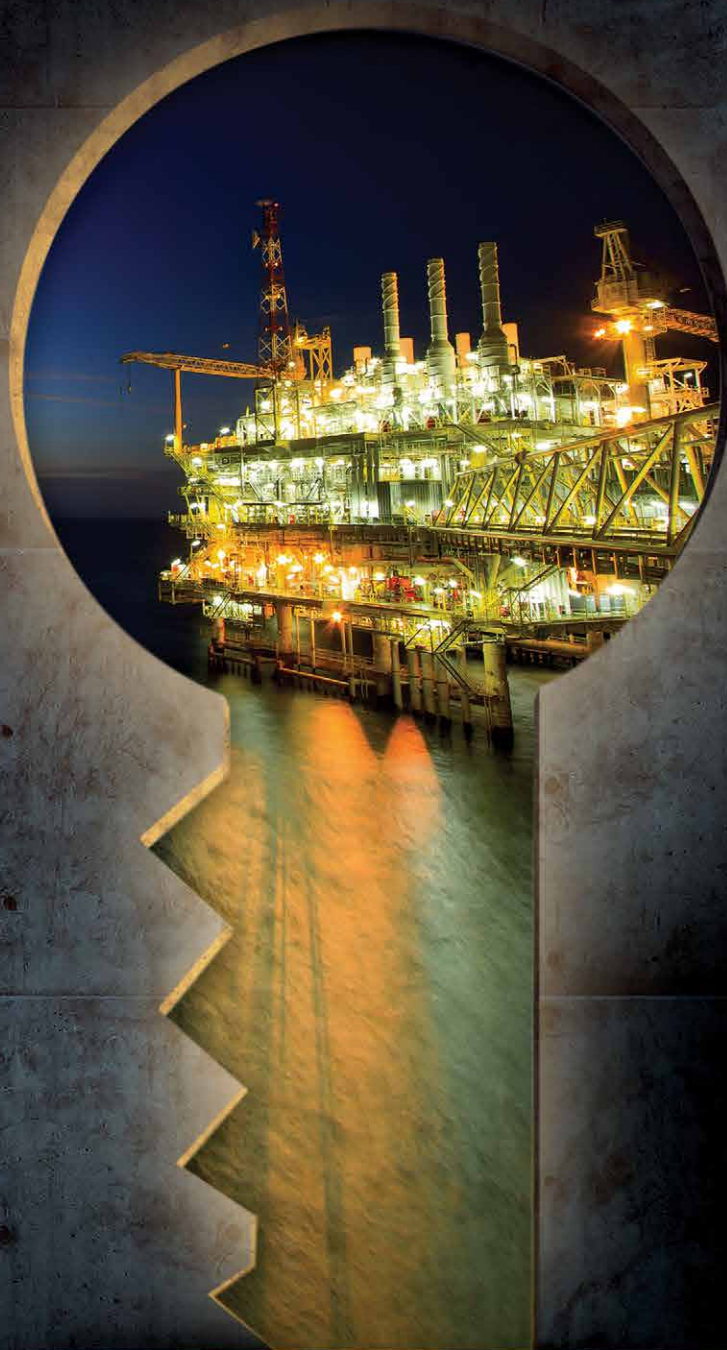




ANALYTICAL REPORT

# DECRYPTING THE EGYPTIAN GAS LEGAL FRAMEWORK



**SHE IS ENERGY:**  
REMARKABLE  
ENHANCEMENT FOR  
WOMEN INCLUSION



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# EDITOR'S LETTER

## TOWARDS A GREENER FUTURE

The world celebrates this month, the earth day. This day is mainly to demonstrate support for environmental protection. This comes along with the increasing awareness of the 17 Sustainable Development Goals (SDGs) set by the United Nations (UN). As a result, the oil and gas industry is changing under the umbrella of the energy transition. The industry is moving towards a greener future by using environment friendly techniques.

The natural gas is one of the main factors that both companies and countries are relying on to create more sustainable energy strategies. The countries are increasing the share of natural gas in the non-renewable part of their energy mixes. While companies are investing more in natural gas operations.

In Egypt, the president Abdel Fattah Al-Sisi, instructed to depend on clean energy through producing vehicles operating on natural gas and electricity. This was translated into the national strategy for supporting the automotive industry locally. Thus, in this issue we discussed natural gas from different perspectives.

The issue is rich with exclusive interviews that was hosted live in March. We talked to Ditlev Engel, CEO of Energy Systems at DNV about the company's operations updates in Egypt and DNV's suitability goals. We also had the chance to talk to Patrick Allman-Ward, CEO of Dana Gas about the company's decision to demerger its upstream business from mistreat business and the sale of the company's onshore assets in Egypt.

Moreover, we were very lucky to have another interview with Dawn Summers, Chief Operating Officer (COO) of Wintershall Dea. The interview was mainly about the company's operational results and future plans.

The issue includes a variety of features tackling the future of natural gas, especially in Egypt and the east Mediterranean region. In the research and analysis section, we provide our readers with an analytical report about the Egyptian gas legal framework.

**Ramadan Kareem!**

**MAHINAZ EL BAZ**

Acting Editor-In-Chief  
Research & Analysis Manager

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PUBLICATION



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



PART OF THE EGYPTIAN OIL AND GAS SECTOR  
 MODERNIZATION PROGRAM

# 4<sup>TH</sup> UPSTREAM TECHNICAL CONVENTION

UNLOCKING VALUE  
 IN AN UNCERTAIN UPSTREAM ENVIRONMENT

HYBRID EVENT

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# EXPLORATION

## EGYPT TO LAUNCH OIL, GAS BID ROUND FOR 24 BLOCKS

Egypt announced the start of a bid round for oil and gas exploration in 24 blocks.

The bid round will include nine blocks in the Mediterranean Sea, 12 in the Western Desert, and three in the Gulf of Suez, and will end on August, 1.

The tenders were offered by the Egyptian General Petroleum Corporation (EGPC) and Egyptian Natural Gas (EGAS).

## EGYPT OFFERS FIRST DIGITAL INTERNATIONAL E&P BID ROUND IN 2021

The Egyptian General Petroleum Corporation (EGPC) and Egyptian Natural Gas Holding Company (EGAS) have offered the first digital international bid round in 2021 for petroleum exploration and production (E&P) operations in 24 Blocks at the Gulf of Suez, Western Desert and the Mediterranean.

Egypt Upstream Gateway (EUG) will provide virtual access to all data including information of the offered blocks on an interactive map, data room viewing, seismic surveys, subsurface insights and data packages. To participate in the virtual bid round, companies should register as members through the EUG portal.

The closing date of the bid round will be on Sunday 1st of August 2021 at the midday.

# INVESTMENTS

## GUPCO TO INVEST \$562 MM IN FY 2020/21

Gulf of Suez Petroleum Company (GUPCO) allocated \$562 million in its budget in fiscal year (FY) 2020/21 for investments in its fields, to raise production rate to 70,000 bbl/d.

Mohamed El Meligy, GUPCO Chairman, said that promising exploration opportunities will be evaluated as per the results of the seismic survey conducted in cooperation with the Western Geco Schlumberger company.

El Meligy uncovered the implementation of an industrial wastewater treatment plant in Ras Shukeir.

Minister of Petroleum and Mineral Resources, Tarek El Molla, chaired this meeting where these remarks were disclosed, highlighted the necessity of continued exploration, development, and maintenance to increase the production of GUPCO's fields.

Cooperation with Emirati Dragon Oil Company, GUPCO's partner, was underlined to help to increase the company's production in near future to compensate for natural depletion.

## PMS IMPLEMENTS 87 PROJECTS WORTH \$171 MM

Petroleum Marine Services Company (PMS) announced that it has implemented 87 projects in 2020 estimated at \$171 million at the highest quality and right on schedule.

PMS Chairman, Ashraf Imam elaborated that PMS managed to sign 80 contracts at a cost of \$225 million in 2020 and referred to the most significant implemented projects including wells and assets maintenance, marine pipelines reforms, and training provided to the employees to leverage their competencies.

The meeting highlighted necessity to continue implementing all operations according to the required quality and to open new opportunities for new operations and partnerships with international oil companies (IOCs) in the Mediterranean.

# DOWN STREAM

## EGAS: NATURAL GAS PRODUCTION TO REACH 7.2 BCF/D

The Egyptian Natural Gas Holding Company (EGAS) announced that it would sign three development contracts worth \$377.7 and that the natural gas production rate is planned to reach 7.2 billion Cubic feet of gas per day (bcf/d) and 100 thousand barrels of condensate.

The new data was announced during the EGAS general assembly meeting, headed by the Minister of Petroleum and Mineral Resources, Tarek El Molla.

During the meeting, EGAS showcased the implementation details of three projects for developing the natural gas fields of Pharaonic petroleum, Balayim Petroleum (Petrobel) and Disouq Petroleum (Petro Disouq) companies.

EGAS chairman, Magdy Galal referred to the finalization of nine exploration and production (E&P) agreements worth \$981 million for natural gas. These agreements include drilling of 18 exploratory wells.

## DAMIETTA RECEIVES FIRST LNG SHIPMENT TO BE EXPORTED TO BANGLADESH

The Egyptian cabinet announced that the Damietta liquefied natural gas (LNG) plant has resumed its operation after its eight-year hiatus, by receiving the LNG carrier Golar Glacier coming from Singapore to load and transport 60,000 tons of LNG from Egypt to Bangladesh.

The Minister of Transportation urged the Damietta Port Authority to follow up the entry of the carrier by taking all security and safety measures.

The Spokesman of the Ministry of Petroleum and Mineral Resources, Hamdy Abdel Aziz, announced that Egypt plans to send its first LNG cargo to Europe, noting that Egypt targets to become a major supplier to Europe.

## EL MOLLA DISCUSSES PROSPECTS OF CONNECTING LEVIATHAN TO EGYPT'S LNG UNITS

The Egyptian Minister of Petroleum and Mineral Resources, Tarek El Molla, and the Minister of Energy in Israel, Yuval Steinitz, agreed on working on an agreement to link Leviathan field to the liquefied natural gas (LNG) units in Egypt through an offshore pipeline.

This came during their meeting to discuss the ways of joint cooperation to boost energy security in both countries.

Both ministers also discussed a number of opportunities for energy independence for Palestinians through different projects such as developing Offshore Gaza field, establishing electric power station in Jenin, and supply natural gas to Palestinians.



# COOPERATION AND AGREEMENT

## EGYPT, PALESTINE TO DEVELOP GAZA GAS FIELD

Egypt and Palestine signed a memorandum of understanding (MoU) between the partners of the Gaza gas field; the Palestine Investment Fund (PIF), the Consolidated Contractors Company (CCC), and the Egyptian Natural Gas Holding Company (EGAS) to develop the Gaza gas field and the necessary infrastructure.

This came during Tarek El Molla's, Egypt's Minister of Petroleum and Mineral Resources, meeting with Zafer Melhem, Palestinian Minister of the Energy Authority and other Palestinian officials.

Both sides affirmed the need to accelerate the development of the Gaza gas field, emphasizing the importance of the Eastern Mediterranean Gas Forum (EMGF) in facilitating the use of its member states of their natural resources.

## EL MOLLA VISITS RAMALLAH, ISRAEL TO SUPPORT EMGF EFFORTS

The Minister of Petroleum and Mineral Resources, Tarek El Molla, visited Ramallah and Israel on February 21 to discuss with Mohamed Mustafa, the Palestinian President Advisor for Economic Affairs, and Yuval Steinitz, the Minister of Energy in Israel, the efforts and goals of the Eastern Mediterranean Gas Forum (EMGF).

The meeting targeted forming a common vision to develop a regional gas market and to support the member states' efforts in investing their natural gas reserves. The fruitful and constructive cooperation between EMGF countries aims to streamline the current and future available infrastructure in the region.

## EGYPT MAINTAINS EMGF PRESIDENCY UNTIL 2022

The fourth ministerial meeting of the Eastern Mediterranean Gas Forum (EMGF) convened on March 9 and concurred that Egypt will continue its presidency of the EMGF led by the Minister of Petroleum and Mineral Resources, Tarek El Molla, until the end of 2021. Cyprus will be next in line to assume EMGF's presidency in January 2022.

This was the EMGF's first meeting since the charter was signed back in 2020 indicating a significant milestone for the achievements realized since the forum's inauguration in January 2019. During the meeting, the members appointed Osama Mobarez, Undersecretary of the Ministry of Petroleum and Mineral Resources, as an Acting Secretary-General of the EMGF.

The meeting, reviewed the Gas Industry Advisory Committee's (GIAC) study on gas supply and demand in the East Mediterranean in light of gas market assessment and its forecast. They also adopted the EMGF 2021 work program.

They also welcomed France as an EMGF new member country and the US as an observer. The next ministerial meeting will be held in Cairo in Q4 2021.

## EGYPT TO BOOST OIL, GAS COOPERATION WITH JORDAN

Minister of Mineral Resources, Tarek El Molla, held a meeting with his Jordanian Counterpart Hala Zawati, who was in a visit to Cairo to discuss ways to boost ties in the oil and gas field during the coming period.

During the meeting, both ministers reviewed the development of cooperation between the member states of the Eastern Mediterranean Gas Forum (EMGF) and the efforts to deal with the consequences of the Coronavirus pandemic.

El Molla stated that the integration between the two countries, especially in the field of natural gas, has witnessed a remarkable development with the support of President Abdel Fattah Al-Sisi and King Abdullah II.

## AGREEMENT WITH BELGIAN DEME FOR STUDIES OF GREEN HYDROGEN PRODUCTION

Prime Minister Mostafa Madbouly witnessed the signing ceremony of green hydrogen agreement between the Egyptian Electricity Holding Company, chaired by Gaber Desouky, and the Belgian DEME Group, chaired by Alain Bernard.

Meanwhile, Minister of Electricity and Renewable Resources, Mohamed Shaker, noted that both parties of the agreement will start studying the implementation process of a trial project for green hydrogen production in Egypt in line with the European Union (EU) strategy for carbon dioxide emission reduction between 2035- 2050.

For his part, DEME Group chairman, stated that this project came as a part of Belgium pledges to implement the "Green Agreement".

According to the statement issued on the event, Egypt won't only produce green hydrogen but will also export it.

## DEALS TO SETTLE DISPUTES WITH GAS COMPANIES ENTER INTO FORCE

The Ministry of Petroleum and Mineral Resources announced that a convention of more than 40 agreements to settle disputes with some companies has entered into force.

The agreements settle all disputes that rose out between the Egyptian Natural Gas Holding Company (EGAS) with the Union Fenosa Gas (UFG), and the Spanish Egyptian Gas Company (SEGAS).

It also ensures resuming production of Damietta liquefied natural gas (LNG) plant of SEGAS Company and increasing and the capacity of EGAS in the Damietta LNG plant.

Upon this deal, EGAS and the Egyptian General Petroleum Corporation (EGPC) will own 50% of SEGAS shares while the other 50% of shares will be owned by Eni.

# ACHIEVEMENTS

## EGYPT'S OIL SECTOR EXPANDS RELIANCE ON DIGITAL TECHNOLOGY: EL MOLLA

Minister of Petroleum and Mineral Resources, Tarek El Molla, said that Egypt's oil sector vies to expand its reliance on digital technology in the upcoming petroleum projects and that the petroleum sector has unique chances for international partnerships in projects based on modern technology.

The minister's remarks came during his meeting with a delegation from Baker Hughes Company, where El Molla highlighted the latest technological achievements of the ministry including the launching of Egypt Upstream Gateway platform and Natural Gas station Application.

Baker Hughes delegation showcased several new digital applications and solutions that their company has recently reached. These applications covered fields of production, flame gas recovery, petrochemicals, increasing production from brown fields, maintenance and construction projects, and trainings.

## SINCE RESUMPTION IN FEB, DAMIETTA LNG PLANT SHIPS FIRST CARGO TO EUROPE

Egypt's Damietta Liquefied Natural Gas (LNG) plant shipped first cargo to Belgium import terminal at Zeebrugge on March 21. It is the first cargo to be sent to Europe from Damietta since it resumed operations in late February.

A total of 26 cargoes have been delivered from Egypt so far in 2021, with the bulk exported from the Shell-operated, 7.2 million ton per year (mmt/year) Idku facility.

Recent cargoes have also been sent to Italy and Greece in March, as European gas prices become increasingly competitive versus Asian spot LNG prices.

For Asia, Egypt has so far shipped eight cargoes to China, and four cargoes to India while Bangladesh, South Korea, and Singapore received two cargoes each.

## WINTERSHALL DEA RECORDS HIGH PRODUCTION LEVEL OF 650,000 BOE/D IN Q4 2020

Mario Mehren, CEO of Wintershall Dea said Wintershall Dea has achieved its highest level of production since the company's merge, reaching 650,000 barrels of oil equivalent per day (boe/d) during Q4 2020, while the company's average production reached 623,000 boe/d during 2020.

Mehren outlined that the company cut its underlying production costs by 8% to €3.5/boe. So that the company was able to achieve EBITADEX estimated at €1.6 billion in the results of 2020 despite a challenging environment with low gas and oil prices.

Wintershall Dea plans to invest around €400 million in energy efficiency, strict emissions management, and nature-based mitigation solutions over the next ten years.

Per 2021 outlook, Wintershall Dea's CEO expects production to increase between 620,000 to 640,000 boe and to invest €1.0 to 1.1 billion of capital expenditure (Capex) in production and development.

## EGYPT APPROVES EXTENDING SDX'S PSA OF WEST GHARIB TO 2031

SDX Company announced that it had received the final approval from the Egyptian authorities to extend its Production Services Agreement (PSA) for oil production from Meseda and Rabul oil fields in West Gharib concession until 2031.

The terms of the extension include drilling six development wells by the end of December 2022 in addition to one water injection well. The extension also provided if oil price reaches \$55 for 12 consecutive months during the extension period, the company should drill four further development wells, and if the oil price reaches \$60 for 12 consecutive months during the extension period, the company will drill more two development wells.

The Egyptian authority required the company to pay a deferred signature bonus of \$2 million, half of which will be paid in monthly installments in the next 12 months while the remaining \$1 million will be paid in two installments of \$0.5 million each, on 31 December 2022 and 31 December 2023.

## CHEIRON TO ACQUIRE 50% OF SHELL EGYPT ONSHORE UPSTREAM ASSETS

Cheiron Petroleum Corporation has agreed to purchase 50% of Shell's upstream oil and gas interests in the Western Desert. The remaining 50% of the interests will be purchased by Cheiron's strategic partner, Cairn Energy plc, a new entrant into the Egyptian upstream.

Cairn, a UK listed company with significant international experience and exploration expertise, will operate three of the exploration licenses. The field activities will continue to be managed by the Badr Petroleum Company (BAPETCO) Joint Operating Company.

The acquisition is expected to add Proven plus Probable reserves of 113 mmbbl and production of approximately 40,000 barrels of oil equivalent per day (bboe/d) (as at 31 December 2020) to the Cheiron business on a working interest basis.

## WINTERSHALL DEA, CHEIRON, INA SIGN AGREEMENT ON JOINT EXPLORATION AT EAST DAMANHOUR

Wintershall Dea, Cheiron and INA signed an agreement to jointly explore the East Damanhour onshore block, with approval from Minister of Petroleum and Mineral Resources, Tarek El Molla.

Egypt-based company Cheiron will hold a 40% working interest of the contractor's share, while the Croatian INA acquires a 20 per cent working interest. Accordingly, Wintershall Dea will remain operator of the concession with a working interest of 40 per cent of the contractor's share. As per the agreement terms, the new partners will contribute to the exploration activities financially and with technical expertise.

## SHELL SIGNS SPA WITH CHEIRON, CAIRN FOR ONSHORE UPSTREAM ASSETS IN WESTERN DESERT

Shell Egypt has announced that it entered into a sale and purchase agreement (SPA) for its onshore upstream assets in the Western Desert of Egypt, with a consortium made up of subsidiaries of Cheiron Petroleum Corporation and Cairn Energy PLC.

The agreement includes Shell's interest in 13 onshore concession and its share in Badr Petroleum Company (BAPETCO). The sale is for a base consideration of US\$ 646 million and additional payments of up to \$280 million between 2021 and 2024, contingent on the oil price and the results of further exploration. The agreement is subject to approvals from the government and regulatory and expected to complete in the Q2 2021.

## SIEMENS, TURBODEN START DEVELOPMENT OF GASCO NATURAL GAS COMPRESSOR STATION IN DAHSHOUR

Siemens Energy and Turboden started development of Egyptian Natural Gas Company (GASCO) high efficiency natural gas station in Dahshour, Egypt.

Turboden S.p.A., a Mitsubishi Heavy Industries Group Company, is the supplier of the largest high temperature Organic Rankine Cycle (ORC) system, which coupled with 20 Megawatt electrical (MWe) electric motor driven (EMD) compressors supplied by Siemens Energy to improve the efficiency of GASCO Dahshour gas compressor station (GSC) in Egypt.

The system will generate 28 MWe of power using the waste heat from four existing gas turbines and improve the system's compressed gas capacity of 25%. It is also generating 192 GWh of fuel free electricity per year and reducing CO2 emissions of 120,000 ton per year and saving more than 65 million of standard cubic meter of natural gas.

## ENI CLOSING AGREEMENT TO RESTART DAMIETTA LIQUEFIED NATURAL GAS PLANT

Eni closed agreement signed last December with the Egyptian state represented in the Egyptian General Petroleum Corporation (EGPC) and the Egyptian Natural Gas Holding Company (EGAS), and the Spanish Naturgy company that will restart the Damietta liquefaction plant in Egypt.

This agreement settle Union Fenosa Gas and SEGAS's outstanding disputes with EGAS and the Egyptian state and effect a corporate restructuring of Union Fenosa Gas, whose assets have been divided between Eni and Naturgy, as well as of SEGAS which will now be owned 50% by Eni, 40% by EGAS and 10% by EGPC.

This Damietta plant has a capacity of 7.56 billion cubic meters per year (bcm/y).

## SCHLUMBERGER SIGNS MOU FOR UNIVERSITY YOUTH TRAINING

Schlumberger has signed two memorandum of understanding (MoUs) with Suez and Future Universities to train and develop scientific research for petroleum engineering students.

Schlumberger will train students from both universities as the largest and most advanced international center equipped with leading technologies in the field. It will also provide highly-advanced software as well as scientific support for the research. Training in the fields of safety, industrial security, and environmental preservation will also be presented.

Tarek El Molla, Minister of Petroleum and Mineral Resources, highlighted that the MoUs are essential in training and developing the capabilities of the youth as they will be prepared for the real world through practical training in actual work sites.

The MoU will allow the new generation to compete internationally in all fields of the petroleum industry as digital transformation and advanced technologies become more embedded in the industry.

## SCHLUMBERGER CELEBRATES INTERNATIONAL WOMEN'S DAY

Schlumberger Egypt held its annual International Women's Day ceremony through a special virtual event to promote and empower women in the oil and gas industry.

The event kicked off with a speech from Karim Badawi, Managing Director of Schlumberger Egypt and East Mediterranean, and was attended by the company's employees while featuring more female presence to make a special thanks to all women in the company.

A segment of the ceremony was dedicated to present special recognition by the Egypt Upstream Gateway (EUG) project managers Mohamed Radwan, and Ahmed Sameh to the women behind the EUG.

## TRANSLOBE RECOMPLETES SGZ-6X WELL IN SOUTH GHAZALAT

TransGlobe Energy announced the successful recompletion of SGZ-6X well into the lower Bahariya reservoir at South Ghazalat concession in the western Desert.

The well started production on March 21, 2021 at a field estimated production rate of 3,600 barrels per day (bbl/d) of light oil on a 32/64 inch choke with 0% watercut.

This well was restricted on March 22, 2021 to a field estimated 1,000 bbl/d of light oil on a reduced choke, to facilitate reservoir data gathering and preparation of an effective reservoir management plan for the lower Bahariya at the prementioned location.

Work to expand early production facility at South Ghazalat has been completed while further update is expected once the plan is developed.

It is noteworthy that the EDC-64 rig has now rigged down at SGZ-6X, paving its way to the Company's Eastern Desert concessions, where operations on the budgeted twelve



well of 2021 drilling program are expected to begin in April. UOG Achieves New Discovery in Abu Sennan Concession

United Oil & Gas Company (UOG) announced that it has made a new discovery in Abu Sennan Concession, onshore Egypt, after doing drilling operation for ASD-1X exploration well.

Preliminary results suggest that ASD-1X exploration well has a total of at least 22m net oil pay interpreted across a number of reservoirs, including the Abu Roash C (AR-C), Abu Roash E (AR-E), Lower Bahariya and Kharita Formations.

UOG added that it is now planning for testing the well during the coming weeks and if successful, it will negotiate with the Egyptian Petroleum Corporation (EGPC) to conduct a develop lease for this new discovery. ASD-1X exploration well is located at a distance of 12 km away from the north-east of the producing Al Jahraa Field.

## NORWAY'S PGS CONTRACTS FOR OFFSHORE EGYPT SURVEY

Norway's PGS has been awarded a high-fidelity 3D exploration survey program offshore Egypt by an unknown major oil company.

The survey will be acquired using an Extended Long Offset (ELO) configuration with the marine seismic acquisition vessel, Ramform Tethys, towing a wide multi-sensor GeoStreamer spread with an additional source vessel located several kilometers ahead. This will allow efficient recording of offsets up to 16 km critical for imaging deeper complex exploration targets.

The ELO survey allows for an optimal spatial sampling which in turn allows better subsurface imaging together with long offset acquisition for accurate velocity model building. It is also favored for its competitive price and efficient configuration compared to other solutions for imaging deep targets.

## SHELL WINS AWARD OF MOST GROWING INVESTOR IN OIL, GAS SECTOR

In recognition of its vital role in developing the energy sector's infrastructure in Egypt, Shell won the BT100 award of the most growing investor in Egypt's oil and gas field, in the BT100 ceremony held on March 31, 2021, under the patronage of Prime Minister Mostafa Madbouly.

During the BT100 event organized by Business Today magazine, Khaled Kassem, Shell Egypt CEO, remarked that Shell has a strategic partnership with the Egyptian government and the oil and gas sector. Throughout its time, Shell has worked in the Western Mediterranean region and the Red Sea in addition to acquiring two new offshore concessions in the Nile Delta (Zones 4 and 6).

Kassem also noted that Shell's exploration areas have multiplied by 12 times since 2018, adding that Phase 9B in the West Delta Deep Marine (WDDM) concession has also been completed.

## ATON PREPARES TO DRILL HAMAMA, RODRUI PROSPECTS

Aton Resources began evaluating drilling contractors and civil works contractors in preparation for drilling Hamama and Rodruin prospects.

The company has obtained a loan of C\$2,000,000 from Moonrider to be repaid on the earlier of six months from closing or on the closing of any debt or equity financing by Aton in an amount in excess of C\$5 million. The loan comes with an interest rate of 12% a year and scheduled to be paid when the loan is due.

The loan proceeds will allow Aton to finalize and sign commitments with the aforementioned contractors and resume drilling ahead of the completion of an equity financing. Additionally, Aton will utilize the proceeds of the loan on capital expenses, finalizing a drilling contract, acquiring critical capital items required, constructing roads, drill pads, a new exploration camp at the Rodruin project, and resuming the drilling program.



**MARIDIVE GROUP**





# MARIDIVE PARTICIPATES IN SALVAGING THE EVER GIVEN CONTAINER CARRIER IN SUEZ CANAL

Maridive and Oil Services Company takes pride in its contribution to refloat the giant Panamanian container carrier (Ever Given) that was grounded in the Suez Canal, blocking the channel on Tuesday, March 23rd, 2021.

Maridive 703 was one of the first AHTS vessels responding to the Egyptian Suez Canal Authority's (SCA) call to assist in floating "Ever Given" which blocked one of the most active navigational channels in the world. Alongside others who contributed to this national effort, Maridive 703 with its high Bollard Pull of 150 Tons and through tireless pulling maneuvers, was able to successfully refloat the grounded vessel.

In recognition of this significant achievement by Fleet operations team and Maridive 703 crew onboard; Mr. Mohamed El Gamal – CEO of Maridive Group – expressed his

sincere gratitude and appreciation for the team's tireless efforts contributing to end this crisis which had a severe Global Impact. Mr. El Gamal quoted "Our fully national, highly qualified crew had conducted the assigned tasks at the highest level of Safety, Passion, and Sincerity".

"Maridive took an immediate decision to mobilize Maridive703 once being informed of the Ever Given crisis. This is a national call of duty and we were honored to participate in it, as Maridive will never hesitate to utilize its expertise of over 40 years in servicing the Egyptian state," Shahira Zeid – Chairman of Maridive Group Board of Directors – highlighted.

## SAUDI ARABIA



**Saudi Arabia and Russia are in talks about different oil strategies before crucial OPEC+ meeting about the market.** Saudi Arabia indicated that it would prefer to keep production steady, while Moscow suggested continuation in production increase. Saudi Arabia has one million barrels per day (mmbbl/d) of voluntary cuts, in addition, it pledged to make extra restraints only in February and March.

**Lamprell Company announced that it has been awarded an Engineering, Procurement, Construction and Installation (EPCI) contract from Saudi Aramco in Marjan Filed as a part of their Long-Term Agreement (LTA).** The contract includes two offshore production deck modules and associated pipeline in addition to subsea cables in the Marjan Filed of Saudi Aramco, which is one of the largest oil and gas fields in the region.

## UAE



**The Abu Dhabi National Oil Company (ADNOC) announced that its Thamama Centre of Excellence achieved \$1.1 billion in advanced technology and digitalization since its launched in 2017 to respond rapidly to market trends and allow intelligent growth.** Thamama is the main part of ADNOC's investments in advanced technology, digitalization, and artificial intelligence (AI) as the company continues to deliver on its 2030 strategy. Additionally, Thamama helps ADNOC to improve oil recovery and production efficiency by more than 10%. ADNOC is working on more than 15 new digitalization projects in Thamama to get about \$500 million in additional value per year.

**Fujairah port's oil stocks have declined to its lowest level in 2021 due to the increase of the oil exports.** The total stockpiles reached 20.85 million barrels (mmbbl) until February 15, a drop of 1.6% from the previous week and the lowest since November 30. Heavy distillates declined by 3% to record 9.487 mmbbl. Middle distillates stocks reached 4.166 mmbbl until February 15, dropped by 5% from the earlier week and recording decrease for the fourth week. Meanwhile light distillates, including gasoline and naphtha products, jumped by 3% to 7.201 mmbbl during the same period compared to the previous week.

**ADNOC and Intercontinental Exchange (ICE) announced the update of the Murban Crude Oil futures.** ICE Futures Abu Dhabi (IFAD) started trading ICE Murban Crude Oil Futures and a number of related cash settled derivatives against Brent and WTI, as well as inter-commodity spreads. Murban Futures will be delivered two months prior, so the first contract to expire will be the June contract which will end in April 2021. Additionally, the company will transfer its pricing mechanism for Murban to ICE Murban futures contract during the first month of lifting this new contract and this is targeted to be June.

**ADNOC Logistics & Services (L&S) announced the acquisition of all assets of Speedy Hire PLC (Speedy) in UAE in order to expand its handling service.** ADNOC will take ownership of Speedy's equipment, stock, and other fixed assets related to its business in Middle East. The transaction includes acquisition of more than 2,000 pieces of equipment involving cranes, forklifts, fire trucks and other high-value machinery used for offshore and onshore material handling services. ADNOC L&S plans to expand its fleet and it has already acquired 16 deep-sea vessels including six very large crude carriers during the last 12 months, which will enlarge oil shipment capacity with 12 million barrels.

## QATAR



**Qatar Petroleum held a long term sale and purchase agreement (SPA) with Vitol to supply its final customer in Bangladesh with 1.25 million tons per year (mmt/y) of liquefied natural gas (LNG).** Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, and President and CEO of Qatar Petroleum, stated that they are looking forward to commencing deliveries under the SPA to further contribute to meeting Bangladesh's energy requirements. As per the agreement, LNG deliveries will start later this year.

**Qatar Petroleum Company has signed a new long-term SPA with Pakistan State Oil Company (PSO) to supply up to 3 million tons (mmt) of LNG to Pakistan.** The agreement was signed between Saad Sherida Al-Kaabi, Qatar's Minister of State for Energy Affairs and President of Qatar Petroleum, Syed Taha, Managing Director and CEO of PSO. According to the terms of the ten-year

agreement, Pakistan's terminals will receive LNG shipments starting from 2022 until the end of 2031. It is worth noting that this is the second such agreement between Qatari and Pakistani sides since 2016.

**Qatar Petroleum signed a multi-party agreement with LNT Marine, the American Bureau of Shipping (ABS), and Shanghai Waigaoqiao Shipbuilding (SWS) for developing new medium and large LNG carrier design.** The agreement targets at establishing a Joint Industry Project (JIP) for developing new LNG carrier designs by using LNT A-BOX® LNG cargo containment system. This containment system is a new design that has recently deployed on the new built vessel "Saga Dawn" of 45,000-meter cube which entered the commercial service in Q2 2020.

## IRAN



**The CEO of the National Iranian Oil Engineering and Construction Company, Saeed Sattary Naeini, announced that Iran has achieved self-sufficiency in construction and implementation of the oil and petroleum products transmission pipelines.** He elaborated that this achievement was implemented despite the difficult economic conditions, noting that with the support of the Ministry of Petroleum, the country was able to establish a pipeline completely with its domestic capabilities. Naeini highlighted that the company is working on constructing 1,000 km of pipelines in addition to 15 pressure stations and pump houses.

**The Iranian Azar joint field has recently recorded a total production of 36 million barrels (mmbbl), an increase of 65,000 bbl/d.** According to Keyvan Yarahmadi who is responsible for the project at the Petroleum Engineering and Development Company (PEDEC), the amount of oil existing in the Azar field is estimated at 4.3 billion barrels (bbl) while the amount of extractable reserves of this field exceeded 400 mmbbl during 40-year exploitation time. Meanwhile, Yarahmadi said that a contract for developing Chanouleh field is expected to be signed soon, adding this project will be shared with Al Badra field in Iraq.



## US



**Chevron entered an agreement with Noble Midstream Partners LP to acquire all of the 33.925 million non-owned shares in an all-stock deal.**

Noble Midstream will receive 0.1393 of a share of common stock of Chevron in exchange for each common unit owned. No more details were disclosed, but the deal is expected to close by Q2 2021. The deal comes a few months after Chevron's acquisition of all outstanding shares of Noble Energy for a total of \$5 billion.

**Valero Energy Corporation restarted the crude oil distillation unit (CDU)**

**in its Meraux, Louisiana refineries, so the company's production reaches to 125,000 barrel per day (bbl/d).**

The company restarted the 135,000 bbl/d CDU, the 50,000 bbl/d vacuum distillation unit (VDU), in addition to the 55,000 bbl/d hydrocracker and the 32,000 bbl/d reformer. It is worth noting that CDUs break down crude oil into hydrocarbon feedstocks for all other production units. Additionally, VDUs refine the remaining of crude oil from CDUs, which operates at atmospheric pressure, at vacuum pressure increasing the yield from a barrel of oil.

## RUSSIA



**Gazprom Neft doubled its marine bunker fuel sales by 3.5 times to reach 1.1 million tons (mmt) in 2020 and providing 20% of market share in low-sulphur and ultra-low-sulphur bunkering fuel in Russia.** The company expanded its fleet in Murmansk and Archangelsk by relocating its Nord-East bunkering vessel from St. Petersburg to service seagoing vessels covering Arctic projects and the Northern Sea Route. Third of environmentally friendly fuel sales occurred at ports in the Baltic Sea, Barents Sea, and White Sea.

**Rosneft Company announced that its Komsomolsk refinery invested more than RUB 750 million in environment- oriented assets during the period from 2018 to 2020.** The company elaborated that the refinery had implemented a comprehensive modernization program that resulted in an overall upgrade of production. Additionally, it is conducting a large-scale upgrade aimed to modernize the equipment and increase the conversion rate. It is worth noting that all solutions introduced at the Komsomolsk refinery and its operating units are aligned with the best technology available.

## NORWAY



**Neptune Energy along with its partners announced that it has started drilling operations in the Dugong appraisal well in Norweigan sector of the North Sea.** The drilling operations are being implemented using a new semi-submersible rig owned by CIMC and operated by Odfjell Drilling. Recoverable resources from Dugong field is estimated between 40 -10 million barrels of oil equivalent (mmbbl). The company and its partners plan to drill an exploration well in the license in Q3 2021, targeting the Dugong Tail prospect.

**The Norwegian Greenstat Hydrogen Company signed a statement of Intent with the Indian Oil Corporation for establishing a Center of Excellence on Hydrogen in India.** The project will benefit from the new technologies for developing new cost-effective sustainable and scalable solutions for green and blue hydrogen. This transaction will enhance the bilateral cooperation between India and Norway, particularly in the energy sector. Additionally, the Indian

government seeks to boost the hydrogen's share in India's energy basket and positioning India as a global hub for manufacturing and developing hydrogen centric technologies.

**Equinor with its partners decided to further develop the Asgard field and implement the Asgard B- low pressure project with an investment of NOK 1.4 billion.** The field can still produce 400-500 mmbbl, so value creation in the order of NOK 150 – 200 billion. Equinor was awarded Asgard implementation of B low- pressure project with a contract to Asker Solutions to modify and reduce inlet pressure of Asgard B platform. The contract has been expanded into engineering, procurement, construction, and installation (EPCI) contract valued at around NOK 800. The project will begin immediately to be continued in 2024. Low pressure production begins 2023.

## MALAYSIA



**PETRONAS Company announced that it has successfully launched the Malaysia Bid Round (MBR) 2021 through a virtual event, under the theme "Grow Your Energy Portfolio with Us".** This bid round offers 13 blocks in locations of Malay basin, Sabah basin, and Sarawak basin; six of which are discovered fields and expected to be a way for more exploration and production. The company is participating this year in the bid round by offering three new production sharing contract (PSC) terms and three large areas for study arrangement.

**PETRONAS announced that it has achieved a natural gas discovery from Dokong- 1 exploration well in Block SK 417 which is located in the shallow waters of Baram Province at offshore Malaysia.** This block is 80% operated by PTTEP HK Offshore Limited and 20% by PETRONAS Carigali Sdn Bhd, a subsidiary of PETRONAS through a production sharing contract (PSC) signed in 2018. The company highlighted that this discovery proves the existence of more sweet gas potentials in this region. PETRONAS mentioned that it is planning to offer four shallow water blocks in Sarawak during Malaysia Bid Round 2021.

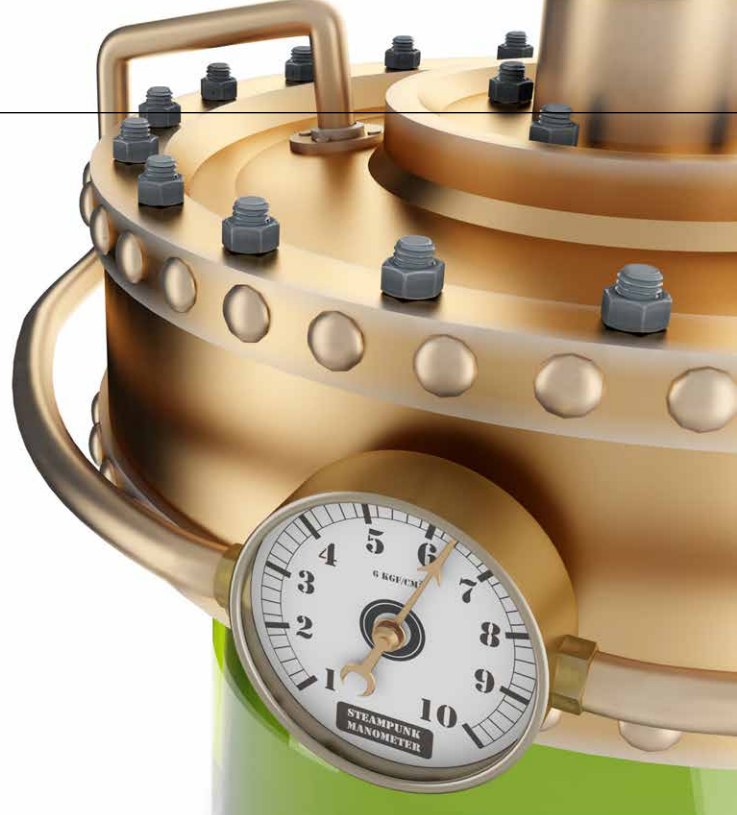
## MOROCCO



**Chariot signed a Memorandum of Understanding (MoU) with its partner Office National des Hydrocarbures et des Mines (ONHYM) and Morocco's Ministry of Industry, Trade and Green and Digital Economy for a gas development project expected to induce a spurt in the Moroccan gas market.**

The Ministry will support the Anchois Gas Development to enhance job creation and regional integration through the development of strategic infrastructure and to help the Moroccan industrial sector to lead a clean and competitive energy for consumption.

# DECRYPTING THE EGYPTIAN GAS LEGAL FRAMEWORK



BY AMINA HUSSEIN, REHAM GAMAL, AND TASNEEM MADI

The natural gas activities in Egypt witnessed significant improvements starting in 2015. The government worked on several pillars to take advantage of these developments, including the legal aspect.

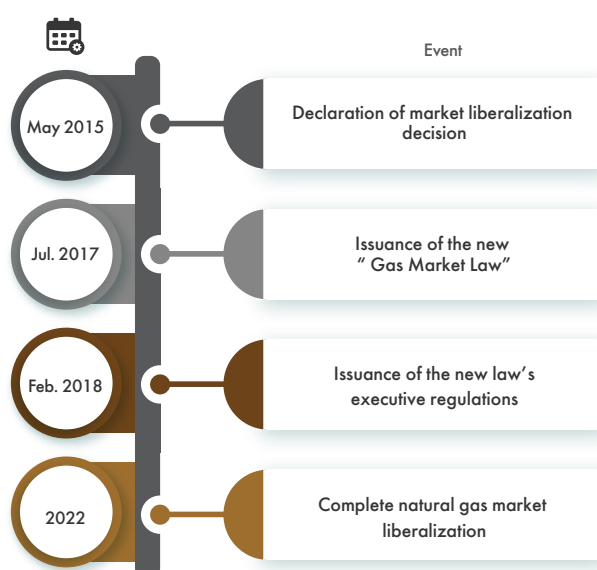
In Egypt, the supply chain in the natural gas market operates under the direction and supervision of the Ministry of Petroleum and Mineral Resources (MoP). The Egyptian natural gas market was first managed by the Egyptian General Petroleum Corporation (EGPC) before moving under the supervision of the Egyptian Natural Gas Holding Company (EGAS), according to the US Energy Information Administration's (EIA) Country Analysis Brief: Egypt in 2018. Prior to 2017, the natural gas activities in Egypt were covered by law No. 217 for 1980. Under this law, EGAS was responsible for all operations relating to exporting, transportation, and domestic supply of natural gas to different sectors. Post-2017, the situation changed with the approval of the new Gas Market Law No. 196 for 2017.

## I. NATURAL GAS MARKET LEGAL FRAMEWORK

### 1. NEW GAS LAW

Before 2015, the decreasing supply and the growing demand of natural gas forced Egypt to spend billions to close the supply-demand gap. As a result, the government decided to liberalize the natural gas market to relieve the budget. In May 2015, the government announced the decision to allow private companies to use the state-owned national gas grid to import, transfer, and distribute natural gas to the local market.

#### MARKET LIBERALIZATION TIMELINE



The new Gas Market Law includes 53 articles, which are divided into five sections. Most importantly, the second section refers to the establishment of an independent

regulatory body, called the Gas Regulatory Authority (GasReg). The role of GasReg is to regulate, follow up and control all activities related to the natural gas market in Egypt.

The issuance of this law encourages private companies to enter the game of importing and distributing natural gas to the local market, as reported in the GasReg website.

## THE NEW GAS MARKET LAW MAIN PROVISIONS



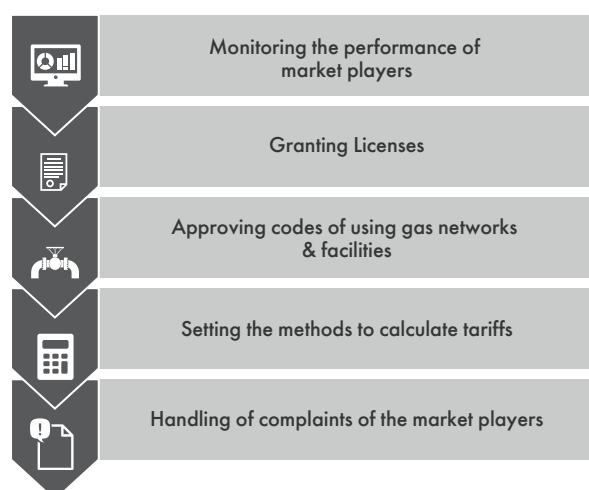
### 2. GASREG

GasReg is an independent authority established by the effect of the new law to maintain several objectives, including attracting new investments. In addition, the GasReg governs the market's mechanism for the importing, re-gasification, transportation, distribution, storage of natural gas, as well as setting its own financial resources and revenue streams, according to the authority's website.

The authority further introduces fair competition to the market by allowing "Third Party Access" to natural gas infrastructure. This is in addition to increasing the quality of services along with protecting the consumers' rights, according to the GasReg website.



## GASREG MAIN ROLES

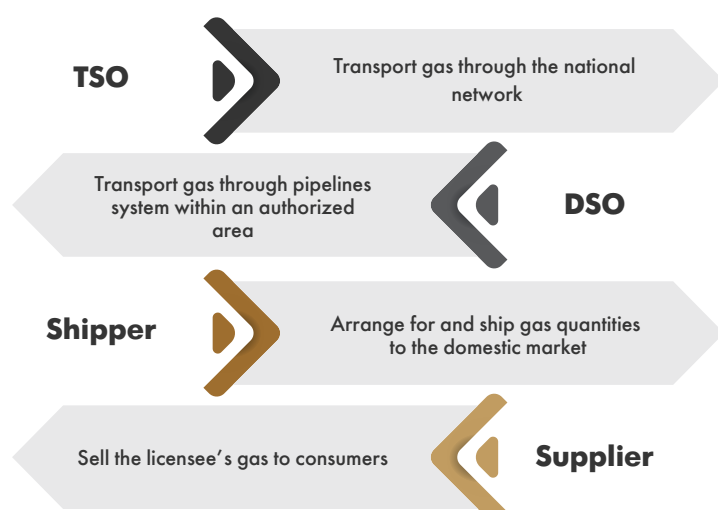


## II. LICENSED ACTIVITIES

Since GasReg follows up with the process of issuing licenses as an initial step, it verifies the technical and the financial capabilities for the legal entity by asking for the license. Afterwards, the authority issues licenses for legal entities, called "licensees", in order to operate any of the gas market activities and identify the licensees' rights and obligations.

Licensed gas market activities are either for operating gas networks and facilities or for commercial activities such as gas shipping and supplying gas. There are four types of licenses issued by GasReg; which are the Transmission System Operator (TSO), the Distribution System Operator (DSO), the Shipper and Supplier licenses. TSO and DSO are those for managing gas networks. The Shipper and Supplier licenses are those concerned with commercial activities, according to the GasReg website.

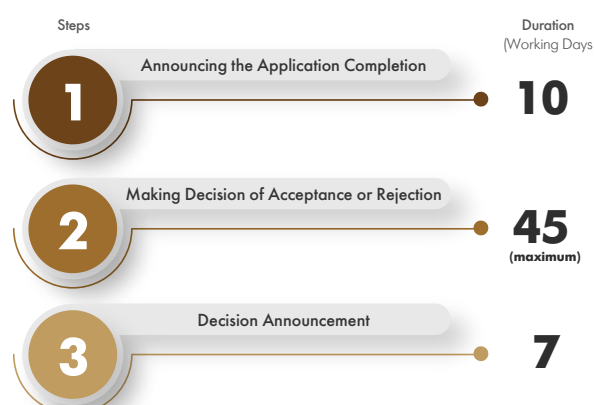
### LICENSES TYPES



## 1. PROCEDURES & REQUIREMENTS

The application of the license can be submitted in the form of a hard or soft copy in a standard form with all required supporting documents.

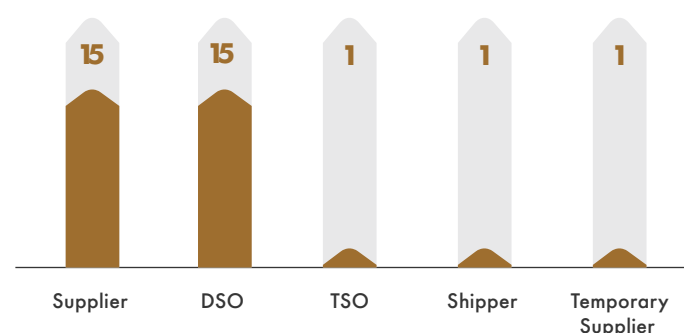
### PROCESS OF GETTING A LICENSE



If the application is incomplete, the applicant has 10 working days to complete the needed information. Otherwise, the application will be rejected if not completed in the determined period. In case of fraud information, the license will be immediately rejected or cancelled even after approval.

EGAS, the Egyptian Natural Gas Co. (GASCO), and 13 other companies, are the main applicants for the gas supplier license. GASCO, in addition to the 13 other companies, including Trans Gas, Town Gas and National Gas Co. (NATGAS) are also applicants for gas DSO licenses. EGAS is the shipper license applicant and GASCO is the TSO license applicant. However, Regas is the only temporary gas supplier license, according to the GasReg website.

### NUMBER OF GAS LICENSEES PER TYPE



## 2. LICENSE ISSUANCE FEES FOR 2021

The fees of the license are paid by the licensees to GasReg so as to have the permission to operate their activities domestically. License fees are calculated by a certain methodology. Such calculations are set on an annual basis, through multiplying the issuance fee by approved (licensed) gas quantities. When GasReg approves the application, the applicant has to pay the license fees within seven working days, according to the GasReg website.

### LICENSEES ISSUANCE FEES BY ACTIVITY FOR 2021

Activity	License Issuance Fees (cent/MMBtu)	Rate of Change (%) (YoY)
Transmission	0.0566	29
Shipping	0.0297	24
Distribution	0.0210	31
Supplying	0.0077	28

## 3. TARIFFS

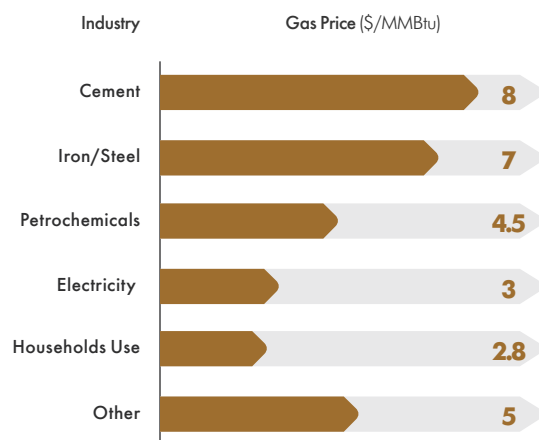
The network operators are responsible for calculating tariffs, according to GasReg methodology, to be imposed on the gas network users. After that, GasReg reviews the calculations and provides the respective approval upon successful applications.

Concerning the transmission activities through the national gas grid, GasReg set a tariff of 38.6 cents per Million British Thermal Unit (MMBtu) for 2021, in comparison to 37.52 cent/MMBtu in 2020. The tariff was determined in order to integrate the Egyptian market with the global gas markets. While for the distribution activities, the tariffs value is defined in accordance to the current applied active agreements, stated in the GasReg website.

## 4. GAS PRICING TO DOWNSTREAM SECTOR FOR 2021

There are two gas pricing mechanisms. Both mechanisms are considered as long-term contracts between EGAS, DSOs, and consumers. Gas prices, that are set by a formula, are issued for the final products, according to the GasReg website.



## GAS PRICES SET BY MINISTERIAL DECREES



## III. FUNDAMENTAL LEGAL ASPECTS FOR LNG

Egypt is considered one of the two countries in North Africa – together with Algeria – that possess exceptional liquefied natural gas (LNG) infrastructure, including two liquefaction facilities.

### LNG FACILITIES

Facility	Operator	Operating Year	Capacity (bcf/y)	LNG Destinations
 Idku	ELNG	2001	353	Europe, Asia Pacific & US
 Damietta	SEGAS	2004	264.8	Spain & Europe

After being an importer of LNG, Egypt succeeded in achieving self-sufficiency and became a pioneer in exporting LNG, especially to the European market in late 2018, according to EGAS annual reports. This success was supported by ownership of the exceptional LNG infrastructure as well as boosting natural gas discoveries. The future is also being nourished by promising deals in the LNG market.

### EGYPT'S LNG EXPORTS DEVELOPMENT

FY	Exports (bcf)	Cargoes
2013/14	86	24
2014/15	0	0
2019/20	120	33

## 1. REGULATORY FRAMEWORK APPLIED TO LNG

The Egyptian LNG market is regulated by Gas Market Activity Law No. 196 of 2017 amended by law no. 13 of 2019, and also the Prime minister executive decree no. 239 of 2018. The laws define the LNG industry and activities related to storage and pipelines, in addition to all procedures regarding LNG restoration, according to GasReg's website.

The government has a key role in regulating the LNG market through establishing the necessary rules and providing incentives to develop the market across the value chain.

From another side, the Suez Canal Authority (SCA) regulates the LNG Navigation by setting decrees and periodicals amendments. These decrees encourage more LNG vessel owners and operators to transit the Canal by granting toll discounts to the LNG tankers mainly operating between the American Gulf, the Arabian Gulf, India and Eastern ports, according to the SCA's website.

## 2. LNG SALE & PURCHASE AGREEMENTS (SPAS)

LNG supply contracts usually take the form of long-term Sale & Purchase Agreements (SPAs), which can be renewed or extended. Yet, before concluding these contracts, some major aspects, such as the integrated business structure, should be taken into consideration. The owner of the LNG export facilities is the natural gas producer whose LNG revenue is obtained from a SPA signed with an integrated venture company, which is usually a joint venture (JV) company.

The price index is one of the important indicators that determine the terms of payment under the SPAs. This pricing mechanism differs significantly among the traded gas markets. Yet, there are other terms and conditions at the forefront of discussion while negotiating these types of agreements. Such terms and conditions include transport and unloading, level of commitment, volume of goods, freight transfers, transfer of ownership and risks, and raw materials for gas, explained by Mohamed Agamy, Managing Partner at Links & Gain Co.

### A. FLUCTUATIONS IN PRICES & REVIEW PRINCIPLES UNDER SPAS

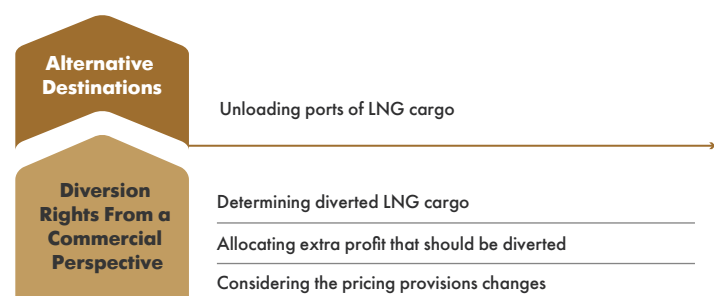
Commonly, the SPA contract's price should have an index to manage the price of LNG cargoes. However, prices are set out in agreements at a given point of time, regardless of the fluctuations that may occur in the future. Hence, price reviews should be included in the SPAs.

The date of the price adjustment should be considered as it may take effect from either the date of starting the price review process or from the date the amendment was approved.

There are also different forms of principles drawn from different conventions. For instance, the parties should not have control over setting a specific price. Also, the change must be based on technical evidence to avoid potential conflicts, according to Agamy.

### B. DIVERSION RIGHTS IN SPAS – TERMS OF NEGOTIATIONS

#### DIVERSION TERMS & CONDITIONS UNDER THE SPA



## C. TERMINATION PROVISIONS

If the seller fails to deliver the LNG cargoes. The buyer has the right to terminate and purchase an LNG replacement, as well as to claim the seller's liability obligation.

Under some circumstances, the buyer's termination rights may not be sufficient so other remedies from the sellers side should be set such as insurance and a maximum percentage determination of liabilities that may exceed the total contract value, explained by Agamy.

In line with the developments taking place in the Egyptian natural gas market, the MoP, during the past few years, was able to take bold steps in liberalizing the market. The restructuring of the legal framework and directive regulations assessed the ministry and the whole economy to harvest the benefits of the continuing success in the natural gas activities, and further attract more investments in the different market segments.

Furthermore, the introduction of the new Gas Market Law targets altering the structure of the market itself over the coming years. As the law paved the way for the private sector to engage in the gas transmission and relevant processes, the local distribution companies (LDCs) will operate the networks in a competitive environment that will generate the best service quality for citizens.



# Baker Hughes Remote Operations Services: At a glance

2019			2020		
Executed <b>HALF</b> of the company's total drilling jobs	Drilled or logged <b>3,350</b> onshore wells in North America alone	Drilled <b>42 MIL</b> feet globally	Executes <b>55%</b> of the company's total drilling jobs	Delivers services in <b>30+</b> countries	Deploys from <b>20+</b> centers and customer offices

**TODAY**  
Baker Hughes can support  
**100%**  
of our Directional Drilling and  
MWD/LWD portfolio using  
**Remote Operations Services**

Remote drilling and evaluation  
**BY THE NUMBERS:**

**360+**

engineers and geologists  
supporting operations worldwide

**100%**

connectivity with every  
Baker Hughes drilling operation

**300+**

shifts-per-day  
delivered remotely

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**Baker Hughes** 

# SHE IS ENERGY: REMARKABLE ENHANCEMENT FOR WOMEN INCLUSION



WEBINAR  
**SHE IS ENERGY**

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BY JASMINE SHAHEEN, FATMA AHMED, AND LOBNA HEFNY

On the occasion of the Women International Day in March, Egypt Oil & Gas (EOG) Committee caught this opportunity for launching its first edition of the “She is Energy” webinar, on March 29, under the patronage and with the participation of Minister of Petroleum and Mineral Resources, Tarek El Molla. The event aimed to highlight the impact of women’s inclusion in the oil and gas sector and how to empower them, especially in the leading positions. A number of oil and gas leaders along with the minister participated in the panel discussion. The webinar was organized by EOG Newspaper, supported by the Ministry of Petroleum and Mineral Resources, and sponsored by ENAP.

The webinar witnessed the participation of prominent speakers such as; Sameh Sabry, Senior Vice President Managing Director Egypt at Wintershall Dea and EOG Committee Chairman, Denisse Abudinén, Chief Executive E&P Business at ENAP, Badria Khalfan, Chief HR Officer at Dragon Oil, Dalia ElGabry, Managing Director at Badr Petroleum Company (Bapetco), Hala Borai, Vice President of Financial and Commercial Affairs at the Egyptian Natural Gas Company (GASCO), and Nihad Shelbaya, Business Venture Manager of ExxonMobil Egypt. The event was moderated by Mohamed Fouad, Managing Director at EOG.

The webinar tackled a number of issues including the role of gender diversity in advancing industry economy, the tools of the ministry to support women in technical positions in the sector, how cooperation between the government and companies can help in increasing gender diversity, the exerted efforts for enabling women to hold leadership positions and the impact of increasing women in boardrooms on enhancing the sector’s performance.

## WOMEN IN SOCIETY

El Molla began his remarks highlighting the importance of such an event, stressing that women’s empowerment in the oil and gas sector is a crucial topic that needs to be highlighted and promoted. El Molla noted that since women represent 50% of the population, it is essential to develop and engage their skills. The minister stressed that “the role of women and their empowerment is an integral part of Egypt’s 2030 vision.” He also expressed his belief that gender equality and women’s rights improvement are

some of the main pillars to achieve sustainable development.







The minister also referred to the support President Abdel Al-Sisi has always shown for women and his keenness to foster their growth. He noted that Egypt has managed over the past few years to take steady steps to achieve gender equality and engage women in the political scene as well. This is shown by having eight women ministers representing 25% of the cabinet. El Molla also highlighted his ministry's commitment to the country's vision to empower women and improve their capabilities. "Women currently represent around 30% of the total employees in the EGPC and holding companies, out of which 33% in the leading positions" the minister stated.

El Molla added that currently, women exist in offices, sites as well as fields and are taking part in the sector's major success stories such as the Zohr field, while in the modernization project, women represent 40% across the different programs adopted by the Modernization Project. The minister stressed that human capital is the most important asset so that it was a main part of the modernization strategy, so developing the Middle Management program was designed to train the best talents regardless of gender. He noted that 20% of the candidates were women. "To further enhance the role of women in the sector and ensure gender equality, the sector has established the equal opportunity unit."

## EMPOWERING WOMEN

About this unit, the minister explained that it was established with coordination between the petroleum ministry and the National Council for Women (NCW), to provide the necessary mechanism and policies that ensure social, cultural, and economic rights on the basis of equal opportunities that came in line with the Women's Empowerment Strategy 2030. Meanwhile, El Molla highlighted the role of the Egyptian Petroleum Show (EGYPS), in this regard, as a platform to foster growth and mentorship for women's empowerment. He added that since the first edition of EGYPS in 2017, the sector created a feature fully dedicated to women which invited prominent leading women in the sector, presenting them as role models to tell their success stories across various sectors in Egypt.

"Along the years, this feature has become an awaited occasion to celebrate and acknowledge the current and future leading women in the Egyptian sector [as well as] share best practices to enhance [women's] inclusion in the industry," the minister elaborated.

At the end of his speech, El Molla affirmed that gender parity is a key driver to enhance the sector's economic performance, stressing that the women empowerment and their inclusion in the workforce is an important pillar for the continued development of the sector as well as Egypt.

In a video that was introduced during the webinar, a number of leading women in the oil and gas industry introduced a thank-you message to the minister for his efforts to support them. They also praised the programs designed for their empowerment and introduced some advice for the women who work in the sector to achieve success.

## IN THE SPOTLIGHT

Sameh Sabry, Senior Vice President Managing Director Egypt at Wintershall Dea and

EOG Committee Chairman has opened the panel discussion hailing the participation of the minister, considering it an important message to encourage and support women in the Egyptian oil and gas sector. He noted that the webinar aims to explore, promote and encourage gender equality in the oil and gas sector. Sabry added that despite all the efforts that had been done so far, the industry is mostly man-dominated, particularly the technical disciplines. "The oil and gas industry still has to do more efforts to encourage more females to join and to make it easier for joining females to progress a successful career".

From a business point of view, Sabry underlined that the diverse team is much more innovative, productive, and ultimately more competitive, while highlighting that "we [Wintershall Dea] believe that diversity is a key for success." He sees that the sector's leaders have to emphasize the benefit of diversity.

Significance of women role in the industry also emphasized by Denisse Abudinén, Chief Executive E&P Business at ENAP, who elaborated that "women could play a very important role to diversify the industry workforce."

She explained that the industry needs different people with different skills from the bottom to the top levels which could be achieved by women inclusion in the industry as they may have a different and valuable point of view. "We have to encourage them [women] to work in the industry," Abudinén elaborated. She also sees that engaging women in leadership positions should become the norm.

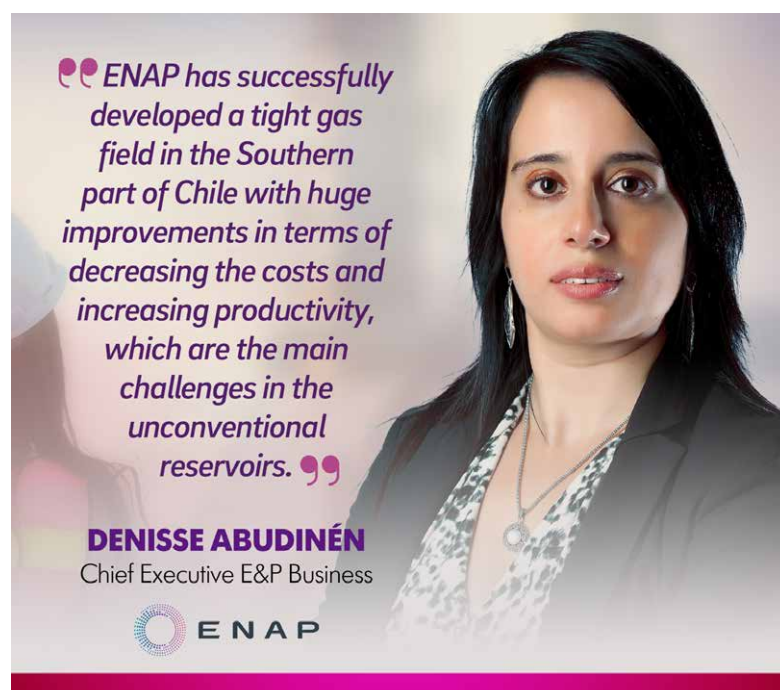
Abudinén also added that women, recently, represent 50% of ENAP's senior management positions while there are two women in the board members. She put a significant insight by saying "to all women and young females out there; you can reach for the top, your hard work pays off, you will be judged on your ideas, your dedication, and your talent, not for your chromosomes," noting that the gender-balanced industry is a better industry for all its workforce.

Abudinén highlighted ENAP's operation history in Egypt noting that ENAP has a very successful history of more than 18 years of operation in the Western Desert with full coordination with the Egyptian government. She declared that ENAP has recently completed a 3D seismic acquisition in Ras Qattara concession and has confirmed a drilling plan for the coming years, praising Egypt for having a stronger economy under the leadership of President Abdel Fattah Al-Sisi, and expressing her pride to have a branch for the company in Egypt as well as her appreciation for the Egyptian government's support.

Additionally, Abudinén, mentioned that ENAP, recently, has signed a memorandum of understanding (MoU) with the Egyptian General Petroleum Corporation (EGPC) focusing on two models. The first model is to introduce EGPC personnel to the application of ENAP operation and standards while the second one is about conventional reservoirs based on ENAP successful activities in Chile.

## AN UPHILL CLIMB

About the factors that helped her to reach its current position, ENAP's Chief Executive





## SUPPORTIVE ENTITIES

Hala Borai, Vice President of Financial and Commercial Affairs at the Egyptian Natural Gas Company (GASCO) elaborated that GASCO empowers women by providing them with the needed experiences and mentoring opportunities. The company also promotes educational courses and developing strategies. "GASCO leadership believes that women empowerment in the corporate world has a crucial direct impact on economic growth and sustainability," Borai stated.

Borai also added that "GASCO has a commitment to build a pipeline of women to access key positions and encourage them for leadership positions by strengthening their skills especially decision-making skills and risk management."

Additionally, Shelbaya expressed her gratitude for being recognized by the First Lady, Entissar Al-Sisi in a ceremony entitled "The Egyptian Woman: The Icon of Success" among a group of unique remarkable females in different fields and sectors. "I fully believe in the female potential and what she brings to the world around her. Thus it is critical to make females feel heard, highlight their talents, acknowledge their efforts, and celebrate their wins, of every size."

Shelbaya has been recognized for her efforts in road safety as she is the co-founder of the Nada Foundation of Safer Egyptian Road. She considered the recognition a strong message from Egypt's leadership in terms of empowering women and appreciating their efforts and activities, praising all women recognized as they represented Egypt in a very honorable way.

According to Khalfan, Dragon Oil is empowering women in line with the country's strategy, noting that UAE's government includes nine female ministries in addition to the head of the parliament. "We [Dragon Oil] sponsored many female employees to study different disciplines and engineering then they join us as fresh graduates," Khalfan added. She mentioned that Dragon Oil also organizes summer training for women to encourage them. "We network with young females by participating in big events like ADIPEC and EGYPS," Khalfan added.

Khalfan pointed that before women start working, they know what the company prepares for them and once they join, they engage in development programs. Additionally, she noted that the mindset of the females has been changed; they do not mind working abroad or in offshore fields, which encourages the company to exert more efforts for empowering them.

## APPROACHES TO CULTURAL INCLUSION

"The oil and gas industry still has to do more efforts to encourage more females to join and to make it easier for joining females to progress a successful career," Sabry noted. He referred that the oil and gas industry needs extra efforts to empower females, including right flexibility, equity, and cultural inclusion, not only diversity, in order to promote females' productive careers in the industry.

*"We organize summer training for females to encourage them and network them to participate in developing programs."*

**BADRIA KHALFAN**

Chief HR Officer



E&P Business stated that there are two main factors for that. The first one is that she always follows her gut. She explained that in 2007, she joined ENAP Sipetrol as a planning engineer in the E&P department, then after three years, she did her Masters in International Management at the University of London and then she came back to ENAP and hold various positions until reaching to be the Head of Corporate Strategy and Business Development.

"I never give up for pursuing what I feel I wanted in my life in every moment," Abudinén said. Abudinén advised others to be confident and follow their gut in order to do what is better for them in their career and in their life. The second factor for her success, according to her, was that she never felt that she had to be different as she is female. Abudinén elaborated that most of the time she was the only woman in the team and the youngest one on the board which is a positive thing from her point of view. Abudinén praised the ENAP working environment as it supports women's inclusion and diversity.

Badria Khalfan, Chief HR Officer at Dragon Oil, who was the first Emirati female to step foot in the oil industry around the mid-80s, reflected on the progress of women inclusion strategies in the industry. She remarked that back then, being a woman in this male-dominated industry was only strange for her male counterparts, but not to her. The trailblazer defied the industry norms and was the first Emirati female to work on offshore sites.

She could climb the professional ladder until she became the Chief HR Officer of Dragon Oil. Khalfan did not only create a new path for herself, but she became an inspiration and a prominent role model for women in the industry. "By breaking stereotypes, nowadays, women are less hesitant and more encouraged to join the industry," she observed.

Dalia ElGabry, Managing Director at Badr Petroleum Company (Bapetco) talked of her journey of challenges and taking risks and how she chose to pursue an alternative path that led her for jobs abroad, regardless of the concerns of her family and friends. However, ElGabry realized that she took the best decision for her career and family as well, and she decided to keep taking similar risks and chances in the future. She highlighted that all of these risks and challenges leverage her leadership skills. "I do strongly believe that success is measured by the positive impact we can have on the people around us every day and how we can help them grow, develop, and get empowered."

ElGabry further mentioned her career in Shell, pointing out how her female mentors inspired her and influenced her career by providing constructive feedback. She highlighted the necessity of mentoring young talents in order to empower them. "I strongly believe that mentoring, and a strong focus on equality are both keys to nurturing young talents in our industry," said ElGabry, who Praised Shell's environment as the company has always prioritized quality of work and she never experienced discrimination being a woman.

On another note, Nihad Shelbaya, Business Venture Manager of ExxonMobil Egypt shed the light on one of the main barriers facing women; others do not often believe in their own capabilities and they need to speak up, especially since there is a significant change in the oil and gas sector, showing that there are very successful examples of young female engineers doing a great job.

*"I never felt that I was discriminated in the company that the nurture of the company makes me felt that I belong to it."*

**DALIA ELGABRY**

BAPETCO General Manager  
& Managing Director



## THE FUTURE AHEAD

Women have proved many times over that they are fit to lead and that have a role in diversifying the industry's activities. "It is time for new initiatives, now we are facing new challenges in the industry; energy transition and digital implementation. In addition to that, the world is facing new challenges with COVID-19," Abudinén remarked. This further pushes the energy industry to adapt to the new world where women could contribute with a different and flexible valuable point of view.

ElGabry reflected on Egypt's women's inclusion in the oil and gas sector's future. She stated that now the government exerts efforts to embrace women in the workplace. ElGabry added that with the several initiatives at hand right now, the government ensures that women get needed training, developing their digital literacy, and financial inclusion. "All of this allows women to hone their skills and take part in influential areas like the oil and gas sector," she noted.

Giving credit where it is due, ElGabry acknowledged the petroleum ministry's role in boosting women's role. She remarked that women's presence in the ministry is evident across their platforms where EGYPS is a clear example of that. Fixating on EGYPS's Equality in Energy Award where she serves as a judge, Elgabry stated that "it has built upon the legacy of honoring and celebrating achievements of exceptional women in the oil and gas sector." She continued that the significance of such an award extends to recognize champions of inclusion and diversity.

There are a lot of talents in the industry but "we need to make sure that we provide those talents with the right level of support and recognition to ensure that they flourish," Elgabry noted. She added that EGYPS' Women in Energy sessions are another example of platforms that voices women's professional concerns that still exist to this day.

"If I look forward into the future... there are key considerations that we need to keep in mind. Having a diverse team of professionals will promote collaboration and communication in the workforce. Establishing appropriate policies and regulations for gender equality is super important." On a final note, Elgabry added that the more women have a place in senior-level positions, the narrower the gender gap gets.

The webinar was concluded by Sabry's note about increasing women's presence in boardrooms. He denoted that female representation in boardrooms is essential to changing the unbiased-gender-based culture in any workplace. By doing so, it becomes "a role model and an example not only to males who might have unconscious bias but also to females who sometimes do not believe that this is possible."

Sabry ended his note by stating that there should be harmony between culture and policies in order to enable women to develop further, noting that policies should be tailored for all individuals to allow more inclusive work environment.



Sabry also highlighted Wintershall Dea's efforts and targets to promote women in the company by mentioning that "we [Wintershall Dea] have a target by 2025 to make sure that we have at least 30% of our three senior executive levels held by females. Currently, we are in a range of 25% which I believe should grow further and further." Sabry believes that the company can achieve all of its targets by defusing stereotypes and cultivating a strong culture in which women believe in themselves as much as any male in similar positions.

Meanwhile, Sabry suggested that demonstrating cultural inclusion requires a lot of effort from leaders to encourage women to participate in a leading position. Sabry also implied that the company has a very strong network of women and it has a lot of activities to encourage women to participate, emphasizing that women are adding value in their own way.

Furthermore, Sabry added that the company has improved human resources (HR) policies and mentoring programs by adopting the Flex Forward policy which requires all employees, regardless of COVID-19 circumstances, to come to work only twice a week to maximize flexibility for both males and females achieving a work-life balance.

Borai reflected on her journey in the industry and noted that she has been very fortunate to have broad-minded leaders. She explained that, as a result, she had access to every available resource to empower not only herself as a woman, but all her colleagues as well. She added that getting both theoretical training as well as hands-on experience on both national and international levels enriched her professional capacity. She credited the leaders who have allowed her to build and enhance her capabilities which led her to become a role model for colleagues.

Shelbaya emphasized that inclusion and diversity come at the top of ExxonMobil Egypt's agenda. "We believe in the inclusion of diversity in thoughts, skills, knowledge, cultures, ideas because it makes us more competitive, more resilient, and better able to navigate through the complex and constantly changing global energy." To challenge gender bias, the company's HR adopted several tools and strategies such as; allowing flexible work hours and providing maternity leaves.

In addition to that, there have been some efforts done with managers or supervisors who would not generally allow a woman to assume a role that is generally held by men. She commended women's confidence nowadays in expressing their capabilities and their interest which has led to having women in positions as chemists, field engineers, and others.

This has led to a myriad of success stories that inspire many everywhere. As a leader of ExxonMobil's Women Interest Network (WIN) chapter in Egypt, Shelbaya illustrated that "this chapter enables and appreciates the value of women performance and women caliber."

She believes that narrowing the gender gap should not be just a quota that needs to be achieved, but rather to give opportunities to the talented and qualified. WIN helps in fulfilling that goal through its networks which are inclusive of all genders and different professional levels.





# ROBUST ACHIEVEMENTS DESPITE CHALLENGES:

INTERVIEW WITH  
**PATRICK ALLMAN-WARD**  
CEO OF DANA GAS



Despite numerous challenges and COVID-19 impact on the oil and gas industry, Dana Gas was able to achieve strong operational results and maintain its position regionally and internationally during 2020. It was also able to initiate one of Egypt's recent significant acquisition processes. In a live interview with EOG, Patrick Allman, Dana Gas' CEO, shed the light on Dana Gas strong performance and ambitious plans. He also revealed the latest details of the sale of Egypt onshore assets. However, he totally refuted rumors that Dana Gas is leaving Egypt.

## ARE YOU SATISFIED WITH DANA GAS' PERFORMANCE DURING 2020?

Given the incredible challenges that we faced in 2020, I am extremely happy with our performance. In the face of the limitations imposed by the spread of the global pandemic we managed to maintain our production levels in both Egypt and the Kurdistan Region of Iraq (KRI) without interruption. The global pandemic also brought with it an unprecedented collapse in the oil price, but despite this we still managed to make an operating profit for the year.

**WE FULLY REDEEMED THE COMPANY'S \$309 MILLION OUTSTANDING SUKUK IN OCTOBER AND SECURED A \$90 MILLION CORPORATE FACILITY FROM MASHREQ AND THIS NEW FACILITY IS PRICED AT AN EVEN MORE ATTRACTIVE RATE THAN THE SUKUK.**





Firstly, our operations. When the pandemic hit, our first priority was the health and safety of our workforce. We put stringent health and safety protocols in place to keep our operating environments "COVID free" and we have been extremely successful in doing so.

This allowed our operations to continue uninterrupted throughout the year. This was particularly important in the KRI where the gas produced from our Khor Mor plant provides the feedstock for over 80% of the power generation for the region.

Not only that, but despite the pandemic we managed to execute a debottlenecking project in the plant in July which allowed us to further expand production by up to 50 MMscf/d. Over the last few months, we have been producing at record levels of production in the fourth quarter, over 440 MMscf/d a 9% increase over the same quarter in 2019.

I am equally proud of our operational performance in Egypt. Here we are fighting a natural 20% decline rate from our reservoirs. We managed to limit the decline rate to 8% as a result of workover activities and production optimization measures. We have also planned an infill development well activity which will result in production increasing in 2021.

Despite the fact that oil prices fell by 34% on average over the year and condensate prices by even more at 43%, the Company still managed to make an operational profit of \$36 million. This is testimony to the Company's operation and financial resilience.

Of course, we are helped by the fact that we are a gas company and our gas contracts are not so sensitive to oil prices, hence we have a natural hedge against low oil price environments.

We also delivered on two important strategic objectives:

- We fully redeemed the Company's \$309 million outstanding Sukuk in October and secured a \$90 million corporate facility from Mashreq and this new facility is priced at an even more attractive rate than the Sukuk
- We signed the PSA with IPR for the sale of our onshore producing assets in Egypt in October. I would be happy to elaborate upon that later.

## REFLECTING ON 2020, DID THE PANDEMIC ALTER YOUR BUSINESS STRATEGY?

At the macro scale the answer is no. We continued to execute on our long-term strategy which is to focus on the high potential growth opportunities in our portfolio. This includes growth opportunities in the KRI and our off-shore Block 6 in Egypt. Let me provide some background and color to this. DG entered Egypt in 2007 through the purchase of the Centurion onshore producing assets in the Nile Delta. We have been amazingly successful, drilling over 30 exploration wells with over 60% commercial success rate. We doubled 2P reserves and increased production by over 50%.

However, we have exhausted the supply of commercially attractive drilling opportunities and the assets have become mature. The name of the game is no longer about increasing production or reserves but minimizing their reduction. This requires a huge amount of detailed management attention.

Our Board decided that it would be better use of management's time and the Company's resources to focus our attention on our growth opportunities in both Egypt and the KRI. To illustrate this with some figures: in the KRI we have over 1 billion boe of 2P reserves (DG share). In Egypt, as we have not been able to replace our production over the last few years so our 2P reserves have decreased to under 60 MMboe.

So, we have decided to sell our onshore mature producing assets to concentrate our attention on developing the huge resource base that we have in the KRI and in exploring the huge potential of our offshore NEA Block 6 Exploration Concession Area which we believe holds over 20 Tcf of gas and 500 MM bbls of liquids. We are gearing up to drill an exploration well here in 2023. Of course, at the level of our annual business plan we did have to make necessary and prudent adjustments.

In the light of the extraordinarily low oil prices, we had to prioritize certain projects over others and review our organisational needs. This included maintaining capital and operating costs discipline, and looking at ways to further reduce these costs. Due to the restrictions that were imposed by the pandemic, our contractor in the KRI declared force majeure on the implementation of the KM250 expansion project. Nonetheless, towards the end of last year, under strict COVID protocols we managed to get restarted with our civil engineering works. All being well, we should be on track to producing first gas by April 2023 and we are looking at ways to further accelerate that.

This is an important project for Dana Gas. The KM 250 project will take our total gas production capacity to nearly 700 MMscf/d. We are hoping to execute the second 250 train back-to-back with the first one which will result in us reaching nearly 1 Bscf/d of production.

**WE REMAIN FOCUSING OUR ATTENTION ON OUR AMAZING OFFSHORE EXPLORATION CONCESSION IN NORTH EL ARISH (BLOCK 6) ASSET WHICH WE ARE CONFIDENT HOLDS RESOURCE POTENTIAL OF OVER 20 TCF GAS AND 500 MMBLS OF LIQUIDS, AND, NOT IN JUST ONE PROSPECT, BUT SPREAD ACROSS FIVE PROSPECTS. WE ARE PLANNING TO DRILL THE NEXT EXPLORATION WELL IN 2023.**



## WHAT MEASURES DID THE COMPANY TAKE TO ENSURE THE SAFETY OF ITS PERSONNEL ON AND OFF THE FIELDS DURING THE PANDEMIC?

As I mentioned, when the pandemic struck, our first priority was the health and safety of our staff and we moved quickly to implement stringent health and safety measures to protect all our employees. This included putting quarantine and strict testing requirements in place for our staff. Essentially, we treated our plants as if they were miniature countries in their own right.

The seamless execution of our contingency plans allowed us to keep our operations fully functional and to maintain production. Above all, our plants have remained COVID free.

## THE PANDEMIC ACCELERATED DIGITALIZATION. HOW WILL DANA GAS FURTHER EXPAND ITS USE OF DIGITAL SOLUTIONS TO OPTIMIZE OPERATIONS?

The oil and gas industry is high risk industry and so we are used to having Crisis Management and Business Continuity plans in place. In this respect we were pretty well prepared. Not just ourselves. Looking back on the unprecedented dislocations that the pandemic imposed on our businesses, it is incredible that our industry continued to supply not only the energy needs of our customers but also geared up to producing the additional petrochemicals required to provide PPE to front line health care workers, disinfectants and all the other materials needed to fight this infection.

Of course, we have had to adjust our way of working to adapt to a remote working environment. And I have to say I am amazed by how seamless this adaption has been. Whilst I know that all of our staff are looking forward to returning to a "normal" working environment, there are clearly some aspects of remote working that have been extremely beneficial to some of our staff, particularly women, and which we would like to keep going forwards.

Monitoring the production that is going on in the field in remote locations has required us to rely upon metrics and the internet in an unprecedented way. It really put a couple of things into sharp perspective. The first is that we need to ensure that our systems are secure because along with the migration of working on the internet, there also has been a migration of people who are taking advantage of that for criminal ends. Secondly, it is the robustness of the internet and the bandwidth we need to make sure that we have in order to keep our lines of communication robust.

## HOW DID DANA GAS MANAGE TO MAINTAIN PRODUCTION PLANS AMID LAST YEAR'S EXCEPTIONALLY CHALLENGING CONDITIONS?

We took the pandemic extremely seriously from the beginning. We put strict quarantine and testing requirements in place for our staff. As I said, we essentially treated our plants as if they were miniature countries in their own right. We adjusted our work practices for longer rotations to minimize the contact that our staff might have to potential sources of infection. However, a great deal of the credit must go to our staff who showed exceptional dedication and commitment throughout the year in sticking to their duties under the most trying of circumstances. After the travel restrictions were imposed in Q1 2020 some of our staff spent 3-4 months on location, working continuously to keep production going.

But they not only managed to keep production levels up, they manage to execute the debottlenecking exercise on the Khor Mor plant that allowed us to actually increase production to record levels. An amazing achievement.

## ARE THERE ANY UPDATES REGARDING THE SALE OF EGYPT'S ASSETS TO IPR? WHEN DO YOU EXPECT THE DEAL TO BE FINALIZED?

Let me refer back to the earlier part of discussion talking about the company's global corporate strategic ambitions to focus on material growth opportunities and how the onshore assets in Egypt, particularly being mature assets. In terms of process, it is the sale of the assets. It is not a sale of Dana Gas Egypt because we are going to keep Dana Gas Egypt to use it to continue our investments in Egypt notably in Block 6. So, we are selling the assets. There are 14 development leases that we have; those assets are being sold to IPR energy.

We signed the sales and purchase agreement for our onshore producing assets to IPR Energy Group in October. There are a number of activities that need to be completed in order to reach the so-called "pre-completion" milestone. This is essentially an "agreement in principle" for the sale to go ahead. The PSA allows for 6 months for this to take place but we are hopeful that we will get this completed this month.

Thereafter the government needs to give its formal approval. Again, the PSA allows for 6 months to get this done but we are hopeful that it can take place between 60 and 90 days. That would mean that the sales process will be completed by end May.

**SINCE 2007 DANA GAS HAS INVESTED OVER \$2 BILLION IN EGYPT. THIS HAS MADE US THE COUNTRY'S FIFTH-LARGEST GAS PRODUCER. IN THE PROCESS WE HAVE CREATED OVER \$10 BILLION OF VALUE TO THE EGYPTIAN ECONOMY THROUGH OUR GAS, CONDENSATE AND LPG SALES.**



## DANA GAS HAS NOT COMPLETELY LEFT THE EGYPTIAN MARKET AND RETAINS AN OFFSHORE CONCESSION, BLOCK 6. WHAT ARE YOUR PLANS FOR DEVELOPING BLOCK 6?

No indeed, following the sale of our onshore Egypt assets, we are not exiting from Egypt. Quite the contrary, we remain focusing our attention on our amazing offshore exploration concession in North El Arish (Block 6) asset which we are confident holds resource potential of over 20 Tcf gas and 500 MMbbls of liquids, and, not in just one prospect, but spread across five prospects. We are planning to drill the next exploration well in 2023.

We have one particularly large prospect and we are very excited about that prospect that we called Thuraya and that prospect has dual objectives. It has a deeper cretaceous carbonate reef objective, which is analogous to the Zohr field and to other fields that were discovered across the Nile in separate waters.

There are three discoveries in these carbonates build up in this part of East Mediterranean and we are very excited about the Thuraya prospect objective at that level.

Over the top of the Thuraya prospect, we have Oligocene age basin floor fan targets which have been proven in the western Nile Delta. Obviously, BP has made number of discoveries in the eastern part of Nile Delta more recently we have discoveries by Eni in the Nour discovery [2020], so there are analogs and there are offset wells proven the presence of both reservoir and hydrocarbon.

We are extremely excited about the Thuraya prospect and Last year we acquired 345 sq.km. of infill 3D seismic data over the top-ranking prospect in the block, which are now being interpreted and will help us chose a drilling location. On that basis, we will be able to make all the necessary preparations including finalizing the well design which will allow us to order long-lead items that will lead to drilling the exploration well in the block in 2023.

## HOW DO YOU PLAN ON MAXIMIZING THE VALUE OF YOUR ASSETS IN EGYPT?

The whole basis of our Company business strategy has been to focus our resources on opportunities with growth potential. The NEA Block 6 Exploration Concession is just such an asset and we are currently in the process of planning to drill a key exploration well there in 2023.

## AS AN OPERATOR IN EGYPT SINCE 2007, WHAT MAKES EGYPT A POPULAR INVESTMENT DESTINATION FOR THE OIL AND GAS INDUSTRY?

I joined Dana Gas in 2012 as a General Manger for Egypt. So, I have first-hand of experience of living, working and operating in Egypt and this may sound odd because this was not particularly easy period of time from the societal or geopolitical perspective. This may sound odd in the context of what has happened in Egypt over the course of the last ten years but the first observation I would make is that it is due to the track record of fiscal and contractual stability.

Despite the political changes that occurred, the Egyptian PSC contract remained rock-solid as was the government's commitment to respecting those contracts. Of course, there were difficulties, not least around payment for products delivered, but at no time did the government represent that the payments were not due. They simply requested flexibility of payment terms to allow the government to work through their difficulties.

Foreign investor, well, any investors for that matter, require respect of contract and the rule of law, so that they know that when they make their investments they do so in a stable commercial environment. Capital hates uncertainty. Investors want to know that when they put their money in, they can take the fruits of their investment out when the time comes.

Secondly, there has been amazing exploration success in the last five years in Egypt. We could reel off a list of multi-Tcf discoveries that have taken place in that period, but of course Zohr is the jewel in the crown.

What is notable about Zohr has been the speed with which the field was brought on stream. This is testament to the government's willingness to work together with the oil companies to create an enabling environment for fast-tracking developments, and also the fiscal flexibility for negotiating a gas sales price that made the development economically viable.

Despite all the political changes that occurred during that period time from January 2011, the Egyptian production sharing contract has remained rock-solid and as has the government's commitment to respecting those contracts. Of course, I am not diminishing the fact that it has been difficult it is not least around payment disuse particularly in the period from 2011 to 2016/17.

I must at this point comment on the incredible job that H.E. Tarek El Molla, Minister of Petroleum and Mineral Resources has done over the course of the last six years. Under his leadership the country has gone from being a net importer of gas, to being a net exporter again.



Under his leadership the East Mediterranean Gas Forum has taken shape and promises to enable the huge gas resource potential that has been discovered over this period in the East Mediterranean to be developed and for Egypt to become the gas hub for the region.

Under these circumstances it is not surprising that Egypt has once again become a "hot exploration post code"!

## HOW IMPORTANT HAS EGYPT BEEN FOR THE GROWTH OF DANA GAS?

Egypt has played a really important role in the growth of Dana Gas since beginning its operations in the country in 2007. As I have already mentioned when DG entered Egypt in 2007 through the purchase of the Centurion onshore producing assets in the Nile Delta we have had an amazingly successful exploration drilling program, drilling over 30 exploration wells with over 60% commercial success rate.

We doubled 2P reserves and increased production by over 50%. Over the past 13 years, Dana Gas has grown to operate 14 Development Leases onshore the Nile Delta, all with 100% working interest and has become the 5th largest gas producer in the country. Dana Gas daily production in Egypt exceeded 40,000 boepd at its peak, which is a fantastic achievement and testament to how important Egypt has been for Dana Gas for the last ten years.

## HOW HAS DANA GAS SUPPORTED THE DEVELOPMENT OF THE EGYPTIAN OIL AND GAS INDUSTRY?

Since 2007 Dana Gas has invested over \$2 billion in Egypt. This has made us the country's fifth-largest gas producer. In the process we have created over \$10 billion of value to the Egyptian economy through our gas, condensate and LPG sales. We have created significant additional value to the economy through creating job opportunities both directly and indirectly.

I am particularly proud of the Sustainable Development projects that the Company has executed since its inception.

We are conscious of our responsibilities to the communities in which we operate. We have consistently invested over the years in those communities to improve health care, education and quality of life through supporting start-up opportunities for both men and women.

## AS THE OIL AND GAS INDUSTRY TRIES TO MOVE FORWARD FROM 2020, WHAT IS DANA GAS' STRATEGY FOR GROWTH?

As I mentioned at the start, we have not been derailed by COVID. We remain steadily focused on our corporate strategy of developing our assets with material growth potential both in the KRI and in Block 6 in Egypt, which holds exciting, material upside potential which we hope to test with an exploration well in 2023.

As we enter 2021, we are in good financial health with a strong balance sheet to be able to deliver on this strategy. As we talk about Egypt, this is our focus on growth through exploration in Egypt. In KRI we are just beginning the journey of growing our incredible resource base there. As I said, we have over 1 bbl of 2P reserves of Dana Gas' share and those are in discovered resources and all are going to be around appraisal and development in these two world-class fields that we have already have the rights to develop. So, that is going to be the focus going forward.

I have to say I am surprised the oil price where currently stands today. I have to question when it is rational, whether there is 8 million bbl of shut-in production in OPEC alone and probably at least another 2 million bbl of shut-in production in other countries. So, it doesn't seem entirely realistic to me. Obviously, we are very delighted about that, but we need to be cautious about not being overly optimistic going forward.

As always, we hope for the best, we plan for the worst, but clearly, I think we have got the worst of the oil price crash behind us. Rationally kicking prices are getting back to what they really should be in a balanced world of supply and demand and that means that the industry sector is investable once again. We are certainly looking at growth opportunities in the region. We always do that. We continue to look at opportunities' growth in Egypt as well as Iraq and in wider region. Over

the course of the years, we have looked at a huge number of opportunities in the region and it has always been extremely difficult to find opportunities that can compete with the opportunities that we found or we already had available to us in either Egypt or the KRI.

Where and when we find opportunities that can compete, are investable, make sense for us, and are a strategic fit, we will certainly be looking and making investments in further growth opportunities going forward.

## IN 2020, THE COMPANY DECIDED TO DEMERGE ITS UPSTREAM BUSINESS FROM ITS MIDSTREAM BUSINESS. WHAT WAS THE REASONING BEHIND THIS DECISION?

When Dana Gas started in 2005, it actually started as midstream company. It started as a company that was going to import gas from Iran. We had the pipeline, the infrastructure and the gas processing plant that was going to process the slightly sour gas that was going to come. 600 mmscf/d of gas, a huge volume of gas, 10% of the total UAE's gas demand at that time and actually still is today and so very significant volume of gas.

Now, with the project that the company has launched in 2005, the Iranians, unfortunately, did not live up their contractual obligations, but we still owned the infrastructure there. The people who invested in Dana Gas at that time were looking to invest in a company which had a certain low risk-reward profile.

They are talking about consistent, reliable revenues on annual basis and something that particularly investors in this part of the world really appreciate because it could be quickly and easily transmitted and converted into dividend payment to the investment. ELP world is completely different from that. You are very much slaves of world to the commodity or price cycle. You are a slave to a lot more risk in the form of subsurface risk, both either through exploration, even though the development phase, sometimes we get surprises.

The demerger will allow shareholders greater flexibility to invest in their preferred company entity with different business risks and opportunities. For example, many investors may prefer the "certainty" of the Midstream business rather than the roller coaster ride of the Upstream industry as we have experienced recently.

## DOES DANA GAS HAVE ANY OTHER EXPANSION PLANS IN THE NEAR FUTURE?

With the discussions around the energy transition of course going forward, we are also considering what that means to us as Dana Gas and whilst we have not by any means landed clearly on specific growth projects. We are certainly being a bit more divergent in our thinking perhaps with respect to the future of Dana Gas than the traditional narrower approach would have been.

So, looking at the wide range of opportunities beside the fact that they have to compete economically with the existing portfolios opportunities that we have, we have got such a huge potential for investment in our existing assets that it has to be a very good project in order to compete against what we have got.

We are always looking for growth opportunities and when we identify one which we think is of investment grade that makes sense, we will certainly participate. However, at the moment we do not have anything specific on the horizon.

**THE DEMERGER WILL ALLOW SHAREHOLDERS GREATER FLEXIBILITY TO INVEST IN THEIR PREFERRED COMPANY ENTITY WITH DIFFERENT BUSINESS RISKS AND OPPORTUNITIES. FOR EXAMPLE, MANY INVESTORS MAY PREFER THE "CERTAINTY" OF THE MIDSTREAM BUSINESS RATHER THAN THE ROLLER COASTER RIDE OF THE UPSTREAM INDUSTRY AS WE HAVE EXPERIENCED RECENTLY.**







# IN LOVE WITH CHALLENGES:

INTERVIEW WITH  
**DITLEV ENGEL**

CEO OF ENERGY SYSTEMS AT DNV



**D**NV is the global independent expert in risk management and quality assurance . Its main purpose is to safeguard life, property and the environment. EOG has the chance to conduct a very interesting interview with one of the men that makes this possible; Ditlev Engel, CEO of DNV's Energy Systems business unit, who shared with us his thoughts regarding the company's operations in Egypt, its latest services and hydrogen projects developments, and also revealed a passion for challenges.

**DNV HAS BEEN OPERATING IN EGYPT FOR MANY YEARS NOW. WHAT MAKES EGYPT AN ATTRACTIVE MARKET FOR THE COMPANY?**

First, let me explain very briefly who DNV is for those who are not familiar with us as an organization. DNV means "the Norwegian truth" and was founded back in 1864 so we have a bit of history. We originated in the maritime industry and we are still headquartered in Oslo, Norway. We work globally and we are 12,000 people working in different business areas. I head the Energy System business area with 4,000 people, but people also know us very well from the maritime business, business assurance, supply chain management, and digital solutions.

So we work in five different areas and I think this is important to be aware of why Egypt is an important place for us to be. We are a global organization; we are active in more than 100 countries so we work with a lot of individual countries but also with a lot of global clients and

many of them are working in Egypt. So, we look at it not only to be a good business partner for each country we work in but also for supporting our global clients. This is exactly why we came back to Egypt many years ago and have been involved in the oil and gas business since 2002.

**WHAT ARE THE COMPANY'S OPERATIONS UPDATES IN EGYPT?**

Within Energy Systems, we cover the oil and gas sector and the power, renewables, and transmission sectors. So for us, Egypt is very important and interesting for both of these businesses. So far, we have been more active in the oil and gas sector. We have seen many things have happened over the years, and many things will happen going forward in particular on the natural gas side and how we can support that.

But we also see an interest in renewables and also very much working with Egypt on the transmission distribution of the electrifying of societies; a trend that we see happening in many places and the need for electrifying many industries. Therefore the option of electrifying industries and countries is also a very big topic. So, there are many good reasons to be focusing on working together with Egypt for some of these businesses.

**HOW DID THE COMPANY CUSTOMIZE ITS OPERATIONS DUE TO THE PANDEMIC?**

As a company, we are very mindful that we take good care of both our customers and our colleagues. Actually, the purpose of the company is to safeguard life, property and the

**“WE LOOK AT IT [EGYPT] NOT ONLY TO BE A GOOD BUSINESS PARTNER FOR EACH COUNTRY WE WORK IN BUT ALSO FOR SUPPORTING OUR GLOBAL CLIENTS.”**

environment. This is a very important part of our DNA and how we set our business priorities. So when the pandemic hit us, we were very mindful of how we make sure that our 12,000 people are safe and how, at the same time, make sure that our customers are safe and still do our jobs.

So, we have people in Egypt doing surveys with customers on the ground, then going into remote surveys. Just last year, we did more than 4,000 remote surveys in the sector which is four times more than in 2019. So, the pandemic taught us very fast, like in many other businesses, that you need to tune into new business models and you need to do business in a different way.

You have to get your hands around it and get to know it, but once we get into the swing of it, I am wondering whether we will stay on the remote survey route when the pandemic is over or whether we will go back to the good old ways or maybe some hybrid approach. I think we will look very carefully at how to make sure that our customers can keep operating and we can keep giving the same services, but in a new way.

### **EARLIER THIS YEAR, DNV MADE THE DECISION TO COMBINE ITS CURRENT OIL AND GAS, AND POWER AND RENEWABLE BUSINESSES INTO ONE NEW BUSINESS AREA CALLED ENERGY SYSTEMS. WHAT WAS THE PURPOSE BEHIND SUCH A STEP? AND DID THE PANDEMIC HAVE A HAND IN MAKING THAT DECISION?**

Some years ago, we started to forecast how we think the energy business will evolve and we call that our "Energy Transition Outlook". What is very interesting about this outlook, and I recommend anybody to download it from DNV website for free, is that we actually try to take a look at is not only the cost of technology today but what is the expected cost of future technologies.

What you can see is that systems are integrating so much more. We come from a world where it has been mostly standalone; we have had gas, wind, solar, etc. In the future world, also enabled by digitalization, everything is integrating much more. People are looking for full-system solutions, for solutions that can help them decarbonize faster.

You cannot solve that by thinking about one technology, you need to think about how we can combine it, for example; could we produce green hydrogen? If we are going to do so, what kind of competence does that need? So, we could really see that our oil and gas customers and our power and renewable customers were coming together and the systems were coming more together. Therefore, it made sense to us to try to create a one-stop-shop because everybody needs to transition faster and at the same time, everybody needs to be very mindful of how fast they can decarbonize their operations, which I know that many of the big companies operating in Egypt are looking into.

So, it became a natural move to take the energy industry to the next level and therefore made sense that we combined our resources. We are 4,000 people in Energy Systems supporting our customers globally on this and I have to say on the technology front that there are so many things happening, it is extraordinary. I have been in the energy sector for many years and I have never seen the amount of attention and capital coming into the sector and the wish to try new things such as; carbon Capture Storage (CCS), decarbonizing the gas sector, etc.

We need to be frank to deliver on the Paris Agreement and we need all the tools in the toolbox. It is not just one silver bullet and we will fix this. We need to focus on all of it and the challenge is that we need to do it at the same time. So, we are seeing that the energy transition is becoming a matter not just for the energy sector but nearly for all businesses.

**“THE PURPOSE OF THE COMPANY IS TO SAFEGUARD LIFE, PROPERTY AND THE ENVIRONMENT. THIS IS A VERY IMPORTANT PART OF OUR DNA”**

### **SEVERAL OIL AND GAS COMPANIES HAVE ANNOUNCED THEIR INTENTION FOR THE ENERGY TRANSITION. HOW CAN DNV ASSIST IN THAT JOURNEY?**

Everybody is focusing on the energy transition; let's remember that basically all countries have signed the Paris Agreement. This means that we have all pledged that we are all going there, but we all know that we are behind. So, just to put it into perspective, in order for all of us to fulfill the Paris Agreement across the globe, all of us need to reduce our carbon dioxide (CO<sub>2</sub>) emissions by 8% every year.

Due to the pandemic, we managed to get down carbon reduction down by about 6% when [we] basically stopped flying, or going to the offices, etc. I am sure everyone is very eager when the pandemic is over to go back to business as usual. This means we have stopped flying once and we cannot do that again, so we need technology to find a new way to decarbonize faster. This is exactly the reason for creating Energy Systems.

**“WE HAVE, AS A COMPANY, TO SPEND 5% OF THE REVENUES UNDER RESEARCH AND DEVELOPMENT DEMANDED BY THE BOARD OF DIRECTORS [IN ANY SITUATION].”**

All of the major players are looking into this and making pledges to do so. So, the question for DNV is how can we scale technology faster to get there? How can we decarbonize, for instance, the gas sector? I very often get the question; why are we not we all going to renewables tomorrow? But that is just not possible.

For instance, we are predicting that gas is going to be a major part of the energy transition in the years to come and obviously, we need to think about how we can try to decarbonize the gas because we cannot just switch everything to renewables tomorrow. So, we need to look at how to do that and look at how to use CCS, for instance, as one of the possibilities that we need to deploy. All these things have to happen at the same time, so we really have many things to focus on.

### **WHAT ROLE DOES HYDROGEN CURRENTLY PLAY AS FAR AS DECARBONIZING OUR ENERGY?**

I would have to say hydrogen has in last maybe one and a half or two years have come on the agenda in an unprecedented way and hydrogen is we think going to be a very important part of the energy transition. However, we are still in the early days of hydrogen and how we can use it and whether it is blue or green that we need to focus on. I think first we need to look at how to prove the safety case for hydrogen which is going to be very important. Safeguarding life, property and environment means we need to make sure of technologies we deploy are really safe and that would be the first step that we would have to be mindful for hydrogen.

We also need to have a look at how we can develop an efficient hydrogen infrastructure. One of the questions for instance is what are the current infrastructures that we have from the oil and gas sector that could be used in a smart way going forward in a hydrogen transition and what are the possibilities for doing that.

We must look at how can we scale carbon capture and storage (CCS) when belonging to hydrogen, how can we use that and deploy that in the right way. And I, also, have to say that we need to look at policy and the role that policy plays for whatever of the energy sectors we look at. There is no doubt that in this view, hydrogen is going to be very important.

I would say that one of the challenges we have as well is how to store the electricity when we generate much more, because when we look at our expectations, we see that both wind and solar are going to have a massive uptake in the years to come. All the electricity when it is being produced is not going to be consumed at the same time. So, how we are going to store it and this is where, for instance, hydrogen can become very interesting for the production of green hydrogen and also, we need to be fair in saying that, in the energy world and in the industry world, there are the hard-to-abate and easy-to-abate sectors.

Sectors like airlines, shipping, some of the very heavy industry and manufacturers, will require that we come up with new type of fuel. Again, hydrogen can become very interesting to be used for those sectors. I think hydrogen has a lot of potential, but also we need to be mindful that we need to go through many things in order to unfold that potential and there for again, the faster we can do that, the faster we start to deploy on a big scale. These are some things that we are really working very hard on in DNV and its definitely relevant for quite a few countries.

### **HOW CAN DNV STAY TRUE TO ITS SUSTAINABILITY GOALS WHILE WORKING WITH THE OIL AND GAS INDUSTRY?**

We need to be realistic in safeguarding life, and property and the environment. For us it would mean we need to look at not where people are coming from but where they want to go. So, as you mentioned before, many of the major oil and gas players are really looking at how to decarbonize their footprint and we see our role is helping them to do this as fast as possible. We can because this is the only way we are going to get to the Paris [Climate Agreement] objectives.

So, therefore, I think this cause very well hand in hand as long as we find the right way of doing that. So, there are clear plans for how we should decarbonize the various sectors, and this is really how we see it too and how we can support that journey for both countries and companies.

As probably many people would know that when we get through COP26 in November in Glasgow; this is where countries must come with NDC's - Nationally Determined Contributions of how each country is going to address this. This of course means that both public and private partnerships are going to be absolutely crucial for finding a way to make that happen and this would definitely involve the oil and gas sector of how oil and gas success is going to work in proactively operating to bring down their footprint and here we really see we can contribute a lot.



So for us, as I said it's the questions of where the people really want to go and how we can help them not to go too, but we need to run there because this is really what we need to see happening.

**“WE HAVE BEEN WORKING TOGETHER WITH EGYPTIAN GENERAL PETROLEUM CORPORATION (EGPC) FOR INSTANCE WITH OUR SYNERGI LIFE SOFTWARE.”**

### HOW CAN EGYPT SCALE UP ITS GREEN INVESTMENTS?

We work with a lot of investors in our advisory practice and I have to say that many investors are really looking for new good projects and sustainable business models, so we are seeing here, the capital chasing projects. My recommendation is to make an attractive investment environment, these are long term investments. So, we have, for instance, the uptake of green power projects agreements (PPAs) where people know exactly what are the rules of the game for the next 20 years.

So, if you for instance would say in Egypt some long term PPAs and some reckonable projects, I am absolutely certain that you find many companies would find it interesting to invest as we have a very good wind and solar resources in Egypt. I would say that the capital available for investing into the transition is there.

The question is to make sure that people can see the framework and the long-term visibility of what they are investing into and for instance issuing green bonds, raising the capital, could be something which I am sure that many people would be very interested to engage. So, I think that the roadmap is there and of course if we can help in any way to come up with good ideas and suggestions, just give them the call to contribute.

**AS DNV IS MOVING TO LOW CARBON ENERGY BUSINESS, DO WE EXPECT SAME INVOLVEMENT FOR DEVELOPING NEW DEMANDING COMPETENCIES EITHER ON TECHNOLOGY ITSELF OR MANAGING HAZARDOUS ASSOCIATED NEW TECHNOLOGIES WHICH COULD BE GREEN FROM ENVIRONMENT POINT OF VIEW NOT FROM SAFETY CONSEQUENCES POINT OF VIEW?**

Coming back to what I said before, safeguarding life, property and the environment will drive this. I am not exactly sure what the last question means about non-safe green, but let's say, safety always comes first for us in anything we do, whatever sector we are in [and] that always would be prevailing.

Having said that we are working with a lot of different technologies. We have, as a company, to spend 5% of the revenues under research and development demanded by the board of directors [in any situation]. This is the only way that we [DNV] can stand at the forefront of the technology which is obviously key trial for developing our competencies. We are very committed to the sector [and] to develop our businesses in Egypt.

### IN YOUR OPINION, HOW CAN EGYPT'S OIL AND GAS SECTOR EMBED DIGITALIZATION IN ITS OPERATIONS?

For us, decarbonization and digitalization are facts of life going forward and it would be so also for Egypt. Sometimes, I wonder why anyone would stay analogue, I hardly doubt that many are going to do that as everything moves into digitalization and so within the industry. We have been working together with Egyptian General Petroleum Corporation (EGPC) for instance with our Synergi life software which is very much related to the quality and safety in the environment as an example of how this has been used.

The whole aspect of digitalization is a great opportunity. We have a whole unit of eight hundred people only working on licensing our offerings and services so they can be integrated and scaled going forward. It doesn't really matter which part of the value chain that we are looking into its how to make it digital as well. Also, many processes can be done much faster if we move to a digital approach. Finally, inside companies and procedures, we are helping them so they can move faster thanks to using technology. So, we see digitalization is coming in so many aspects of our businesses.

### IN ADDITION TO PROVIDING DIGITAL SOLUTIONS, WHAT OTHER SERVICES DOES DNV PROVIDE TO THE ENERGY SECTOR?

We are using many things; we use sensors for monitoring. For example, we have a company that monitors the installation and storage of solar and wind [which] is integrated into one system [helping] in monitoring and optimizing the performance of the assets. Furthermore, we are looking into how we can use digital twins in the approach.

The last thing, I would have to say that we are offering veracity. [This] is DNV's secure data platform [that] we are using in combining many services from different companies that are using this platform to really handle a big amount of data. We must remember that the energy industry has a lot of generated data that must be handled in a secure way. We are approaching it from many different angles, and we are only seeing that this keeps expanding and I am sure that it would continue.

### FROM YOUR PERSPECTIVE, WHAT CHANGES WILL THE ENERGY INDUSTRY WITNESS IN THE YEARS TO COME?

I think we will see massive changes and it will continue. It is just starting to unfold because we are really under pressure to decarbonize very fast. This will drive innovation even faster. There are many discussions around how fast it would change. This is of course also very much up to the regulation. I would have to say from the technology perspective, we are very optimistic.

We see that technologies can do amazing things and will continue to do. It is much more a question of whether the companies and governments are ready to take this on board. Fortunately, we see that the appetite for doing so keeps going up and that gives us a lot of hope in how we can further scale many of these things that going forward.

And when it comes to the technology impact on energy transition, if you look at how much you can store and scale fast, then that is much more a question of how fast you want to scale. Probably, one of the big challenges is really to find out what we are going to do with some of the investments we had made that we may not need because the other technologies are moving so fast.

We see some kind of correlation between stranded assets and new deployment of technologies that need to find the right balance when you face out the existing staff with new staff. Probably, this is where many find more challenges the less evaluation of investments that they have made, but they actually find they are not going to use for a long time as they initially expected.

### WHAT WAS THE BIGGEST CHALLENGE YOU FACED IN THE PAST YEAR ON A PROFESSIONAL LEVEL?

The first priority that we had was how to make sure that we keep our employees safe during the pandemic. So, basically, all of us in DNV have been working from home for a year. I think we have been fortunate that our colleagues and customer services (CS) within the pandemic [are] well.

We have been very fortunate as an organization. We had a very good performance of our technology infrastructure [and] we really have been able to operate at full speed. When you are getting into a very challenging situation, you find out how robust you are as a company. We can say that having gone through 2020 that DNV and our customers within these challenges are well.

### WHAT ARE DNV'S GOALS FOR 2021?

So, for this year, we are combining our two new business areas so we can first and foremost service our customers well. We like to think of ourselves as a very customer-centric organization, so making sure that our customers and colleagues are doing well is of our priorities as if those two ended well, financial performance seems to follow. So these are the most important Key Performance Indicators (KPIs) in 2021 as it was in previous years and coming years.

In the same time, as an organization, we like to contribute whenever we can to accelerate the energy transition and decarbonization of their overall performance. Again, we put safety first and support companies in the safety aspects which for us are absolutely crucial in Egypt or anywhere else.

As a global organization, we put our experts wherever they are needed, therefore I will say if someone in Egypt or any other place is thinking, "I wonder if DNV can handle that challenge here in Egypt?" The only thing I will say is; please, test us. We love challenges, even crazy ones; this is also where we learn. This is how we make innovation and progress and this is what we need.

**“MANY OF THE MAJOR OIL AND GAS PLAYERS ARE REALLY LOOKING AT HOW TO DECARBONIZE THEIR FOOTPRINT AND WE SEE OUR ROLE IS HELPING THEM TO DO THIS AS FAST AS POSSIBLE.”**





## New name, stronger team

### Enabling our customers to tackle the energy transition

Decarbonization is a major focus across the entire energy value chain, and the pressure is on to accelerate the transition and drive deep decarbonization. To support the complex transition to a more sustainable energy future, DNV has combined its current Oil & Gas and Power & Renewables businesses. We will now serve our customers and the entire energy value chain as one business unit called Energy Systems – the world's leading resource of independent energy experts and certification body.

Energy Systems started operating on 1 February 2021, providing certification, advisory and digital monitoring services to the entire energy value chain. By combining the expertise of more than 4,000 energy experts, we are better equipped to support you in tackling the energy transition faster and with confidence. The power, renewables and oil and gas industries all have a crucial role in the transition, not only as separate sectors, but also in developing integrated solutions in areas such as energy storage.

In addition to joining forces to offer a broader set of services, DNV GL changed its name to DNV on 1 March 2021. The move comes after a comprehensive review of the company's strategy as it positions itself for a world in which many of DNV's markets are undergoing fundamental change. Your contact points with us remain the same, but broader expertise will be available to you than ever before. As an assurance and risk management company, our team of global experts with technical, commercial and policy expertise will stand by your side in your decarbonization, safety, technology, and business challenges.

We look forward to our continued collaboration and wish you a successful 2021.



**Hisham El Grawany**

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# MAKING WISE DECISIONS AT TOUGH TIMES:

INTERVIEW WITH  
DAWN SUMMERS  
COO  
WINTERSHALL DEA

February 24<sup>th</sup> was a good day – where we announced a solid set of results. Firstly, achieving operational stability during what has been a very challenging year. We, like everybody else in the sector, are facing new challenges and we are particularly proud of how our teams and the business have performed in the face of extremely difficult circumstances.

Our top priority at Wintershall Dea is always the safety and the wellbeing of all our employees and I am very proud that we successfully protected our colleagues during the pandemic through the implementation of procedures and practices at both our sites and homes, in order to minimize the risk to our employees and indeed their families. At the same time, we continued to supply much needed energy into communities in which we operate and we did that with minimal disruption and we did it safely. This is a fantastic achievement.

During this time, we continued to focus on delivering operational excellence and becoming more resilient despite the challenges that we face. Naturally we have learned a lot about how we operate as a company through this crisis, and we will continue to evolve, and take advantage of all the learnings that we gained from last year. For me, it is time now to move forward, take those learnings, and to improve the way we do business.

Secondly, climate change is an immense challenge that we all facing and we must tackle this challenge, whilst at the same time continue to deliver security of energy supply. Wintershall Dea will be part of the solution and we have a plan which we communicated at the end of the last year - our energy transition pathway, We have set tough, challenging targets – aiming to be net zero by 2030, for both our operated and non-operated upstream business. This is quite different to many

of our peers who are focussing on net zero for their operated business only. We are also aiming for zero routine flaring by 2030, and to reduce methane intensity to below 0.1% by 2025 where we are already well positioned with relatively low emissions per barrel. We will also focus on developing technologies such as carbon capture and storage and hydrogen to support the reduction of our Scope 3 emissions.

Our energy transition pathway is built on a solid investment of €400 million over the next 10 years and together with an already low cost of production - averaging less than €4 per boe, and a gas weighted portfolio we firmly believe that we are well positioned for the energy transition and that natural gas and hydrogen will be a very important part of the solution.

*Our top priority at Wintershall Dea is always the safety and the wellbeing of all our employees and I am very proud that we successfully protected our colleagues during the pandemic*



This is also why Egypt is such a very important part of our portfolio. Having been present in Egypt for more than 45 years, we have proven that we are a reliable partner, making a material contribution to security of energy supply for the Egyptian economy and will continue to do so. We are very focused on continuing to safely operate our existing operations and to find, develop and realise new opportunities - some of which we already have in the pipeline, like the East Damanhour exploration program.

*Having been present in Egypt for more than 45 years, we have proven that we are a reliable partner, making a material contribution to security of energy supply for the Egyptian economy and will continue to do so.*

With Egypt at its core, we believe that the East Mediterranean is a very promising region for new gas development where Wintershall Dea supports the development of the regional hub and is a very active member of the East Med Gas Forum, for example our Managing Director in Egypt, Sameh Sabry, is an active member of its industry advisory committee.

#### **HOW CAN WINTERSHALL DEA FIT ITSELF IN EGYPT'S ENDEAVOR TO BECOME AN ENERGY HUB?**

We believe that the East Mediterranean with Egypt at its core is a very promising region for gas developments. Why do I say this? Egypt has all the key ingredients that make it ideal for the role of an energy hub in the East Med: strategic location, strong infrastructure already in place, undeveloped resources for development and export, and impressive political will to deliver.

My position and Wintershall Dea's position is to support the development of a regional hub. I mentioned earlier that we are already an active member of the East Med Gas Forum's industry advisory committee, and we also welcome the recent development of the East Med Gas Forum into a formal international organization – a real achievement and very promising. The forum aims at regional cooperation to develop East Med offshore gas discoveries, and to establish new energy infrastructure connecting the respective countries. I think it is a strong strategic objective and we are proud to be part of that.

We are proud to have been a partner in Egypt for a very long time. Egypt is gas oriented, which is closely aligned with our own strategic objectives. So, we will continue to look for future growth opportunities in Egypt and in any other countries within the Eastern Mediterranean. The foundation for that is the well established, trusted, and respected relationship that we have in Egypt.

#### **AS THE OIL AND GAS INDUSTRY FACES GROWING CHALLENGES EVERY DAY, WHAT ARE THE BEST STRATEGIES FOR THE INDUSTRY TO NAVIGATE THE VOLATILE CLIMATE?**

Last year has been a very challenging year for our industry as a whole. We learned so much about how we operate, how to be more innovative, to become even more resilient and ultimately to ensure a stronger, more robust balance sheet. In order to protect our future and to ensure security of energy supply for the communities in which we operate, we must continue to learn, evolve, embrace innovation, make tough, wise decisions and most importantly deliver on our promises.

In Egypt, we are focussed on delivering security of supply from our existing businesses and have continued to invest heavily in our operated projects to extract the most value and enhance security of supply - for example at Disouq we successfully completed a comprehensive work program involving 3 new wells and facility upgrades which has resulted in a 70% improvement in production increasing from an average of 60 million cubic feet of natural gas per day in October 2019, to around a 100 million cubic feet of natural gas per day as of January 2020, a great result.

We are a partner to operator BP, in the West Nile Delta development project, where we are in the final commissioning stages of the Raven field. Also, we are very excited about our exploration program at East Damanhour, near to our Disouq development project where we plan to drill three wells this year - an exploration program in an area that we know well, and where we have existing infrastructure to quickly develop any commercial discoveries.

#### **SINCE WE ARE SEEING A RECOVERY IN OIL PRICES, AND A RECOVERY FROM COVID-19, DO YOU HAVE ANY PLANS FOR NEW INVESTMENTS AND NEW PROJECTS?**

In our results presentation, we talked about the pro-active decisions and actions taken in the initial phases of the crisis – such as reduction in exploration and development capital spend, sustainable reductions in operating costs. We are proud of the proactive action Wintershall Dea took to maintain a robust balance sheet, to ensure that we could navigate through the storm of low commodity prices and the pandemic. Today, we are in a good place. We have communicated a production guidance of 620,000 to 640,000 boe/d, a development capex of €1.0 to 1.1 billion, and we are increasing our exploration budget to be between €200 and 250 million, which includes the East Damanhour exploration program.

From the actions we took last year, we are well positioned to proactively continue delivering our strategic objectives.

#### **WINTERSHALL DEA HAS SET A GOAL TO ACHIEVE NET-ZERO UPSTREAM ACTIVITIES BY 2030 AND TO ENSURE THERE IS A MIX OF LOW-CARBON ENERGY TO TACKLE THE WORLD'S CLIMATE CHANGE CHALLENGE. HOW FAR ARE YOU SUCCESSFUL IN DOING SO AND AT WHAT COST?**

Energy transition is a priority. As I mentioned earlier, we are determined to be part of the solution. We have set challenging targets and have a plan to achieve our goal of being net zero by 2030 for both our operated and non-operated upstream activities – underpinned by an investment of €400 million across ten years.

Our plan is a four-pillar approach. The first pillar focuses on ensuring that we make wise investment decisions to deliver an emission efficient portfolio, which includes applying strict criteria with regards to CO2 emissions and carbon pricing.

The second pillar aims to optimise energy efficiency and reduce emissions in our existing assets - in Egypt, we are already doing a number of activities with our partners, which looks to optimize our existing operations. For example, we are working with our partner and operator BP, on how we can further optimise emissions at the Raven facility.


*With Egypt at its core, we believe that the East Mediterranean is a very promising region for new gas development where Wintershall Dea supports the development of the regional hub and is a very active member of the East Med Gas Forum*

The third pillar looks at nature-based solutions complemented by our fourth pillar - technology, where Wintershall Dea has setup a dedicated Hydrogen and Carbon Management division focussed on studies, projects, and partnerships that will look to develop the technology required to reduce emissions from the products that we sell. For example, we are carrying out a study at our own-operated Norwegian Brage platform, to test whether the reservoir can be used for permanent CO2 storage. We are also involved in Project Greensand in Denmark - a consortium with Maersk and INEOS, to look at permanent carbon dioxide storage in a depleted offshore oil reservoir and recently received certification from DNV GL, approving the use of the reservoir for permanent carbon dioxide storage, so progressing very well. We are also involved in studies with research institutes on processes for the industrial scale production of hydrogen from natural gas through methane pyrolysis, which is extremely important given the key role natural gas and hydrogen can play in delivering climate friendly energy supply.

#### **WHILE RECOGNIZING THAT OIL AND GAS WILL CONTINUE TO PLAY A MAJOR ROLE IN THE WORLD'S ENERGY MIX, HOW CAN WINTERSHALL DEA HELP EUROPEAN UNION TO ACHIEVE CARBON NEUTRALITY BY 2050?**

We are very much aligned with the European Commission's climate goals and we are already well positioned with a low cost, gas weighted, climate friendly portfolio – a very solid foundation which supports the European Commission's agenda to reach climate neutrality. We will play our part and we will be part of the solution.





# GREEN HYDROGEN FUELS PLANS FOR FUTURE ENERGY

BY RANA AL KADY

To begin with, the concept of Green Hydrogen is a new trend in the industry pertaining to its formation from natural gas resources. Over the last few years, interest in this particular topic has peaked exponentially. Green Hydrogen can be used as a raw material for chemical reactions to generate a variety of biofuels, and it is a good energy carrier for applications that are isolated from electricity grids or need a high energy content by weight. Green hydrogen has the potential to bridge the gap between increasing and sustainable renewable energy production and hard-to-electrify sectors.

## TECHNICAL OVERVIEW

To begin with, green hydrogen is a special form of hydrogen. It is made by electrolysis, which breaks water into hydrogen and oxygen with no by-products. Electrolysis normally necessitated such a large amount of electrical energy that it was impractical to generate hydrogen this way. The conditions have changed directly as a result of two factors: the first is the availability of a significant surplus of renewable energy in the electricity distribution networks. Instead of storing excess energy in huge battery packs, it can be used in the electrolysis of water, with the electricity being stored as hydrogen. The second reason is due to the rise in the electrolysis machines' efficiency.

The fact that water is the only by-product of the hydrogen combustion process is well known, which is why scientists have indeed been fascinated by hydrogen as a carbon-free energy source for decades. Conventional hydrogen processing, which includes heating fossil fuels with steam, is, however, far from carbon-free. Gray hydrogen is the result of this process, and blue hydrogen is the result of segregating carbon dioxide from it.

## ADVANTAGES AND DISADVANTAGES OF GREEN HYDROGEN

There are various advantages and disadvantages of investing in this particular energy source from a technical, economic, and environmental point of view. As a matter of fact, there are multiple unique aspects of this fuel alternative that could eventually put aside the present day's conventional energy resources.

Hydrogen is a valuable source of energy for a number of purposes, the most important of which is its ample availability. Although harnessing hydrogen requires a lot of money, no other energy source is as limitless as hydrogen. That is to say, unlike other sources of electricity, it has no chance of running out. Furthermore, hydrogen can be generated on-site and then dispersed, or it can be produced centrally and then distributed. Methane, ethanol, wood, coal, and water can all be used to make hydrogen gas. Depending on the sources used, variables such as emissions levels, technological issues, and energy needs differ. Additionally, as hydrogen is burned to make gasoline, the by-products are absolutely harmless, with no known side effects; it is used as a source of drinking water in the aerospace industry. Finally, once hydrogen and oxygen are integrated into a fuel cell, electricity is produced, which will be used to drive cars, drive an electric motor, as a source of heat, and a variety of other applications. The only by-products of hydrogen's reaction with oxygen are water and heat. Hydrogen is typically converted to drinking water for astronauts on ships or space stations

after it has been used. Ali Habib, Sustainable Energy Expert noted that, "Steam reforming is not costly, actually it is the cheapest way to produce hydrogen. 48% of hydrogen produced by steam reforming, 30% by oil reforming, 18% by coal gasification, 4% by electrolysis because it is more expensive than others."

On the other hand, it could be argued that while many hybrid vehicles today are powered primarily by hydrogen energy, hydrogen energy remains to be a source for the wealthy. One of several features of hydrogen is that it has a relatively low density. In reality, it's much less dense than gasoline. To ensure its efficacy and reliability as an energy source, it must be compressed to a liquid state and preserved in the same manner at extremely low temperatures (nearly -253C). Additionally, because of its lightness, transporting hydrogen beautifully is a difficult challenge. Since oil is often forced through pipes, it can be transported safely. While, load trucks are a convenient way to move coal, hydrogen is often difficult to transport in massive volumes; which is why it is usually only shipped in limited quantities.

## CASE STUDY

Despite the fact that green hydrogen production is still in its early stages, many countries, especially those with affordable renewable energy, are investing in this technology. Australia is one of these nations, with plans to export hydrogen produced by using available solar and wind energy, while Chile plans to produce hydrogen in the arid regions of the country's north, which are abundant in solar-generated electricity. By 2030, China hopes to have one million hydrogen fuel cell vehicles on the road.

Similar programmes are underway in South Korea, Norway, and the United States of America, with California aiming to eliminate fossil-fuel-powered buses by 2040. The European Commission, for its part, recently released a hydrogen development plan for 2030. In it, it is proposed that hydrogen output capacity be increased to 500 gigawatts by 2050.

To conclude, by replacing both gas and coal with renewable electricity, current technology approaches, such as those used in the development of solar and wind energy, will minimise carbon dependency in the energy sector by up to 85%. Habib also noted that, "Egypt has the required constituents to produce green hydrogen at competitive levels. To name a few, abandoned renewable energy sources and sophisticated infrastructure. Nevertheless, several policy actions are needed to uptake this technology".

Other industries, such as shipping and manufacturing, would have a tougher time transitioning to electricity independency. They normally need a fuel with a high energy density or the ability to generate heat at high temperatures. However, green hydrogen has a future in these industries as well as being a source of flexibility in the power sector; the Energy Transitions Commission, a consortium of energy firms, points out that green hydrogen is one of four technologies needed to meet the Paris Climate Agreement's goals, it manifests itself in the reduction of more than 10 billion tonnes of carbon dioxide emissions per year in the industrial sectors that pose the greatest threat, such as mining, construction, and chemical manufacturing.



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# THE BURGEONING OF EGYPT'S LNG HUBS

BY JASMINE SHAHEEN

**T**he liquefied natural gas (LNG) scene has witnessed a remarkable change in 2020 and actually this change was inevitable and imperative due to the COVID-19 pandemic; the crisis that revealed how Egypt could be an active exporter of LNG despite any circumstances. It could even reach a huge milestone by restarting the long-awaited Damietta LNG Plant after eight years of hiatus. To review the ebb and flow of the market, it is important to look at how both plants, Idku and Damietta, performed in 2020.

## IDKU LNG PLANT

First off, the Idku facility is located in the East of Alexandria and was established in 2001 after the Egyptian General Petroleum Corporation (EGPC) and Edison had signed an agreement with Shell to develop an integrated LNG export project in Egypt. The plant has a capacity of 7.2 million tons per year (mmt/y) to export Egyptian LNG to Europe and the US. It has two LNG trains, however, it can accommodate an expansion of up to six trains in total.

LNG exports from the Idku plant had a rocky start at the beginning of 2020 as the plant shipped only six cargoes during Q1 2020. Then, the plant came to a brief halt during March as spot LNG prices fell to record lows, with the Japan-Korea-Marker (JKM) spot Asian LNG price fell to \$1.825 million British thermal units (mmBtu) toward the end of April.

However, it picked up the pace around Q4 2020, shipping 17 cargoes. The increase was mainly due to the rise of Cargo LNG prices, according to the S&P Global Platts data. Six of those cargoes were exported from Egypt to Pakistan, Kuwait, China, India, and the United Kingdom (UK).

Despite the low number of cargoes in 2020, the facility gained momentum since October as the Minister of Petroleum and Mineral Resources, Tarek El Molla, stated that "all volumes" of Egyptian Liquefied Natural Gas (ELNG) are booked-up until March 2021. In January 2021 alone, the Shell-operated facility had already shipped seven cargoes.

## DAMIETTA LNG PLANT

Speaking of momentum, 2020 witnessed the long-awaited revival of the Damietta LNG plant. After an eight-year hiatus, Eni, the Egyptian General Petroleum Corporation (EGPC), the Egyptian Natural Gas Holding Company (EGAS), and its Union Fenosa Gas (UFG) partner Naturgy agreed in December 2020 to restart the plant. The plant, which has a capacity of 7.56 billion cubic meters per year (bcm/y), is now owned by Eni with 50% shares while EGAS owns 40%, and EGPC owns the remaining 10%.

Under the new agreement, Eni will also take over the contract for natural gas purchases from the plant and will receive corresponding liquefaction rights. This is to increase its volumes of LNG portfolio by 3.78 bcm/y. Accordingly, Eni is now waiting for approval from the ministry to connect the Damietta LNG plant to the Zohr gas treatment plant to further expand its operations. Since its reopening, the plant began its first cargo testing in February to enhance Egypt's ability to export gas to European markets, as it will be the first step towards adding Damietta's exports to the Shell-operated Idku plant.

The Damietta plant received its first LNG carrier, Golar Glacier, coming from Singapore to load and transport 60,000 tons of LNG from Egypt to Bangladesh in February 2021. The second cargo was loaded on March 4 aboard the Energy Atlantic, heading to the Incheon import terminal in South Korea. Most recently, the first shipment from Egypt to Europe, since its reopening, was delivered to the Belgian import terminal at Zeebrugge on March 21.

So far in Q1 2021, LNG trade seems to be flourishing in Egypt. As of March 23, a total of 26 cargoes have been delivered from Egypt, with the bulk exported from the Idku facility. Most of the cargoes were shipped to Asian markets, with China taking eight cargoes, India with four cargoes, and two each to Bangladesh, South Korea, and Singapore. Keeping an eye on Europe, in addition to the Belgium shipment, Egypt has recently exported cargoes to Italy and Greece as European gas prices rival Asian spot LNG prices.

The resurgence of Damietta LNG plant aligns with Egypt's plan to become a major supplier to Europe and a regional energy hub. Once it reaches its full capacity, Egypt will become one of the top 10 LNG exporters, according to Bloomberg. Now, with the Idku LNG plant and the resumed Damietta LNG plant, Egypt has a total LNG export capacity of 12.5 mmt/y.



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# SCHLUMBERGER COMMEMORATES INTERNATIONAL WOMEN'S DAY

BY LOBNA HEFNY

Schlumberger Egypt held its annual International Women's Day ceremony, celebrating International Women's Day on March 8, 2021, through a virtual event that aimed to empower women and encourage a diversified culture in the oil and gas industry.

## EMPOWERING WOMEN'S INCLUSION

"Schlumberger is committed to fostering an environment that enables growth opportunities for women in Egypt and around the world," Karim Badawi, Managing Director of Schlumberger Egypt and East Mediterranean, said in his opening remarks. Badawi used the event as an opportunity to shed light on women's empowerment in leadership positions in the industry.

He praised and recognized the efforts of all the women in the company, highlighting the necessity of the International Women's Day celebration, as it aligns with Schlumberger's core values. Badawi also mentioned that "we are extremely proud that Schlumberger was awarded employer of choice for women, diversity and inclusion at the Egypt Petroleum Show (EGYPS) 2020."

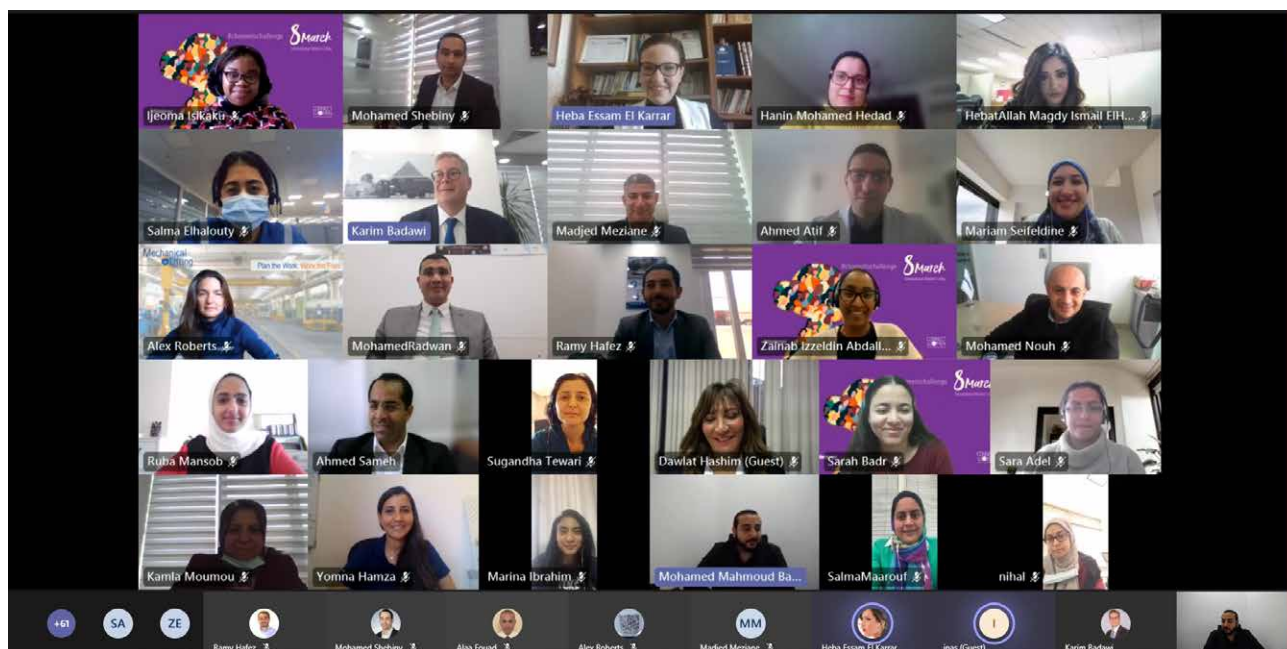
Leila Hamza, Schlumberger's Diversity, Recruiting and Learning Manager, praised the company's support to women by promoting and ensuring gender balance in hiring and promotions, particularly through a challenging 2020. "In 2020, we had improvement of 8% year-on-year (YoY) compared to 2019 in gender balance. Even in our senior leadership positions that include appointments across the world, we reached 30% increase of our senior leadership positions held by women," Hamza stated.

Furthermore, Ijeoma Isikaku, Human Resources Manager – Egypt and Sudan, Schlumberger, presented a video to display how Schlumberger empowers and supports gender balance. Isikaku also announced the formation of the MENA Gender Balance Committee to encourage women and bring the best from women in their day-to-day jobs. She also discussed the important role that women play in society, both as professionals and as mothers, wives, sisters and daughters.

## RECOGNIZING WOMEN BEHIND EGYPT UPSTREAM GATEWAY

Badawi made a special recognition to all women behind the Egypt Upstream Gateway (EUG), which went live on February 17th, 2021. The EUG is integral to the transformation of Egypt's investments and the company as well. Badawi noted that the project's women team members have been a key enabler of the EUG's success. Badawi seized the opportunity to discuss the innovative EUG national digitization project, including sharing an informative video and discussing the significant impact the EUG will have on the industry in Egypt, and worldwide.

Also during the virtual event, Badawi introduced EUG Project Managers Mohamed Radwan and Ahmed Sameh, and asked them to share their perspectives. "I'm really happy to have this great virtual event on women's international day to celebrate the phenomenal efforts exerted by the diverse group of women whose efforts move forward several great projects, of which the EUG is one of," Sameh stated. Sameh expressed his appreciation to women and introduced the key members of the EUG project and highlighted their vision, which drove the Egyptian petroleum sector into a true digital transformation, saying that "we are very lucky to have such calibers in Egypt to help to convert ideas into reality."



For his part, Radwan mentioned that it is a perfect opportunity to recognize the contribution of the women in EUG project, pointing out that the project is reflecting the progressive vision of His Excellency, Tarek El Molla, Minister of Petroleum and Mineral Resources, and also reflecting the new Egypt tendency to apply state-of-the-art technology, digital transformation, and engagement of young professionals in such critical and important projects. Radwan also highlighted that "more than 25 to 50% of the EUG organization is women, and also more than 25% of the EUG leadership roles are women."

Dawlat Hashem, EGAS Assistant Chairman for Communications and Information Technology, expressed her gratitude for being a part of Schlumberger's event; sharing her experience and career path starting from being a mechanical engineer to getting a leading position in a male-dominated field, Hashem also shared her experience for being a part of EUG project. She figured out that the females of the new generation are stronger and more reliable to get their jobs well done.

Furthermore, Inas Osman, the Egyptian General Petroleum Corporation (EGPC) Assistant CEO for Information Technology, shared her experience in the field as part of EUG project team, mentioning that she didn't face any issues for being a woman throughout her career. Osman concluded her remarks by stating that "women normally give attention to details and quality that make great opportunities for them to achieve remarkable results."

## RECOGNIZING SCHLUMBERGER WOMEN

Next up in the event, the Schlumberger Egypt leadership team recognized their female team members, highlighting their dedication, commitment, and determination to fulfill their jobs in a professional and highly effective manner. Also highlighted were the women team members' energetic and strong personalities that support all the teams, in addition to their keenness to learn and improve themselves technically.

Badawi concluded the ceremony by a message of thanks and appreciation to all the women in the company, referring to them as a "talent pool". Badawi further emphasized their roles, values, and contributions to the company and to society as well.

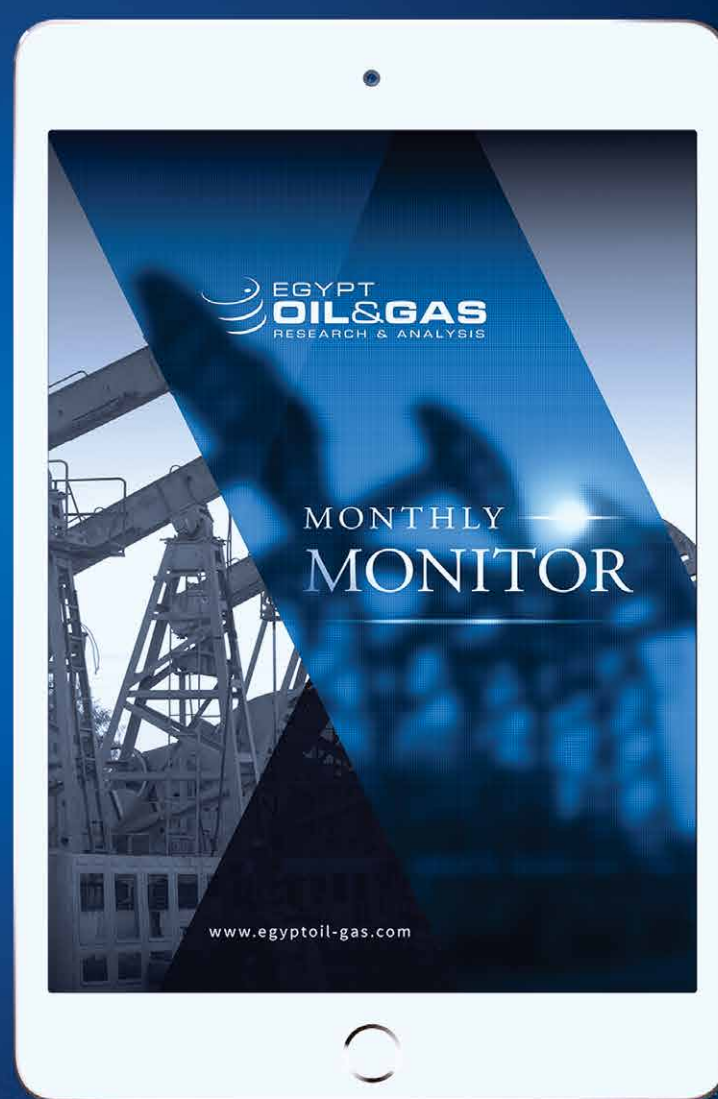
At the end of the day, the stage was left for participants who engaged in team building activities and games where they shared their experiences, challenges, interests, knowledge and contributions. Through the activities, women were also encouraged to discover their vulnerabilities and strengths by telling their own stories in very unique ways. They also shared their achievements, hobbies and role models.

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# SEEKING A WAY OUT OF YEMEN DILEMMA

BY IHAB SHAARAWY

International benchmark Brent crude futures jumped above \$70 for the first time in nearly two years after Saudi oil facilities were targeted by missiles and drones on March 8. The attack was one of the recently renewed attacks by Yemen's rebel Houthi movement that used to launch missile attacks on Saudi Arabia infrastructure and territory, including oil tankers and facilities and international airports, in response to Saudi intervention to restore Yemen's internationally-recognized government.

Although Houthi attacks on Saudi Arabia rarely cause extensive damage or claim lives, the increase of frequency of these attacks in recent months has created unease in the Gulf and international oil markets.

The continuous attacks on oil facilities may add insult to injury for the oil giant Saudi Aramco that has already announced a sharp drop in its profits last year due to lockdowns around the world curbed oil demand.

The recent drone attacks on its installations brought to memory the devastating attack claimed by the Houthis in September 2019, when explosive-laden drones swarmed Aramco's Abqaiq oil-processing plant and Khurais field and temporarily knocked out about half of Saudi Arabia's production capacity and caused crude prices to spike.

The recent attacks also bring the question; when is the Yemen war going to end? The seven-year-old war has proved disastrous for the Yemeni people and the Saudi interests as well, sparking the world's largest humanitarian catastrophe, where tens of thousands of civilians have been killed and more than 14 million people live at risk of starvation.

The Iran-backed Houthis have been fighting Yemen's UN-recognized government since 2014 and have taken over the capital Sanaa and swaths of the country. A Saudi-led coalition intervened the following year on the side of the government.

In their quest for restoring legitimacy, the Saudi-led coalition began airstrikes campaign that failed to achieve its strategic targets and didn't prevent the Houthis from using Iranian sophisticated weapons to launch attacks on Saudi and Emirati targets.

Things even got worse for the Saudi coalition after the election of the new United States President Joe Biden, who halted support for Saudi Arabia's offensive operations in Yemen and vowed to end this conflict and appointed Tim Lenderking, a former senior State Department official, to lead the US efforts in this regard.

However, fighting has intensified as the US steps up its diplomatic efforts to end the conflict, with the rebels not only targeting Saudi oil facilities but also pushing to capture the Yemeni city of Marib, the strategic oil-producing area, and government stronghold. Battles have spread to other areas, including Taiz and Hajjah, where millions of Yemenis face the perils of the fighting.

## FINDING A WAY OUT

Following the recent Houthi attacks that targeted a 120,000-barrel-a-day refinery in Riyadh, the world's biggest oil-export terminal of Ras Tanura and a fuel depot in Jeddah, the Saudi navy began drills in the Arabian Gulf to enhance the security of vital facilities and oil fields, and to secure freedom of navigation in the region's waters. The official Saudi Press Agency said that Aramco will take part in these drills.

Saudi Arabia went further to ask for help from the US and its allies to defend its oil facilities, underscoring the kingdom's concern about recent missile and drone strikes that it has linked to arch-rival Iran, stressing that the Houthi attacks do not target the Kingdom of Saudi Arabia only, but also the security and stability of energy supplies to the world, and therefore, the global economy.

According to media reports, the requests of assistance were put to President Joe Biden's administration since January.

Saudi Arabia even went further to propose a new peace initiative to end the ongoing conflict.

The new initiative, that was declared by the Saudi Foreign Minister and was welcomed by the United Nations, includes a nationwide ceasefire that will be implemented under the supervision of the UN, the reopening of Sanaa International Airport, and the allowing of fuel and food imports through the Hodeidah port.

However, Houthi rebels have rejected the offer saying that they expected an end to the blockade of ports and airports and an initiative to allow in 14 ships that are held by the coalition.

Many analysts see Riyadh's initiative as a reflection to the kingdom's desire to find a way out of this destructive conflict. Nevertheless, the Houthis and their backers in Iran can see in it a chance to dictate their own terms.

## BARGING CHIPS

The initiative also aligns with Saudi Arabia efforts to reshape its image as a backer of US policies in the region and alleviate strained relations over the murder of journalist Jamal Khashoggi and the Saudi poor human rights record.

Still ending the Yemeni dilemma may depend on the reaction of the new US administrative that vies to revive the nuclear deal with Iran, considering it one of its foreign policy priorities.

Following the recent attacks, the US administration has expressed alarm at what it called genuine security threats to Saudi Arabia from Yemen's Iran-aligned Houthis and elsewhere in the region, stressing that it would look at improving support for Saudi defenses.

The US Embassy in Riyadh said Washington was committed to defending Saudi following a volley of drones and missiles, including one aimed at a Saudi facility vital to oil exports.

While White House press secretary Jen Psaki stressed that the US "continues to be alarmed by the frequency of Houthi attacks on Saudi Arabia. "Escalating attacks like these are not the actions of a group that is serious about peace."

However, several analysts see the US attitude as the direct reason for the escalation from the side of the Houthis, who constitute themselves as an additional bargaining chip for Iran to use in its nuclear negotiations with the US.

Although Saudi Arabia has succeeded so far to keep its reputation as a reliable and secure supplier to big consumers around the world, the question remains: What could happen if one of these attacks leads to a more direct confrontation between the Saudis and the Iranians?



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# EMGF: REGULATION OF GAS INTERESTS IN A HOT SPOT

BY FATMA AHMED

**A**mid the major discoveries that took place in the Eastern Mediterranean region during the past ten years, some regional countries including Egypt, Cyprus, Greece, Israel, Italy, Jordan and Palestine have agreed to establish the East Mediterranean Gas Forum (EMGF) as an international organization to utilize the full potential of the Eastern Mediterranean offshore gas wealth. The Minister of Petroleum and Mineral Resources, Tarek El Molla, announced that EMGF intends to respect the members' rights of natural gas according to the principles of international law and support their efforts to benefit from their oil reserves and infrastructure.

## MORE DISCOVERIES HOLDING CHALLENGES

In 2010, the United States Geological Survey estimated that the Levant basin and Nile Delta basin could preserve an average of 122 and 223 trillion cubic feet of recoverable gas respectively. Meanwhile, these discoveries accompanied multidimensional challenges to be exploited. For instance, some reserves were discovered in deep water so it is expensive and complex to be extracted. Additionally, there is insufficient infrastructure, limited local markets, and complicating monetization process in addition to geopolitical disputes.

These challenges stimulated the establishment of EMGF, too. The paper in question entitled "The East Mediterranean Gas Forum: Regional Cooperation Amid Conflicting Interests" and is written by Mona Sukkarieh, Energy and Political Risk Consultant, will showcase EMGF's objectives, internal working mechanisms, and its efforts to assess prospects for monetization. What's more, it will explore geopolitical dynamics and will end by focusing on bringing offshore Eastern Mediterranean gas to market.

## EMGF OVERVIEW AND OBJECTIVES

On 14 January 2019, Cairo declared that EMGF will serve as a platform for structured and systematic policy dialogue on natural gas among the countries in the region leading to the development of a sustainable regional gas market. It has many objectives including assisting the creation of a regional gas market that benefits the members, ensure the security of supply and demand for the members, support producing countries and countries with gas reserves in the region, help consumer countries to secure their needs and ensure the environmental sustainability of gas exploration, production, transportation and infrastructure building.

## GEOPOLITICAL DIMENSION

One of the main challenges for the Eastern Mediterranean countries is the existence of several decades-old conflicts. This led to a need for reconfiguration of alignments and setting new intra-regional dynamics which could be reflected by EMGF. For instance, although they are in the East Mediterranean region, Syria, Lebanon and Turkey were absent from EMGF because of political issues. Syria's international engagement was reduced as a result of the ongoing conflict. Lebanon refused to join EMGF due to the presence of Israel. In addition, it seems that the forum has deliberately excluded Turkey due to the poor or troubled relations between Turkey and Cyprus, Egypt, Greece and Israel.

## BRINGING RESOURCES TO MARKET

According to the paper, the past decade has revealed promising potentials in the Eastern Mediterranean, yet, confronting challenges to be converted into exploitable commodities. The nature of these deep-water discoveries, size of the local markets and limited infrastructure didn't allow the countries in this region the autonomy they needed to fully exploit and export these resources.

Accordingly, there is a need for a collaborative approach between the various players in the region which can help in reducing the costs and improving regional integration to make these resources competitive. EMGF provided this capability as a platform to coordinate such efforts.

Regarding Egypt, the discovery of Zohr field, which has converted Egypt from being a consumer and importer of natural gas to achieve self-sufficiency as well as being exporter in addition to its central location, its large market, existing infrastructure and the reforms that revived the Egyptian gas sector, have put spot light on it. Following the discovery of Zohr field, Eni company mentioned the possibility of setting up a hub in which Egypt will distribute, transport and export gas from the regional discoveries.

## GLOBAL MARKET CONDITIONS

What's more, liquefied natural gas (LNG) prices play a key role in the deals so that the optimum exploitation of gas resources. In 2020, Egypt's LNG exports from its Idku plant have stopped for several month due to low spot prices resulted from the lockdowns and Covid-19 spread. Low prices in 2020, also, halted several deals and postponed others. The research stated that the "coronavirus crisis exacerbated the supply-demand imbalance in the short term. However, the full impact of the crisis on the industry cannot yet be measured."

## LOCAL AND REGIONAL MARKET

The offshore gas resources of the Eastern Mediterranean face a commercial challenge. It is found that most of the exporting ways beyond the immediate neighborhood are not economically feasible. However, export projects depend on the economic benefit, so the local and regional markets are found to be competitive and reasonable for Eastern Mediterranean gas resources.

This brings two central issues to light including; "the importance of improving intra-regional gas infrastructure connectivity and pursuing policies at the national level to encourage demand growth and continuously aim to expand the share of natural gas in the energy mix". This is what EMGF seeks to do. It, also, helps the governments as well as companies to have competitive fiscal framework for liberalizing markets and opening access to relevant infrastructure, encouraging regional cooperation and harmonizing policies and regulatory frameworks.

## CONCLUSION AND RECOMMENDATIONS

The paper concluded that EMGF has to give attention to some issues in order to impose itself as an efficient player that could facilitate the monetization of the region's resources. For example, how relations between Turkey and its neighbors are going to evolve might affect the Forum. It is possible that Ankara's relations with its neighbors could be stabilized due to a diplomatic push. So, Egypt and EMGF should demonstrate enough creativity and flexibility to remain relevant.

It should, also, follow some international standards to maximize the benefits derived from the exploitation of natural resources like overcoming corruption and following health, safety and environment (HSE) measures. It, also, should enhance transparency through launching an online platform and encouraging members to implement the Extractive Industries Transparency Initiative. In addition, EMGF should support the exchange of its members' skills through training sessions and establishing institutions of higher education.

# A NEW VISION FOR OPTIMIZING HUMAN RESOURCES EXPLOITATION IN EGYPT

Manpower building, development and enhancement in the oil & gas industry has become a promising investment globally

In the modern concept of natural resources management and optimum exploitation of them, the human element has been considered the most important factor in the development and achievement process. This vision prevails in some special technical and complicated technological industries such as oil and gas. Thus, it was exceptionally significant to give due attention to human resource development through training and skills-gaining programs so as to get the requisite economic value from that human investment.

The oil & gas manpower is a true fortune because the accumulated experience, high technical skills and special personality traits that are required in the labor force in the oil & gas industry cannot be gained conveniently without high cost. In Egypt, we have a high-level experienced skillful oil & gas manpower due to the industry's long history in this country. But this human fortune does need a new investment/economic vision including technical experience development, personal skills enhancement and standing-on the last technologies for getting the hoped-for achievement and progress from that industry in Egypt.

For optimized exploitation for that manpower wealth and achieving maximum advantage, I can summarize simple tips: 1. Working for developing and training the current labor force according to the latest oil and gas industry techniques. 2. Support the labor force in the different organizations or companies by a new hired skillful staff that can be a new seed for an upcoming work team. 3. Introducing the suitable support for other specialties and hopeful expertise that have potentials and skills to join the international organizations and

companies around the world to gain valuable experiences and then benefit our economy with their good income of hard currencies.

We can take the third proposal as a separate national project. It is about exporting the experienced, skilled and good qualified manpower to different countries worldwide through an official frame and political agreements, especially to the Arabian Gulf countries that have the lion's share of this industry. Indeed, there are some countries that adopt this economic activity increasingly like India, the Philippine and Bangladesh to face overpopulation and unemployment problems there.

Anyway, I see that we are in dire need for enhancing the basic education level, developing the scientific & practical skills and forming new personality for the upcoming generations based on values, ethics and distinguished personality traits, in parallel, we should keep the current manpower fortune and give it the suitable support.

**Eng. Mohsen Ahmed Farhan**

Drilling Department Head

General Petroleum Company (GPC)



## THE OIL INDUSTRY AND RENEWABLE ENERGY CHALLENGES

There is no doubt that petroleum is of great importance to all countries of the world and the global economy. The demand for oil has increased since World War II. With the advent of the Industrial Revolution in general, the demand for petroleum increased more in relation to internal combustion engines that were used in the field of transportation, in addition to their use in industrial machinery until it became part of the manufacture of everything around us. However, in recent times, and with attention to the environmental impact of oil and taking into account the vulnerability of this source to depletion, the need to search for other sources to secure energy needs became increasingly urgent.

Remarkably, the trend of renewable energy became global as well as the acceleration of its industry and the development of its technologies, which has effectively contributed to a remarkable rise in the share of renewable energy among other energy sources.

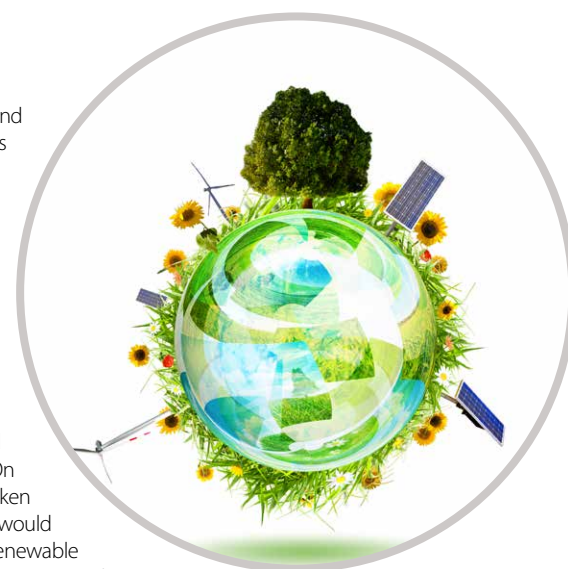
Observers of the costs of producing electricity from renewable energy during the previous decade can easily find that they have significantly decreased. According to the International Renewable Energy Agency (IRENA), the costs of solar Photovoltaics (PV) energy decreased by about 82 percent in 2019 compared to 2010, primarily due to the lower cost of solar panels. The cost of Concentrated solar power (CSP) also decreased by nearly 47 percent during the same period. Wind energy has not been immune to the significant decline in its production costs, as the costs of producing onshore wind energy have decreased by approximately 39 percent, while the costs of offshore wind energy have decreased by about 29 percent. This strong reduction in costs is attributed to several factors, the most important of which are, but not limited to, the development of technologies and the expansion of their research field, as well as the growing expertise of developers in this sector, in addition to the increase in the competitiveness of supply chains.

With regard to bio-energy, thermal, nuclear and other energy sources that fall under the name of alternative energy, it also has its competitive advantages, in the meantime, it involves technical, natural and logistical obstacles.

Nevertheless, the name of alternative energy is considered not accurate, and this may lead to misunderstanding of the nature of the relationship between all energy sources, especially fossil energy.

Outlook studies indicate, that fossil fuels and oil, in particular, will remain at the top of the

energy pyramid in the long and medium future. However, this combination can be used to bridge the gap between supply and demand in many countries. Egypt is considered one of the most important countries with ample renewable energy resources and great potential to expand the use of this energy, including hydropower wind energy and solar energy. On the ground, Egypt has taken actual measures that would expand the use of many renewable energy sources for to secure energy needs and bridge the gap between consumption and production. The Egyptian Ministry of Petroleum pays great attention to this file to the extent that many renewable energy projects have already been implemented and used to generate energy in some oil fields in Egypt. These projects are expected to expand, diversify, and secure energy sources. What makes the relationship between energy sources seems integrative is the interest of all countries to provide reliable and sustainable energy at moderate and affordable prices.



**Hany Shaker Hashem**

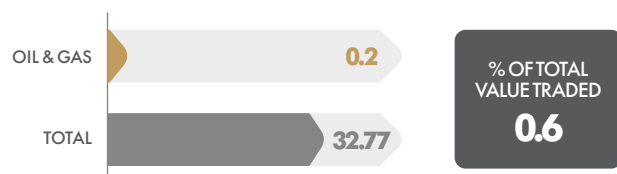
General Manager for Feasibility Studies and Project Evaluation

Egyptian General Petroleum Corporation

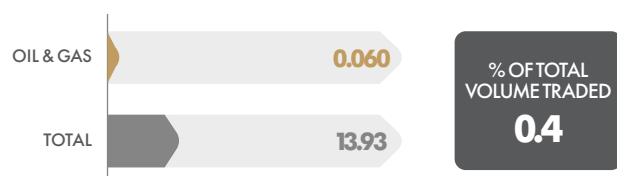


## VALUE AND VOLUME OF SHARES TRADED FOR OIL & GAS SECTOR IN FEB. 2021

VALUE TRADED (EGP BILLION)



VOLUME TRADED (BILLION SHARES)



### NATIONAL DRILLING

CURRENCY	CLOSE PRICE	YTD PRICE CHANGE (%)
USD	-	0



### ALEXANDRIA MINERAL OILS CO.

CURRENCY	CLOSE PRICE	YTD PRICE CHANGE (%)
EGP	3.03	2.88



### EGYPT GAS

CURRENCY	CLOSE PRICE	YTD PRICE CHANGE (%)
EGP	38.6	11.41



### SIDI KERIR PETROCHEMICALS

CURRENCY	CLOSE PRICE	YTD PRICE CHANGE (%)
EGP	10.24	9.99

## MAIN ECONOMIC INDICATORS

January 2021

February 2021



ANNUAL INFLATION HEADLINE CPI (%)

4.3 ↑ 4.5



NET INTERNATIONAL RESERVES (\$ BILLION)

40.1 ↑ 40.2



NON-OIL PRIVATE SECTOR PMI (POINTS)

48.7 ↑ 49.3

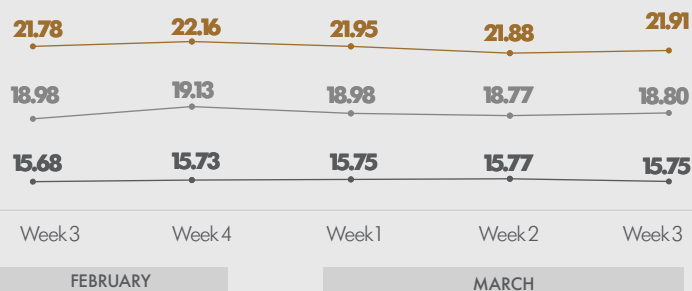


## EXCHANGE RATES

British Pound

EUR

USD

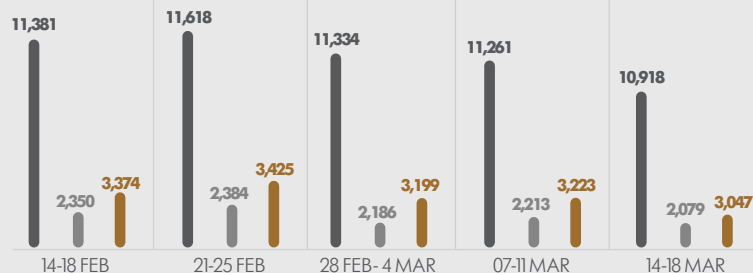


## CAPITAL MARKET INDICATORS

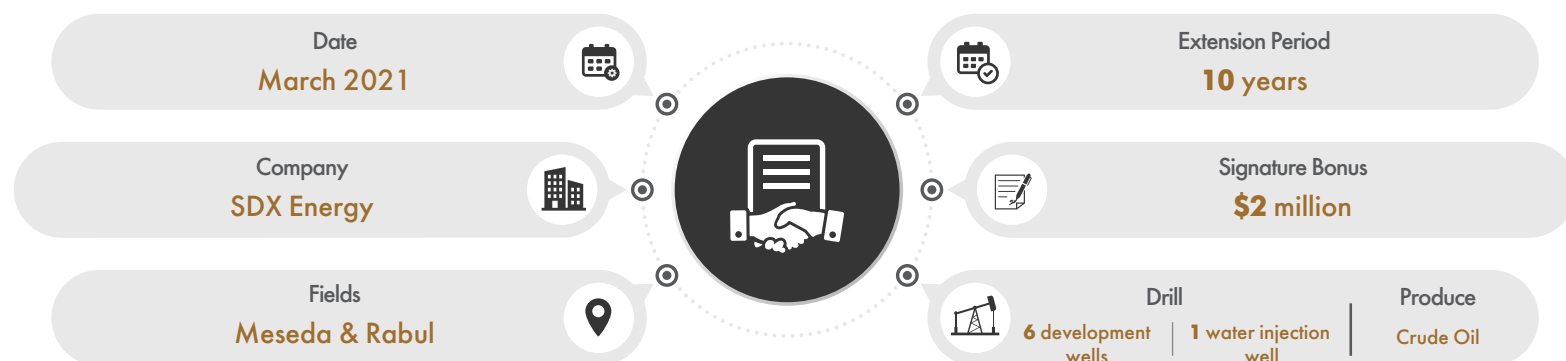
EGX 30

EGX 70 EWI

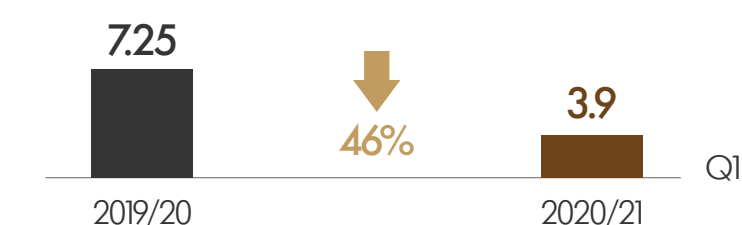
EGX 100 EWI



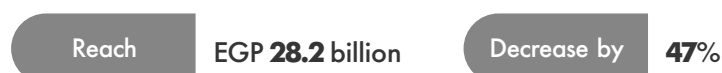
## APPROVAL OF EXTENDING PSA IN WEST GHARIB CONCESSION



## PETROLEUM PRODUCTS SUBSIDIZATION



## PLANNED SUBSIDIES IN FY 2020/21



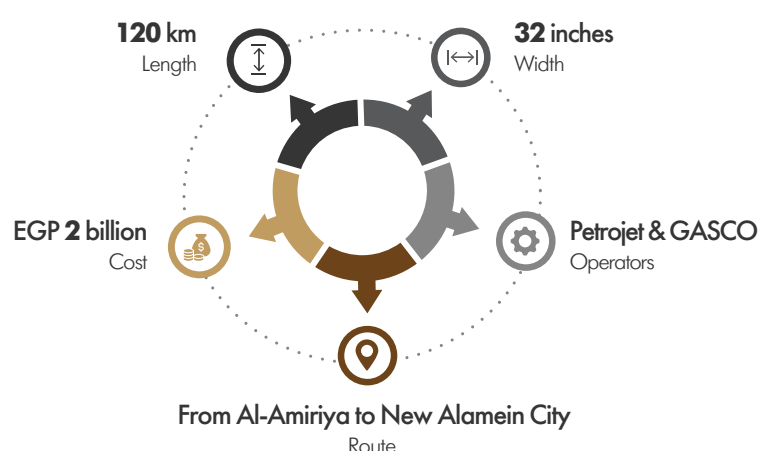
## CARS CONVERSION INTO NATURAL GAS



Since 1985 Until March 2021

**330,000 Cars**

## DEVELOPMENT OF THE NEW ALAMEIN PIPELINE PROJECT



## BORG AL ARAB PIPELINE BIFURCATIONS



## INTERNATIONAL OIL PRICES

## BRENT PRICES (\$/BBL)

11 Jan	55.66
21 Jan	56.10
15 Feb	62.43
26 Feb	66.13
05 Mar	69.36
17 Mar	68

## OPEC BASKET PRICES (\$/BBL)

11 Jan	54.76
21 Jan	55.14
15 Feb	62.61
26 Feb	64.37
05 Mar	67.03
17 Mar	66.76

## NATURAL GAS PRICES (\$/MMBTU)

11 Jan	2.75
21 Jan	2.49
15 Feb	2.91
26 Feb	2.77
05 Mar	2.70
17 Mar	2.53





YEARS

OF SUCCESSFUL PARTNERSHIPS

[www.methanex.com](http://www.methanex.com)