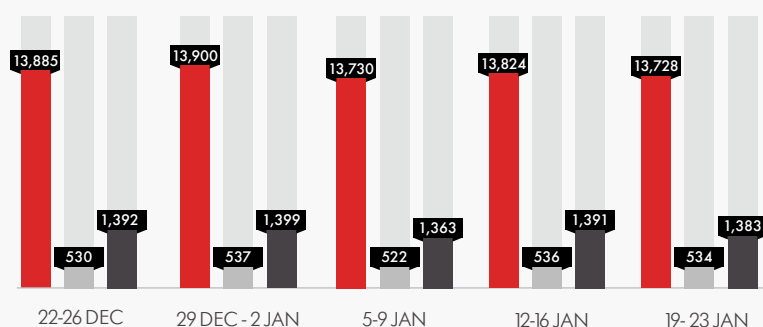
DECEMBER

JANUARY



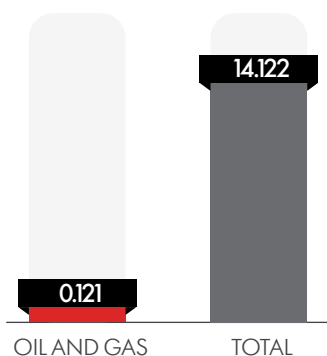
Capital Market Indicators

■ EGX 30 ■ EGX 70 ■ EGX 100



Oil and Gas Sector Financial Performance in December 2019

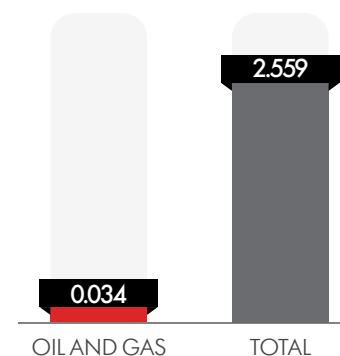
VALUE TRADED (EGP BILLION)



OIL AND GAS TOTAL

% OF TOTAL VALUE TRADED | 0.9

VOLUME TRADED (BILLION SHARES)



OIL AND GAS TOTAL

% OF TOTAL VOLUME TRADED | 1.34



National Drilling

CURRENCY
USDCLOSE PRICE
4.96YTD PRICE CHANGE (%)
▲ 9.01

Alexandria Mineral Oils Co.

CURRENCY
EGPCLOSE PRICE
3.63YTD PRICE CHANGE (%)
▼ 41.83

Egypt Gas

CURRENCY
EGPCLOSE PRICE
55.5YTD PRICE CHANGE (%)
▼ 24.16

Sidi Kerir Petrochemicals

CURRENCY
EGPCLOSE PRICE
8.98YTD PRICE CHANGE (%)
▼ 47.55



EGYPT'S ECONOMIC INDICATORS IN H1 2019/20



Public revenues annual growth rate reached **0.5%**



Public investments reached **EGP 64 billion**



Non-Sovereign revenues increased by **EGP 21 billion** annually



Government expenditures increased by **8.2% YoY**



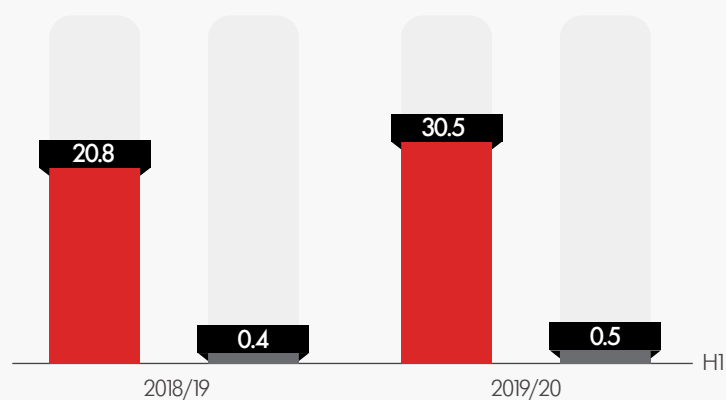
Primary Surplus



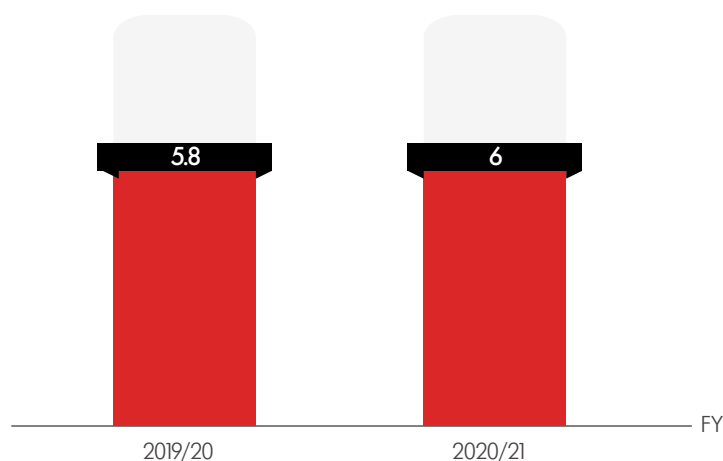
EGP billion



% of GDP



Expected GDP Growth Rate* (%)



*World Bank Expectations



Egypt's Rank in 2019 Global Competitiveness Index

■ 2018 ■ 2019



Competitiveness Index

94

93



Institutions Index

102

82



Infrastructure Index

56

52

Source of Raw Data: The Egyptian Cabinet, MPED.

THE RED SEA BID ROUND RESULTS IN 2019

Awarded Blocks Area (km²)

Shell Shell & Mubadala Chevron

Block 3 3,097 Block 4 3,084 Block 1 3,057



Minimum Investments
\$ 326 million

SDX RESERVES IN SOUTH DISOUQ CONCESSION IN SEP. 2019



NATURAL GAS RESERVES
86 bcf



CONDENSATES RESERVES
0.6 mmbbl



TOTAL RESERVES
↑ 35%



PETROGAS PLANS IN FY 2020/21



TARGET
Fill 304 million cylinders with 3.8 mmt of butane



PLANNED INVESTMENTS
EGP 163 million



Ras Bakr-Ras Ghareb-Assiut PIPELINE STARTED OPERATING IN Jan.

Length

155 km

Investments

\$450 million

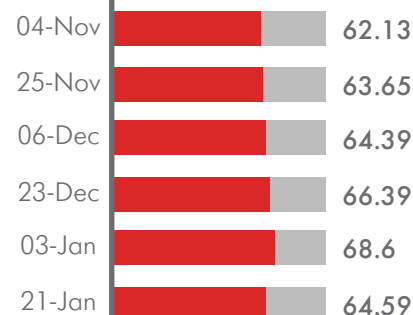
Target

Butane transported to Upper Egypt to 4,000 t/d



INTERNATIONAL OIL PRICES

BRENT PRICES (\$/bbl)



EXXONMOBIL ACQUIRED 2 EXPLORATION BLOCKS IN DEC. 2019



Total Area Acquired
1.7 million acres



Operations Start
2020



ACQUIRED BLOCKS



Block

North Marakia offshore



Location

The Mediterranean Sea



Area (million acres)

1.2

North East El Amriya Offshore

The Nile Delta

0.54



CORC plans refining 8 mmt in Mostorod and Tanta refineries in FY 2020/21.



PPC PLANS IN FY 2020/21



Transport & Store 53 mmt of petroleum products



Construct a 180 km pipeline from Sohag to Qena

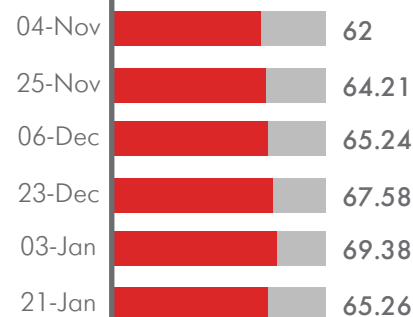


Establish 4 warehouses with capacity of 30,000 m³

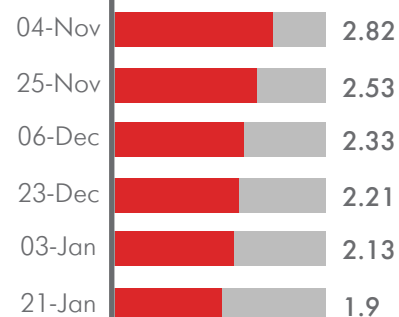


Construct a 110 km pipeline from Mostorod to Tanta

OPEC BASKET PRICES (\$/bbl)

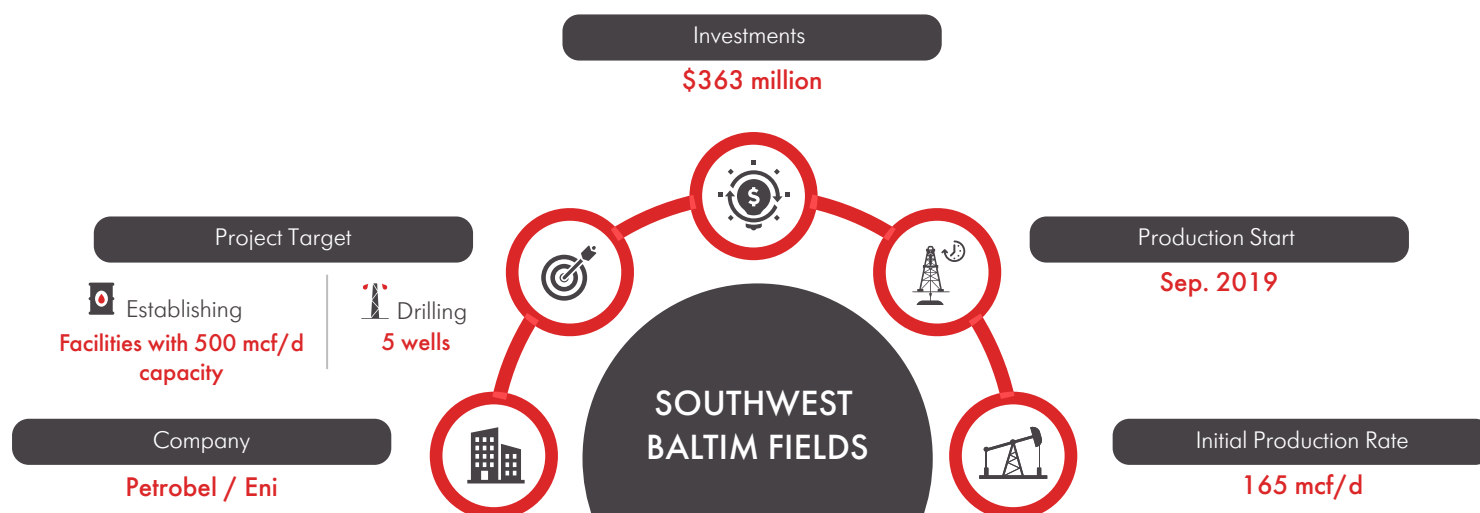


NATURAL GAS PRICES (\$/mmBtu)

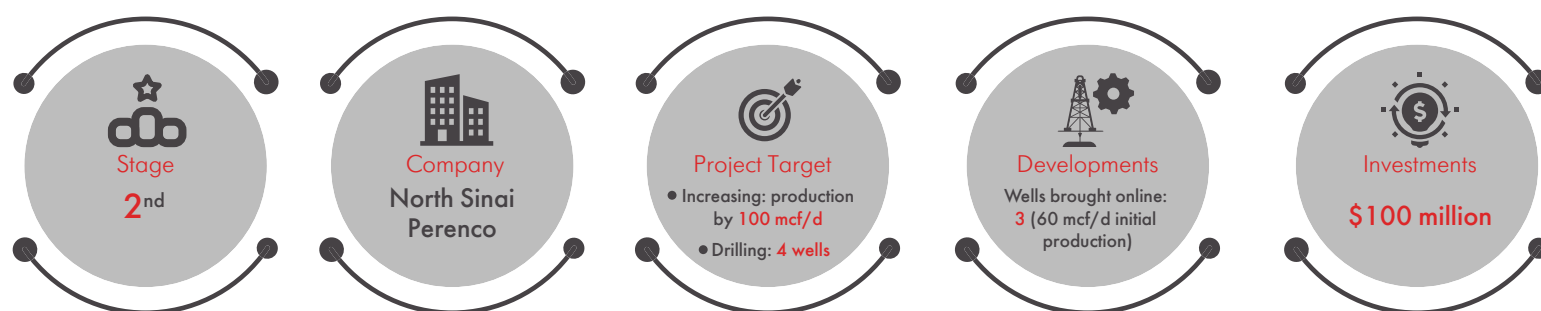




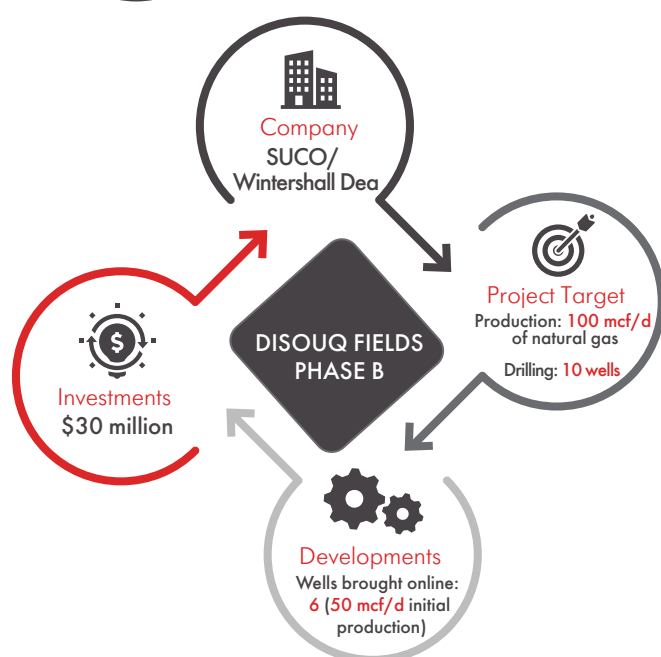
DEVELOPMENT PROJECTS IN THE MEDITERRANEAN SEA IN 2019



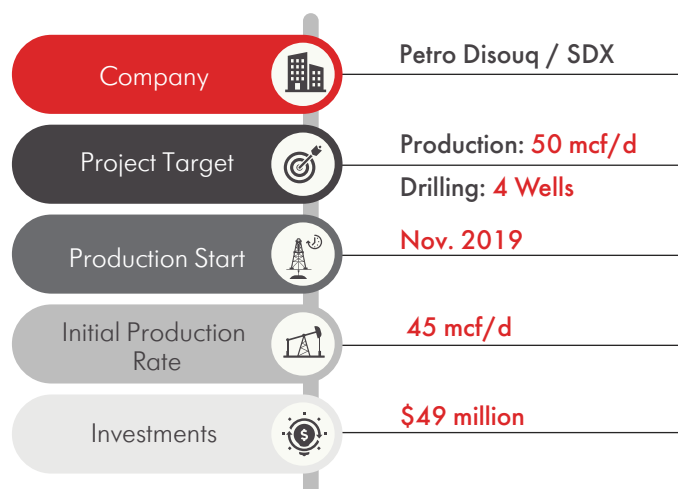
NORTH SINAI DEVELOPMENT



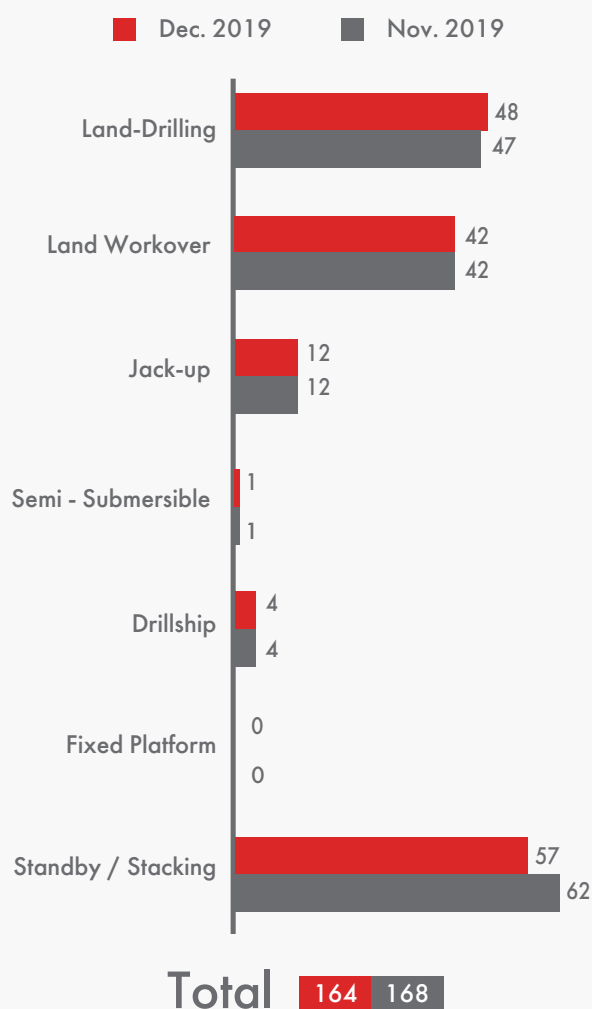
DEVELOPMENT PROJECTS IN THE NILE DELTA IN 2019



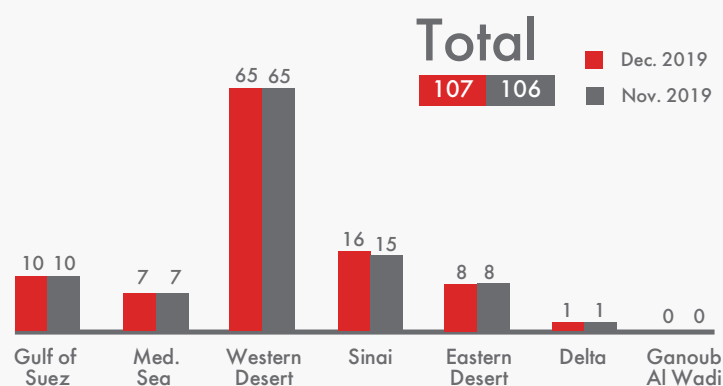
SOUTH DISOUQ FIELDS



EGYPT RIG COUNT PER TYPE Dec. 2019

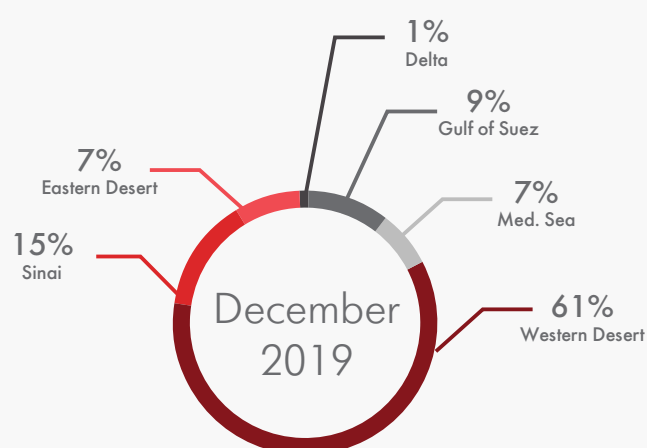


EGYPT RIG COUNT PER AREA Dec. 2019



The difference between the total of rigs per area and per type is due to the Stand By / Stacking number.

Distribution of Rigs



EGYPT PRODUCTION DEC. 2019

Total

537,329	BBL/D
7,004	BCF/D
6833	MCF/D
91,404	BBL/D

Numbers are calculated per day on average.

	CRUDE OIL	NATURAL GAS	SOLD GAS	CONDENSATES
MEDITERRANEAN SEA	378	4.472	4363	36,529
EASTERN DESERT	63,889	0.009	9	19
WESTERN DESERT	298,471	1.258	1227	41,072
GULF OF SUEZ	123,691	0.152	148	1,826
DELTA	180	1.113	1086	11,442
SINAI	50,573	0	0	516
UPPER EGYPT	148	0	0	0

DRILLING UPDATE DEC. 2019

REGION	COMPANY	WELL	WELL TYPE	RIG	DEPTH	WELL INVESTMENTS
GULF OF SUEZ	GPC	H11 B3-1A	EXP	ADMIRIN-3	6,122	2.3 M\$
	GUPCO	SA-E2	Development	ADMIRIN-4	5,770	2.1 M\$
MEDITERRANEAN	RASHPETCO	SIMIAN-DR	Development	DS-7	2,341	25.1 M\$
	PETROBEL	BALTIM SW4	Development	ELQAHER II	3,600	18.1 M\$
WESTERN DESERT	NORPETCO	ABRAR-28	Development	ST-2	6,814	1.01 M\$
	AGIBA	MEL-136	Development	WT-147	9,615	2.5 M\$
	KHALDA	TUT-125	Development	EDC-57	13,000	2.4 M\$
		MENES-12	Development	EDC-61	12,100	1.4 M\$
		BERENICE-12	Development	EDC-17	11,700	1.5 M\$
	QARUN	WON X-32	Development	EDC-65	7,450	1.1 M\$



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