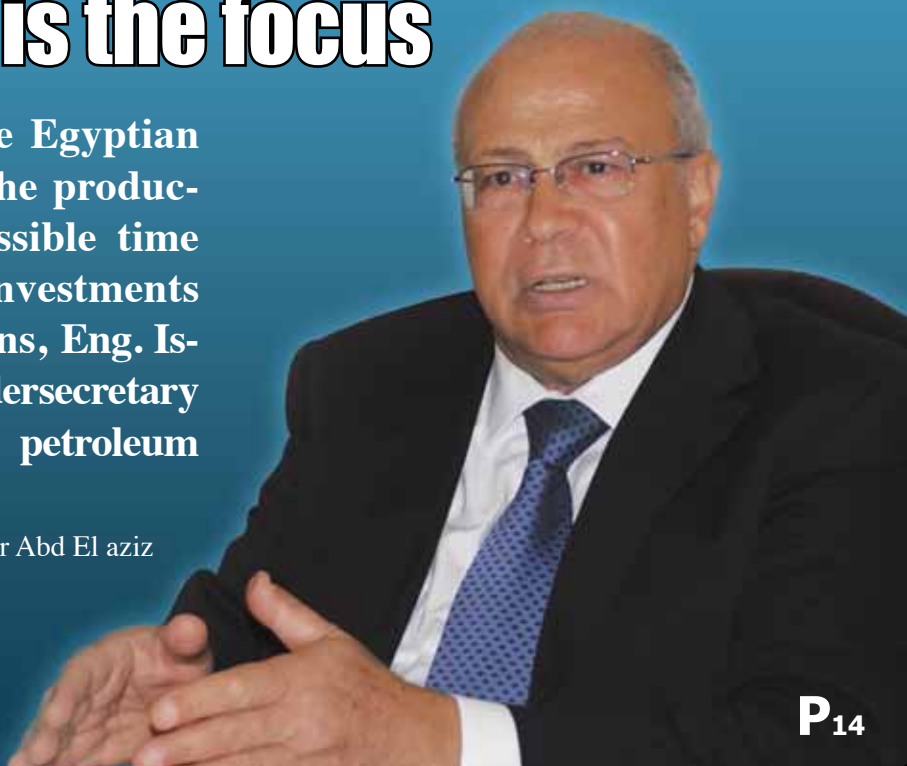


Mediterranean is the focus

The main concern now for the Egyptian Petroleum Sector is to reach the production phase in the shortest possible time and to provide the necessary investments and to achieve economic returns, Eng. Ismail Karara, the former first undersecretary for gas affairs in the Egyptian petroleum Ministry said.

By Tamer Abd El aziz



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Speaking the global offshore language!

Digging deeper in the offshore industry, obstacles maybe come in hefty numbers, but anyone can notice that the ministry tries to apply the most appropriate strategy to cover the most of challenges

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Petroleum Systems Modeling Software

Reducing Exploration Risk

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The Future of the Offshore Oil and Gas Industry to 2020

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First HSE Forum in Egypt's Oil & Gas sector

In January 2006, Egypt's Oil & Gas Health Safety and Environment (EOGHSE) forum was launched. The forum is chaired by BP Egypt and includes oil and gas upstream and downstream companies operating in Egypt. The forum addresses health, safety and environmental issues with a focus on safety.

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North Sinai to drill two new wells

Egypt Oil & Gas newspaper (EOG) learned that North Sinai Co. For Petroleum – Nospco investments in the Mediterranean reached \$ 400 million after drilling four wells Tao-1, 2, 3 and 4. The four wells are producing 180 million cubic feet of gas since the developing operations ended.

The source told EOG that the company will enter all the bids offered by the ministry in the fiscal year of 2010, and that to expand the firm's achievements in the market.

The company is also preparing to drill two new wells in its acquisition area in the Mediterranean, to reach six wells in the blocks of Tao, Camos, City blue in a total area of 383 square kilometers. EOG also learned that the drilling in the two wells will end by the year 2011, and their production will be sold on the concept of re-pricing of the agreements with the foreign partner, especially after finalizing the production facilities in the Romanah area to help producing 200 million cubic feet.

The company will be doing a 3D seismic survey to the wells, and will be taking the maritime environmental protection laws in mind.

It's worth mention that North Sinai Co. For Petroleum – Nospco is a joint venture between EGPC and the French Preenco.

EDC to buy a new offshore rig for Qatar

The Egyptian Drilling Company (EDC) bought a brand new offshore rig, which is one of the latest offshore rigs in the drilling market. EDC said it will use this rig to begin working and developing in Qatar's offshore operations early next month.

The rig value is estimated by \$ 250 million and was manufactured in Singapore.

EDC will give the name of Sneferu to the new rig, and will be going into negotiations with the manufacturing firm in Singapore to buy another offshore rig in the period of the coming three months. EDC did not mention whether it will be using the coming new rig to operate in the local market or abroad to take advantage of the high rental price.

North Sinai and Petrojet to join forces

North Sinai Co. For Petroleum – Nospco is in the second stage of development process of the North Sinai fields to maintain its gas production at a level of 180 million cubic feet.

The company is also seeking to cooperate with the Petroleum Projects and Technical Consultations Company (Petrojet) to establish a new station for land based facilities in its acquisition area in North Sinai. The station includes the installation of natural gas compressor, in addition to the work of cruise and land lines to supply the manufacture work for the offshore platform.

North Sinai Company will be manufacturing offshore production pipeline under the supervision of the international company IPIC, adding to preparing the acreage for the drilling operations.

EGPC and Merlon El Fayum to announce a new company

Merlon Petroleum El Fayum is preparing to link 20 wells with the production pipeline of the company in its acquisition, in await for Eng. Sameh Fahmy to sign the contract of the joint venture company between the Egyptian General Petroleum Corporation (EGPC) and Merlon.

The joint venture firm is expected to be named Petrosylla after an oilfield located in the same area.

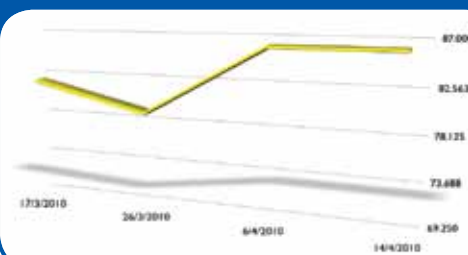
Petrosylla's production will reach 10,000 barrels per day during the first months following its establishment.

Interviews



Statoil's offshore faith

ICE Brent Price



info@sigmapaintsegypt.com

The Perfection
Of Protection



Time to think differently!

Thinking of new generations and the challenge waiting for them with the approaching fade of the oil and gas era, what have we done so far to preserve our resources for the coming years? I know that this topic has been over and over discussed, but the recent Morocco's announcement to invest \$9 billion to serve its plan of producing 40% of their energy needs via solar energy, raised the questions: what are the precautions we made to secure our energy sources?

Morocco, the North African country with no oil reserves, has been adopting plans to diversify and secure its energy supplies to the coming generations. As a matter of fact, the Arab countries are now waking up to the reality of oil reserves. They too want to trap the power of alternative sources of energy. Algeria, Qatar, Tunisia and Saudi Arabia, Jordan, Syria and Tunisia are all making fruitful efforts to utilize the power of sunlight.

In my opinion, we do not have the ideology of long-term plans; sometimes we seek short-term benefits (revenues and profits) on the expenses of the country's resources. Unfortunately, most heads and top officials prefer be recognized by the amount of money they brought into the country rather than by the long-term plans, of which valuable results will be felt after their retirement! Therefore, when will we stop selling our precious endowments under the pretext of attracting investors and strengthening our position in the international market!

In June 2008, the Ministry of Petroleum decided to suspend all new gas contracts for unlimited period of time as world price and market environment are not stabilized. Now, after two years, what are the pros and cons of such unusual type of decisions? Although Egypt is still committed to the already signed long-term gas export deals, I do believe that this decision saves to some extent the amount of gas we have. Hence, if this decision has sparked off outcomes, we should apply it on a larger scale.

I believe it is time to think differently about the best and most effective utilization of our resources in a way that would save us from the future challenges and at the same time, we should develop new strategies to generate energy from natural sources (solar, wind...etc), studying the most adequate genre that matches the nature of our environment.

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NEW CHALLENGES IN A CHANGING ENVIRONMENT FOR CONTINUED

GROWTH will be discussed in the Plenary session of the MOC 2010 Conference which will be held in May 2010, 18-20, in Alexandria. The exhibition and conference, organized under the High Patronage of The Petroleum Ministry of the A. R. of Egypt are meant to be among the more important events in the Mediterranean area scheduled for next year. Moreover MOC 2010 will celebrate its 10th Anniversary and the organisers are planning new opportunities focusing on better services and more activities to increase business opportunities for exhibitors and visitors.

"The world is going through difficult and turbulent times, and what seemed impossible just a few months ago in energy supply prices, is now a reality. What will the future bring in our field in the coming months? What will be the scenario once the difficulties are over sometime late 2009 or early 2010? How best to re-position investments, and plan for the recovery and the up swing after the crisis?" as H.E. Eng. Sameh Fahmy, the Minister of Petroleum of the Arab Republic of Egypt states in his welcome messages and the Egyptian Petroleum Sector is ready and willing to debate these themes and related topics towards the international audience that MOC event always attracted since the first edition which dates back to 2000. H.E. the Minister of Petroleum also underlines the strategically importance of MOC 2010 conference as a great occasion to plan the re-position of investments and prepare the recovery of the Oil and Gas Sector in the Mediterranean area by analyzing the opportunities that world economic crisis has brought about. Egypt's four major oil and gas exploration companies - EGPC, EGAS, ECHM and GANOPE - endorse MOC since its birth and the Egyptian Petroleum Sector is inviting all operators in the oil and gas industry and authorities to gather in this international meeting to tackle promptly and effectively the challenges of the price crisis.

The exhibition is held alongside the 3 day conference and some of the most important international companies active in the oil & gas industry have already confirmed their participation, just to name a few: BAKER HUGHES, BG, CAMERON, DREXEL, ECHM, EDISON, EGPC, EGAS, EGYPTIAN DRILLING COMPANY, EGYPTIAN LNG, ENI, GANOPE, HALLIBURTON, PETROJET, PETRONAS PICL, SAPESCO, SEGAS, GAZ DE FRANCE - SUEZ, SINOTHARWA, WEATHERFORD, etc. Today the exhibition has 96% of the area already sold out. It is expected to be sold out in a few days because only 5 stands are still available!

With an extremely high percentage of growth on the previous edition, 11% in general attendance, 25% in the number of exhibiting companies, 10% in the number of registered delegates attending the conference, the last MOC has gathered over 5.200 visitors and almost 200 exhibiting companies and the results of this event witnesses once again the importance of MOC for the offshore petroleum industry in general and mainly for the business and commercial relationships that bind the Northern and Southern shores of the Mediterranean Sea.

The conference as well is a precious occasion to meet with the oil & gas top industry representatives and discuss with them the latest discoveries and opportunities in the market. If you wish to present your speech to MOC international audience, guidelines and instructions for abstracts presentation are available on www.moc2010.org, as well as the latest information about the conference agenda, the general programme and the exhibition of course!

See you in Alexandria at MOC 2010!

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AGIBA: new drilling plans in the Western Desert

AGIBA Petroleum Company said that it's planning to drill a new exploratory well, Arcada-1x, located in its acquisition area "Melehia Field" in the Western Desert. The initial stages of the drilling are expected to start within this month, and the volume of production will be announced later after the evaluation period to estimate the reserves of the well.

Mr. Ahmed Sakr, General Manager of Exploration at AGIBA, said in an exclusive statement to Egypt Oil & Gas, that the cost of investments reached up to \$ 8 million for the current year, pointing that the depth of the new well is 15 thousand feet.

"The company is preparing to apply the development plan in 2011, which includes the

initiation of drilling and exploration in its Western Desert concession," Sakr added.

"We will also drill three wells in the Melehia field and in Ras Qattara block after finalizing the 3D Seismic Interpretation."

Moreover, Sakr declared that his firm will increase the drilling activities and exploration projects in the Western Desert area if the prospect well operation met with success.

AGIBA is a joint venture operating company for exploring, drilling and producing hydrocarbons in Egypt, and the shareholders are The Egyptian



tian Petroleum Corporation (EGPC) and the Italian IEOC (Eni), Ocean Energy (Devon), LUKOIL and Ina Naftaplin as well as IFC.

Al Hamra is back to drilling



Al Hamra Oil Company resumed its drilling activities in its acquisition areas of "Ydma" and "El Alamein", after holding its work last year due to the global recession.

The company started preparing for a new bid to rent a land rig with 2000 hp, to start drilling an exploratory well in deep Jurassic layer, which could change the whole features of company's production map.

The 3D seismic survey already showed positive signs for crude oil.

Naftogaz: new rig for the Abo Senan block



Naftogaz is planning to rent a third rig for its concession area of Abo Senan field, located in the Western Desert, in addition to speeding up placing the wells on the production line, according to the company's drilling plan for this year.

Egypt Oil & Gas exclusively published last issue that EGPC and Naftogaz are in the process of founding a joint-venture company, according to the concluded policy of agreements between the local authority and the foreign partner, after discovering the HG34-3 well, that nearly produces 3000 barrels of crude oil and 4 million cubic feet of gas per day.

Naftogaz expects another discovery in another well, HG34-5 in the same field of Abo Senan.

The budget of investments of Naftogaz counts for \$3 million, while the company's drilling budget was set last April to 300 million Egyptian Pounds.

Khalda finished drilling Phiops-6

Khalda Petroleum Company is continuously drilling the effective exploratory wells in its acquisition area in West Kalabsha Concession. Moreover, Egypt Oil & Gas knew that the company has successfully completed drilling and examining the exploratory Phiops-6 field which produces a rate of 5500 barrel of oil per day. Besides, the produced oil is considered the type of light high quality oil; the API gravity reaches 40 degrees.

The company is planning to place this field on the production map as soon as it can in order to increase the daily output rates of the firm.



Khalda Petroleum Company is a joint venture between the Egyptian General Petroleum Corporation (EGPC) and Apache Corporation.

FDC obtains Mubarak-4 for \$ 12.5 million

The Fields Development Company (FDC) bought Mubarak-4 rig from the Egyptian-Chinese Company for Manufacturing Onshore Oil Rigs. Mubarak-4 was sold for \$12.5 million, and said EOG learnt that it will be used in drilling Badr El Din Petroleum Company's wells (BAPETCO), which is a joint venture company between Egyptian General Petroleum Corporation (EGPC) and Shell.

Moreover, EOG also learnt that FDC is negotiating to buy Mubarak-5 rig after placing Mubarak-4 in the process of drilling, in an attempt from the firm to expand its activities that launched from nearly year and half.

It's worth mentioning that Egyptian-Chinese Company has already sold Mubarak-1, 2



and 3 to Sino-Tharwa Drilling Company.

Rashpetco - Burullus: advanced geophysical technology in Sequoia field

The West Delta Deep Marine (WDDM) & Rosetta concessions, offshore Nile Delta, have seen prolific exploration and development projects since the mid 1990's. A significant proportion of Egypt's domestic gas supply is produced from these concessions, operated by Rashpetco/Burullus on behalf of the partners EGAS, BG, Petronas and Edison.

The Sequoia development consists of the drilling and tie-back of six new development wells in a large gas field on the western side of the WDDM and Rosetta Concessions. The field straddles both concessions and as a consequence the development is a joint project between two different partner

groups, each of which has its own separate facilities, export route and market sales.

The Sequoia field is covered by a state-of-the-art high density, long offset 3D dataset. An Elastic Impedance Inversion project was undertaken by CGG with a variety of geophysical cubes being produced, e.g., Poisson Ratio, RHOB, Facies. The integration of these seismic volumes with the existing E&A well data and through understanding of the geology of these Pliocene turbidite channels has allowed precise targeting of the six development wells to meet the targets and objectives for efficient reservoir development and productivity.

Hess Corporation is looking for a new rig



Hess is preparing to successfully end all the bids' procedures necessary for drilling its first exploratory wells in its Red Sea acquisition area. The bids include a bid for leasing an offshore rig with an estimated cost by nearly \$400,000.

Moreover, Hess is planning to another assured exploratory well, and another optional well. However, it will depend on the results of the first well.

Burullus Gas Company: Sapphire field enters the development phase

Burullus Gas Company said that the Sapphire field in the West Delta Deep Marine concession (WDDM) has been on production since 2005 and has entered a new phase of development. The WDDM Phase 8A drilling development campaign has already delivered three successful satellite wells, and two further wells will be drilled in the main field area and tied back during 2010 and 2011.

The Sapphire field is a complex reservoir of lower Pliocene age, currently producing from eight wells with four single zone and four dual zone completions in several stacked reservoirs, due to the complexity of the reservoir architecture, completion types and subsea infrastructure a full field geocellular model has been constructed for the purpose of development planning and well design. The model has been history matched with production data from the existing development wells. Since the early phases of the project, high resolution seismic data has been acquired and a seismic inversion study has been performed. Attributes from the inversion study have allowed improved reservoir definition, particularly determining the spatial distribution of massive sandstone beds. The planned infill wells are aimed at accessing gas in compartments that are considered to be undrained by existing wells.

The main field is surrounded by a number of smaller satellites, three of which have been drilled since mid-2009 and found gas bearing. A significant amount of gas in place has been added to the available resources and will be tied back to the shore over the coming period.

Sherif Sousa to lead GPC

Eng. Sameh Fahmy, the Egyptian minister of Petroleum, issued his orders to bring some movements to the head of General Petroleum Company (GPC) and some other companies. Eng. Sherif Sousa was promoted to be the chairman of the GPC instead of Eng. Reda Moustafa.

Sousa was the CEO of Rashid Petroleum Company (Rashpetco) before becoming the CEO of GPC. Besides, Eng. Raafat El Beltagy was appointed to fill Sousa's place in Rashpetco.

Another move saw Eng. Kamal Gabal-

lah, a previous operation manager of Abu Qir petroleum company, becoming the CEO of North Alamein Petroleum Company and to replace Dr. Mohamed Ali Badawy, who reached the legal retirement age.

Moreover, Eng. Abed Ezz El-Regal, who was the General Manager of production facilities in EGPC, replaced Eng. Ashraf Mekawy to lead North Sinai Petroleum Company (NOSCO). Mekawy turned out to be the CEO of South Dabaa Petroleum Company, replacing Eng. Amin Amer who reached the legal retirement age.

Hill receives a \$200 million contract for Natural Gas facility

Hill International, the global leader in managing construction risk, announced that an affiliate company, Hill International Petrol Egypt, E.S.C. (Hill Petrol), has entered into a contract with the Egyptian Natural Gas Holding Company (EGAS) to provide project management services for a new \$200 million natural gas compression station in Dahshur, Egypt. The one-year contract has an estimated value to Hill Petrol of \$1.0 million.

The new compression station will help EGAS meet the increasing industrial demand for natural gas in Egypt and allow access to new fields. The station will enable maintenance of the required pressure in the Upper Egypt Pipeline to ensure the continuous supply of natural gas to industrial and commer-

cial users along the pipeline route.

"We are very pleased to be chosen for this assignment and we will work hard to ensure the success of the project," said Aly Thabet, Chief Executive Officer of Hill Petrol.

"Hill's project management resources coupled with the technical and local knowledge of EGAS creates a very strong project team," Thabet added.

Hill International Petrol Egypt, headquartered in Cairo, provides project and construction management services primarily for oil and gas projects located throughout the Middle East and Africa. Hill Petrol is a joint venture company of Hill International, the Egyptian Natural Gas Holding Company (EGAS) and the Egyptian Natural Gas Company (GASCO).

Dana Petroleum: Block Farm-in Opportunity in Egypt

Dana Petroleum (Egypt) is seeking partner(s) to farm-in to the Ras Abu Darag Block, Egypt, to join them in their 2010/11 exploration drilling pro-



gram in the Ras Abu Darag Concession, situated in the northern offshore part of the Gulf of Suez. This lays immediately on-trend and north of the proven producing part of the Gulf.

Dana has identified 8 key prospects and leads with new 3D seismic in both the shallow Miocene Asl Sandstone Syn-Rift Play and the deeper early Cretaceous Nubian Sandstone Pre-Rift.

Companies are invited to contribute (before the start of the 3rd Exploration Phase in July 2010), to the planned drilling program required before the end of 2011.

This is being planned to include both the 4X well (to test the deep 'A' prospect - est. 115 MMbbl reserve potential) and the subsequent shallow 5X well.

Dana is offering up to a 60% interest in the Concession in return for a negotiated contribution to the first 4X well (est. gross cost US\$ 30 mm) but only an equity contribution to the 5X well (gross US\$ 6 million).

BP and the Ministry negotiate to raise the gas price

The Egyptian Petroleum Ministry entered intensive negotiations with BP (British Petroleum Company) to reach an agreement to amend the price of gas in the North Alexandria concession, for the second time in three years, in order to speed up the process of pumping up investments estimated by \$8.5 billion to develop the field.

"BP asked for raising the price of gas produced from the field, to about \$7 per million Btu, as the current price of \$4.5 per million Btu is not suitable nor encouraging, as the field has reserves reach up to 5 trillion cubic feet of gas," an official source within the ministry said.

"BP believes that the high cost and investments operations with low gas prices in the current agreement would cause the banks to find it difficult to grant credit facilities, giving it no chance to guarantee bigger return in the future," said the source to Al-Masry Al-Youm.

He added that the British company told the Petroleum Ministry that it won't be able to start production from the field this year due to the global economic crisis, and the weak financial facilities offered by the banks, pointing that BP asked for extending the deadline till 2014, which the People's Assembly has agreed on.

The Cabinet previously reached an agreement, back in 2007, with both the Egyptian Natural Gas Holding Company (EGAS) and BP to allow for the first time the raise of the gas price produced from the North Alexandria field from \$2.65 to \$4.5 per million Btu.

West Kalabsha I-1X produces 4,554 barrels of oil, 10.1 MMcf of gas per day

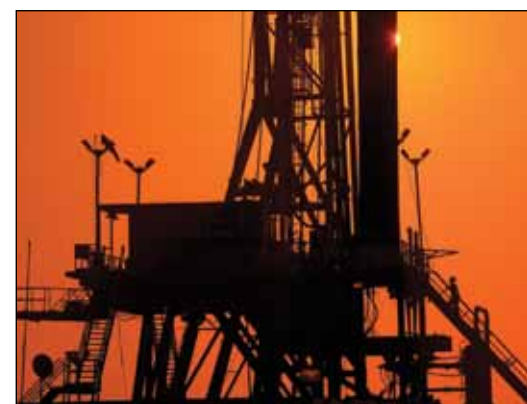
Apache Corporation announced the West Kalabsha I-1X discovery in the Faghur Basin of Egypt's Western desert. The well, located approximately 10 miles southwest of Apache's Phiops Field, test-flowed at a rate of 4,554 barrels of oil and 10.1 million cubic feet (MMcf) of natural gas per day from 105 feet of net pay in the Jurassic Safa formation.

As a result of Apache's oil-focused exploration program, the West Kalabsha I-1X is the most recent in a series of oil discoveries in the Faghur Basin. Currently under way is an expansion of processing and transportation infrastructure projects that will enable production capacity in the Faghur to rise from 8,100 barrels per day to 40,000 barrels per day in late 2010.

"Apache previously established production in the Safa formation at West Kalabsha-C and Phiops in the Faghur Basin," said Tom Voytovich, vice president of Apache's Egypt Region.

"This most recent discovery solidifies the Jurassic Safa as a primary objective in the basin. The well, on a structure identified by 3-D seismic, encountered pay in over 200 feet of total sand, demonstrating the potential size of Safa accumulations in the Faghur. This discovery certainly adds a new dimension to our exploration focus.

"West Kalabsha is proving to be a fertile hunting ground; with the ongoing infrastructure expansion, the time from concept to actual production should be shortened dramatically," Voytovich said. "We have two new 3-D seismic surveys completed in the basin, and we are about to begin acquisition on our largest survey



of the year to the west, along the trend established by recent discoveries, in an area where no previous 3-D data exists but regional 2-D data indicates promising geological features."

Apache owns a 100-percent contractor interest in the West Kalabsha concession and has plans to drill four more exploratory wells targeting the Alam el Bueib (AEB) and Safa formations in the Faghur basin during 2010. Apache plans to drill an appraisal test two miles southwest of the latest discovery before full development plans are formulated.

Increased oil output from the Faghur Basin is forecast to be one of the key drivers of Apache's 2010 production growth - along with the Van Gogh and Pyrenees oil field developments in Western Australia - and reinforcing Apache's strategic commodity balance. Apache has projected 5 to 10 percent production growth in 2010. Liquid hydrocarbons accounted for 50 percent of Apache's 2009 global production and 72 percent of revenues.

Quotes

"West Kalabsha is proving to be a fertile hunting ground with the ongoing infrastructure expansion, the time from concept to actual production should be shortened dramatically"

Tom Voytovich, Vice President of Apache's Egypt Region, commented on West Kalabsha I-1X which produces 4,554 barrels of oil, 10.1 mmcf of gas per day

"We are delighted with the successful hook up of the Al-Amir SE-5 well. The partners agreed on the 2010's budget and the way forward for the future which will see both a stable and increasing revenue stream for all partners"

David Hough, CEO of Circle oil

"We are excited to have been awarded the first exploration license outside Greece, in a country with long history in the upstream sector"

Mathios Rigas, President & Managing Director of Aegean Energy, celebrating the entry to the Gulf of Suez

"Hill's project management resources coupled with the technical and local knowledge of EGAS creates a very strong project team"

Aly Thabet, CEO of Hill Petrol, commenting on the \$200 million contract for Natural Gas facility

"The British companies can help Egypt meet its growing demands of Energy as there is a combination of interest between both sides,"

Dominic Asquith, The British Ambassador to Egypt, told Egypt Oil and Gas



Total and Partex eye Oman prizes



France's Total and Portugal's Partex both plan to bid for oil and gas exploration blocks that Oman plans to auction, according to an executive from the companies.

"Total is particularly interested in the offshore exploration block, one of the 11 concessions planned this year by the government," Bertrand Huillard, group representative for Total in Oman, said on the sidelines of an industry event in Oman, according to a Reuters report.

Previously it was announced that Oman plans to offer 11 oil and gas blocks for bidding by the end of this year. The country is relying on the expertise and investment provided by foreign energy players to help boost output.

Total is already active in Oman, holding a 4% stake in the country's largest oil company, Petroleum Development Oman (PDO). Partex holds a smaller 2% stake in PDO.

Gazprom to take stake in Eni's Libyan project



Russia's Gazprom agreed with Italy's Eni on conditions to take a stake in the Elephant oil project in Libya, RIA Novosti reported.

The report said that Gazprom is to take half of Eni's stake in the deposit with recoverable reserves of around 700 million barrels or a total of 33% in the project in exchange for Eni taking part in projects to develop northwest Siberian assets owned by the Arctic Gas Company.

The El Feel (Elephant) oil field is located onshore Libya in the Murzuq Basin. The field was discovered in 1997 and produced about 125,000 barrels a day in 2006.

"The parties will prepare a corresponding agreement in the coming days and submit it to the Libyan government for approval," Gazprom said in a statement.

The talks between Gazprom and Eni started back in April 2008 as part of an accord signed in 2006 to strengthen ties between the two companies.

PetroChina sets sights on the Middle East

PetroChina, China's top energy company stated that it plans to boost its presence in the Middle East in a move intended to increase foreign production to meet a shortfall from domestic fields.

The company will be having Iraq and Iran as its main targets, with focus on five projects, the Ahdab, Rumaila and Halfaya oilfields in Iraq, and the North Azadegan and Masjed Suleiman fields in Iran.

"Entering the Middle East market had been the ambition of several generations of Chinese oilmen, given the region's importance in the oil and gas industry," said Jiang Jiemin, Chairman of the Board of Directors of PetroChina.

Jiang added that the development of Halfaya would start in the second half of this year. The company now owns a 37.5% stake,

with French giant Total and Malaysia's Petronas each holding a 18.75% stake and the 25% balance held by Iraq's South Oil Company. PetroChina already

started drilling at Iran's South Pars gas project to evaluate the reserves for the field's Phase 11 development, though limited access to key liquefying gas technologies due to US sanctions is proving problematic.

PetroChina's production hit record 69.6 million tonnes of oil and 8.2 billion cubic meters of natural gas last year, which considered an increase from 2008 of 12% and 22%.



ADROK strengthens technological expansion into the Middle East

Scottish company Adrok Group Ltd signed a deal with Oman's International Business Development Company LLC (IBD Group), to expand its services into the Middle East.

Adrok, based in Edinburgh, has developed revolutionary technology known as the Atomic Dielectric Resonance (ADR) Scanner, which has the ability to identify and image any substance down to molecular or atomic level.

The technique provides exploration companies and operators with the capability to pinpoint the location of hydrocarbons before costly drilling programs begin. ADR also has the ability to quantify oil or gas reserves, give insights into the mix of sand and water, map geological structures to a higher resolution and undertake scans of large remote areas.

Companies specializing in natural resources (oil, gas, water and minerals) can use this data for subsurface exploration, to develop new reserves, and to monitor their producing fields.

The technology is currently being used primarily during onshore exploration although some offshore activity has been undertaken. The agreement with IBD Group will involve Adrok's technology being licensed to the Group who will provide the ADR Scanner directly to

oil and gas companies in the region.

Gordon Stove, ADROK Managing Director, said, "The new partnership with IBD marks a critical milestone in the firm's expansion into international territories. The Middle East is a key target for ADROK and IBD will undoubtedly assist us in building enhanced access to market opportunities, reduced operating costs and utilization of local resources in the region."

Reaching depths of up to four kilometers, the technology works by learning how different substances – including hydrocarbons – interact with the light waves passing through them, which are then reflected back to the surface.

IBD Group, based in Oman, was formed to assist and facilitate local and international companies in providing services and products in the Middle East. CEO, Sayyid Mohammed Al-Said highlighted, "This technology has the potential to change the way oil & gas companies conduct business, not only in new exploration but also in finding the oil or gas that was left behind in old fields. I believe the technology will significantly contribute to reducing oil or gas extraction cost, which would translate into savings in overall cost to the end user. We are excited that this partnership will bring the technology to the Middle East."

BP receives first major contracts for Rumaila rehabilitation



BP, on behalf of its partners in the Rumaila Technical Services Contract, announced the first major contracts to support the rehabilitation of the Rumaila field in Southern Iraq. Formal contracts will be signed in due course. Three contractor groups were selected for drilling wells, worth around \$500 million in total and will provide seven additional drilling rigs from the second half of 2010.

The contracts will be awarded to Schlumberger (in partnership with the Iraqi Drilling Company has been awarded contracts for three rigs), Daqing Drilling (also awarded contracts for three rigs), and Weatherford (awarded a contract for one rig).

These contracts supplement drilling contracts already in place on Rumaila provided by the Iraqi Drilling Company and Weatherford. Around 70 wells expected are to be drilled on Rumaila this year.

Two-year contracts, worth a total of around \$100 million, have been awarded for the supply and installation of electrical submersible pumps (ESPs) and associated services to Centrilift, Al-Khorayef Petroleum. Cameron will supply the associated trees and wellheads.

The contractors were selected after a competitive bidding process and the awards endorsed on March 24th in Basra by the members of the Rumaila Joint Management Committee comprising BP, CNPC, the Iraqi State Oil Marketing Organization and the South Oil Company.

"We are pleased to announce these contracts at competitive market rates and meeting the highest technical specifications," said Michael Townshend President, BP Iraq. "We are confident that all of the companies will bring the operational and safety standards which will help us achieve our production targets in Iraq for 2010 and beyond."

Statoil and ExxonMobil join forces in Tanzania

Statoil signed an agreement with an affiliate of ExxonMobil to transfer 35% of its interest in Statoil operated Block 2 in Tanzania. Statoil now holds 65% interest in the 11,099 square kilometers block.

"Statoil is looking forward to working with ExxonMobil in our frontier acreage offshore Tanzania. This is a deep-water environment and both companies have extensive deepwater experience," said Tim Dodson, Senior Vice President for Exploration.

The agreement, executed between Statoil Tanzania AS and ExxonMobil Exploration and Production Tanzania Limited, was approved by the Tanzania government on 9 March.

Statoil signed a Production Sharing Agreement on 18 April 2007 with the Government of the United Republic of Tanzania and the Tanzania Petroleum Development Corporation (TPDC).

Offshore Tanzania is considered a frontier exploration area. A phase of 2D seismic acquisition was completed in 2008 and the acquisition of a 3D seismic survey was completed in February this year.



Halliburton snaps up Boots & Coots

Halliburton and Boots & Coots jointly announced that Halliburton entered into a definitive merger agreement to acquire all of the outstanding stock of Boots & Coots in a stock and cash transaction.

Marc Edwards, Halliburton's Senior Vice President of Completion and Production, said, "Optimizing economic production levels in both mature assets and unconventional gas resources requires increasing levels of pressure control and well intervention. The combination of Halliburton's global hydraulic workover and coiled tubing deployed technologies, together with Boots & Coots' well intervention and pressure control services will help us improve full life cycle returns for our customers. This is a natural addition to Halliburton's extensive completion and production enhancement portfolio, further enabling integrated project workflows with improved reservoir recoveries."

Following completion of the transaction, a

new product service line within Halliburton will be created to include Halliburton's existing coiled tubing and hydraulic workover operations and Boots & Coots' intervention services and pressure control business. Boots & Coots' management will be retained to lead Halliburton's Boots & Coots product service line with operating results reported through Halliburton's Completion and Production reporting segment. Halliburton expects the acquisition to be accretive in the first full year of operation.

"Halliburton's legacy of innovation coupled with its integrated service capability complement Boots & Coots' focus on delivering a complete portfolio of pressure control and well intervention services," said Jerry Winchester, Boots & Coots President and Chief Executive Officer. "Combining the resources of both companies creates the premier intervention company across the globe."

Hess sells off to SSE

Scottish and Southern Energy plc (SSE), through its wholly owned subsidiary SSE E&P UK Limited, has entered into an agreement with Hess Limited to acquire its natural gas assets and infrastructure in three regions of the North Sea (Everest/Lomond Area; Easington Catchment Area; and Bacton Area).

SSE will pay a total cash consideration of \$423million for Hess' assets. The transaction is subject to the receipt of all necessary partner and regulatory approvals.

The total gas and liquid resources, which SSE is acquiring, total around 383billion cubic feet (bcf) or 64million barrels of oil equivalent (mmboe). The headline transaction price for these resources is \$6.6/barrels of oil equivalent (boe) or \$1.1/million cubic feet (mcf). Additional, less certain resources of gas may also be identified through further exploration. The main production asset operators are BG Group, BP and Perenco.

SSE currently needs on average around 1300 mcf of gas per day to supply its customers and to

fuel its power stations and gas from the acquired assets will provide around 8% of that initially, declining over the next 10 years.

While the upstream gas assets represent the large majority of the transaction, SSE will also acquire a number of other assets from Hess including its 17.7% equity interest in the Central Area Transmission System (CATS) pipeline, which delivers over 10% of the UK's total gas demand through a 400km pipeline from the central North Sea to a processing terminal in Teesside. The CATS pipeline is operated by BP.

Ian Marchant, Chief Executive of SSE, said, "This timely acquisition will enable SSE to enter the upstream gas sector in a measured way by buying proven and geographically diverse production assets. These assets will provide a new source of primary fuel and a hedge for our gas generation and supply activities. The acquisition will also give us involvement throughout the gas chain-production, transmission, storage, distribution and supply."

Schlumberger Acquires IGEOSS

Schlumberger announced the acquisition of IGE-OSS, a developer of cutting-edge structural geology software. The IGEOSS applications and expertise will be integrated with existing Schlumberger software to advance customers' modeling capabilities, particularly in areas with complex geology.

"Recognizing that our clients are exploring and developing in increasingly complicated geologic settings, the IGEOSS software will—in combination with the industry-leading Petrel and Petro-Mod technologies—enable geoscientists to gain the best possible understanding of the complete

petroleum system throughout their exploration, development and production workflows," said Tony Bowman, president, Schlumberger Information Solutions (SIS).

Laurent Maerten, co-founder and president, IGEOSS, added, "Geomechanics and structural restoration have traditionally been in the hands of the specialist. By incorporating these technologies into the SIS offerings, a broader community of geoscientists will have access to these capabilities to help them solve the difficult challenges they're encountering today."

This acquisition continues the SIS strategy to invest in core technologies to enhance modeling of challenging environments. The IGEOSS capabilities will be embedded in the Petrel software to help geoscientists better understand fractured reservoirs and the impact of stress regimes over time, particularly in sub-salt, compressional and shale gas plays.

Founded in 2004, IGEOSS is an international provider of geomechanical solutions for subsurface modeling, 2D and 3D structural restoration and fracture characterization of complex geologic structures. IGEOSS is headquartered in Montpellier, France.

Baker Hughes' \$5.5 billion bid for BJ Services approved

Shareholders of oil service companies Baker Hughes and BJ Services have approved the companies' plan to merge.

Baker Hughes announced in August that it would buy BJ Services in a cash-and-stock deal valued at \$5.5 billion. The combined company is expected to provide a one-stop shop for a variety of oilfield services, and allows Baker Hughes to diversify its product offering and to compete better with rivals Schlumberger and Halliburton.

The companies, both based in Houston, said that they expect the merger to close in early April following approval by federal regulators.

Morocco's new solar project to generate 200 MWs

Morocco, the North African country with no oil reserves, aims to undertake an ambitious plan of producing 40% of their energy needs via solar energy.

The country plans to spend \$9 billion to generate 2000MWs of energy by 2020, through five solar power stations situated in the regions of Ouarzazate, Ain Bni Mathar, Fom Al Oued, Boujdour and Sebkhah Tah. The first station is expected to become operational by 2015.

Morocco's Finance Minister Salaheddine Mezouar wants the world to perceive Morocco as an environmentally friendly country. He said, "The project sends a very clear message in the current situation, which is dominated by the need to face up to the challenges of climate change." The minister added, "Morocco is determined to protect the environment in all its future projects."

Morocco's authorities are assured of the success of this project. Energy Minister Amina Benkhadra said, "This is a bold but realistic project. We will guarantee all the technical and financial resources to make it succeed."

This country's politicians are eager to cut its dependence of foreign oil and gas imports and save money and to leave green footprints in the sands of time. For the project, Morocco is mobilizing multiple financing sources and partners. Morocco can get help for this project from the World Bank, the European Commission and Germany and Desertec.

Desertec is a coalition of 13 energy and technology companies aiming for a renewable energy grid in Africa and afterward shipping the energy to Europe.

Said Mouline, Director of Morocco's Centre for Renewable Energy Development, highlighted, "This project will help Morocco reduce its greenhouse gas emissions by 3.7 million tons of CO₂. This will help us play our role in mitigation of climate change." He said again, "Clean energy projects such as this will create many new jobs in the areas selected for the solar plants as well as boost the country's scientific expertise in the field of solar energy."

Now the Arab countries are waking up to the reality of oil reserves. They too want to trap the power of alternative sources of energy. Algeria, Qatar, Tunisia and Saudi Arabia, Jordan, Syria and Tunisia are all making fruitful efforts to utilize the power of sunlight.

The Energy Minister stressed that they will use the state-of-the-art technology available in the market. She says, "We look for the most sophisticated technology available in the world to use for this project."

Total joins the Positive Energy Consortium

Total announced that it has joined the Positive Energy Consortium. Created in October 2008, the consortium brings together businesses - each an acknowledged expert in its field - working on the challenges related to the buildings of the future. Its aim is to reduce energy use in future office buildings, increase their capacity to produce energy from renewable sources, and optimize the carbon footprint of buildings over their life cycle.

Total will lead the working group on integrating photovoltaics in office buildings. Photovoltaics technology can be used with other solutions to create positive energy buildings, which produce more energy than they use.

"In adherence to the Positive Energy Consortium, we would like to bring our know-how in the field of photovoltaics and share our expertise with the other consortium members and specialists," commented Philippe Boisseau, President, Total Gas & Power. "Our objective is to actively contribute to projects that allow us to more effectively manage fast-growing energy demand while reducing greenhouses gas emissions."

Total has been active in solar energy since 1983 through its interests in two companies, Photovoltch and Tenesol. Photovoltch, in which Total holds a 50% interest alongside GDF SUEZ, produces photovoltaic cells based on a crystalline silicon technology. Tenesol, in which Total holds a 50% stake alongside EDF, specializes in designing, manufacturing, marketing and operating photovoltaic solar energy systems. In December 2008, Total became the biggest shareholder in U.S. startup Konarka, which develops products based on organic solar technologies. Total's stake is now nearly 25%. Total is also conducting significant R&D through partnerships with world-class laboratories in France, such as the Laboratoire de Physique des Interfaces et des Couches Minces (LPICM - Interface and Thin Film Physics Laboratory) at the Ecole Polytechnique engineering school and the Toulouse-based Laboratory for Analysis and Architecture of Systems (LAAS), as well as in the United States, Switzerland, Belgium and Germany.



Renewable Energy

All lies in the infrastructure Part V

Although the Egyptian Ministry of Petroleum has suspended new gas contracts since June 2008, waiting for a stabilized world price, Egypt has been engaged in many gas export deals and projects, which necessitate a continuous development of the country's gas infrastructure

By Yomna Bassiouni

Egypt's gas export infrastructure includes mainly two cross-border gas transmission pipelines, which are Arab Gas Pipeline and Marine Pipeline. The first, linking Egypt to the East Mediterranean region, was initially an agreement signed between Egypt, Syria and Lebanon in December 2000, joined later on by Jordan in January 2001 and then Iraq in September 2004.

It is worth mentioning that Jordan and Egypt signed in June 2001 a gas sales agreement for the supply of the Egyptian gas to Jordan. This agreement has been effective since July 2003, when Egypt started first as exportation to Jordan after the completion of the first phase of this gas pipeline project.

The Arab Gas Pipeline consisted of three main phases; Phase 1 from Arish (Egypt) to Aqaba (Jordan)/36"-264 km completed in July 2003, Phase 2 from Aqaba to Rehab (Jordan)/36"-394 km completed in February 2006 and Phase 3 from Rehab to Syria/36"-30 km completed in February 2008. The capacity of this project is approximately 10 billion cubic meters per annum (bcm pa).

Egypt's total gas exports to Jordan counted for 2.5 billion cubic meters in 2007/2008. This number is to increase by approximately 4 billion cubic meters over the next five years.

Moreover, Egyptian gas exports to Syria are planned to reach 2 bcm per year by 2014, while exports to Lebanon will count for 0.6 bcm.

According to plans, the Arab Gas Pipeline will be

extended to Turkey through a 220-km 36" line from Homs/Aleppo in Syria to the Syrian/Turkish border.

In addition to the Arab Gas Pipeline, Egypt is engaged in the Marine Gas Pipeline, which links the country to Israel. This second cross-border gas pipeline has triggered a wide wave of opposition and criticism from the Egyptian society and has led to a considerable number of controversies and various lawsuits were filed to stop this project.

Back to August 2005, the East Mediterranean as Company (EMG) and Israel Electric Corporation signed an agreement to import an average of 2 bcm per year of Egyptian gas over the coming 15 years, starting in 2008. Gas is transported through the recently commissioned Al-Arish-Ashkelon pipeline; a 100-km submarine gas pipeline connecting the two countries. The Marine Gas Pipeline, started commercial operation in May 2008, is reported to have an average capacity of 7 bcm per year.

It is worth mentioning that EMG is an international consortium consisting of: Mediterranean Gas Pipeline Limited (Egyp/Israel/USA) 28%, PTT of Thailand 25%, Ampal-American Israel Corporation 12.5%, Zell/Fischer of the USA 12%, EGAS 10%, Merhav Group of Israel 8.1% and Merhav Ampal Energy Holdings (Israel/USA) 4.4%.

Refining comes along!

While paying great attention to the gas export infrastructure, Egypt is developing and expanding as well the oil-refining sector. There are nine

refineries holding the country's total capacity that exceeds the 700 thousand barrels per day (bpd), which are Alexandria Petroleum Processing Company (Mex), Ameriya Petroleum Refining Company (Ameriya), Assiut Petrochemical Refining Company (Assiut), Cairo Petroleum Refining Company (Mostorod), Cairo Petroleum Refining Company (Tanta), El-Nasr Petroleum Company (Suez), El-Nasr Petroleum Company (Wadi Firan), Middle East Oil Refinery (Sidi Kerir) and Suez Petroleum Processing Company (Suez).

MIDOR is the country's most recent oil refinery that added its 100 thousand barrels per day share of the total refining capacity. Commissioned in 2001, MIDOR was originally a joint venture between private Egyptian and Israeli companies, but the latter sold their interests to the National Bank of Egypt in 2001 and EGPC is currently the main shareholder.

The remaining eight other refining companies are entirely owned subsidiaries of the EGPC.

Currently, an ambitious expansion plan is underway to increase the capacity to over one million barrel per day. These expansions include the following:

- Egypt Refining Company (CITADEL): is currently being developed at the Mostorod Complex and expected to be completed by the end of 2011 with an annual capacity of 4.1 million tons of refined products (of which 2 million tons will be high quality diesel). Preparatory work on the project started in September 2007 following the award of a project management contract to Wor-

ley Parsons and the award of the main engineering procurement and construction contract to a joint venture between Japan's Mitsui and South Korea's GS Engineering and Construction.

- Sokhna Refinery and Petrochemicals Company: is to build a 150 thousand barrels per day refinery at El-Sokhna, which is the terminal for tankers offloading crude oil to be transported through the SUMED crude oil pipeline to Sidi-Kerir on the Mediterranean coast. This refinery is planned to produce gasoline and diesel for the road transport market in Europe and Asia. Currently, the implementation of front-end engineering and design (FEED) studies are carried by Foster Wheeler of the US and Germany's Uhde. This company is a consortium of EGPC, Kuwait investors and other international bankers.

- MIDOR El-Suez Company: plans to develop a refinery in El-Sokhna Free Zone with a capacity of a 140 thousand barrels per day to supply the domestic market with diesel and fuel oil.

- Essar Company: this Indian company is still in the preliminary stages of developing a 300 thousand-barrels per day capacity refinery, located in the north of Egypt.

- Saudi Alpha Project: will include petrochemicals complex and a 400 thousand-barrels per day refinery.

The above-mentioned projects are expected to increase Egypt's refining capacity from the current 700 thousand barrels to more than one million barrels.

To be continued...



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Statoil's offshore faith

We can manage the challenges since our goal is to be successful in developing our position in the offshore of Egypt, Anders Kullerud, General Manager of Statoil Egypt, emphasized.



1. Evaluate Statoil's investments in the Mediterranean Sea?

We have two offshore licenses in the Mediterranean of Egypt, Ras El Hekma Offshore (Block 10) and El Dabaa Offshore (Block 9). We also have one drilling commitment in El Dabaa concession. Besides, we have fulfilled the 2D and 3D seismic commitments. So, we are getting closer to start operation. And we hope to start operation at the very end of this year.

2. Are there any new acquisitions in the near future?

We are looking for business opportunities in Egypt and constantly looking into what are the options. We believe that there are potentials in the offshore of the Mediterranean; we certainly would like to be a part of this competition for the new resources in that area. So, we do have an active monitoring of the situation and also to pursue opportunities if we can see great opportunity for our business.

3. What is your impression about the Egyptian Petroleum sector? What are the main obstacles or what are the major motivations behind encouraging you to invest more?

I've been here for only three months so I'm still in the process of familiarizing myself. At least in this part of time, I think my impression regarding the business environment is very good and the commercial environment is good. I feel that there is a good communication between the IOCs and the government; of course there are challenges as far as I've experienced like in the gas pricing. For us, we are in a very

early phase, the exploration phase, and we have not met any major obstacles. Our business communication with the ministry and EGAS has been very good. Besides, there is a good understanding over challenges and there were flexibilities on both sides. But again, we are still in a very early stage. So, we have not gone in this development phase.

4. What are the most important conditions in the agreement between Statoil and EGAS or EGPC?

At the moment, there are not any. We've signed this contract in 2007 and it was an exploration and production sharing contract. At the present time, we don't see any need to make any amendments. However, in 2011 we have to decide if we want to implement to the next phase of the contract or make any amendments.

5. How do you evaluate the production facilities in the Mediterranean?

It's too early for us to decide or start assessing the production facilities as we are still in the exploration phase and especially we are remote in the western side of the Mediterranean. But after this phase, we will certainly have some challenges if we are going to develop. Awaiting to drilling in deep water, deeper than 1000 to 2000 meters, any development in this depth is considered a challenge. We have the experience and this is a part of core competence to explore, develop and produce in deep water. But it is too early to discuss any development concepts and it depends on the discovery and the resources. There are a lot of options and we have to consider the local situation.

6. Is the high cost of the deep drilling in the Mediterranean considered the main reason behind the poor production facilities or had a bad effect on the production facilities?

No, I don't think so. I think deep-water's production facilities or assets do have a really good return. So, the cost level is high but the reward is also high but you need big discoveries. The drilling of this deep water well will be quite expensive but it'll pay back because we will strike resources that are big enough to pay.

7. Regarding the joint operation, what are the facilities that the ministry provides?

We are in many partnerships around the world. I think we can provide our experience and our technology, and the government can provide us with the local knowledge and this is very important. So, I think by working together we have a mutual interest as it is difficult to be successful unless we have a joint-operation.

8. What are the main obstacles facing Statoil in drilling in the Mediterranean?

The challenges are the deep water and experiencing the high pressure. So, it might be complex to drill and we have to make a very careful planning. It's not a straight forward drilling operation. In other places, we may be drilling in

a very normal drilling regimes or temperature regimes. Nevertheless, they are not obstacles as we can manage it but they are challenges and we have to be careful.

9. What are the latest technologies Statoil using in drilling in the Mediterranean?

The really new technology comes in when there is a discovery or when we want to start developing the field. And we are now one of the major players in deepwater drilling worldwide. When we make a discovery, we can apply a lot of technologies that we have a lot of experience of, that's why we have a focus on deep water. So, we believe that we are able to handle it in a very efficient way.

10. Is your company interested in any specific coming bids offered by EGPC or EGAS?

Sure, we are considering participating in future bids in the Nile Delta. Of course, we have to evaluate each round and see if there is a potential. So, we can never guarantee anything, but what we can guarantee is that we have an active group of geo-scientists working on this. We'd like to develop our position in Egypt, but again, we may be successful or may be not. But, our goal is to be successful in developing our position in the offshore of Egypt.

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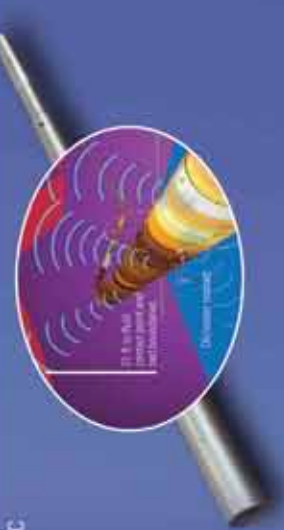
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Schlumberger

Deeper drilling, deeper challenges

With the focus shifting to the potentials of the Mediterranean Sea, the deepwater will be shallow by focusing more on the challenges facing the IOCs at sea

By Tamer Abd elAziz
Ahmed Morsy

Egypt has always been very successful in attracting foreign investment and establishing successful partnerships with the major international oil and gas companies due to many reasons. The success of these partnerships is owing to the continuous support of the Egyptian Government and has been enhanced by many reasons that make Egypt's energy industry an attractive location for investment: its strategic location, the expertise of the state energy company EGPC, economic and political stability and petroleum related legislation.

An important goal of Egypt's strategy is to recognize the full potential of its natural gas resources, much of which lies in the deep water of the Mediterranean. Due to major recent discoveries, natural gas is likely to be the primary growth engine of Egypt's energy sector for the foreseeable future. According to the EIA, Egypt is on its way to becoming a leading supplier of natural gas throughout the Mediterranean region.

However, there are challenges confront the IOCs in the Mediterranean Sea for investing more and develop as well as establishing the production facilities.

"The high cost in the Mediterranean region

is a major obstruction to oil companies

interested in establishing production facilities as a result of the high cost of extracting oil and gas," Eng. Mohamed Nashaat, Assistant Exploration manager at Rashid Co., assured to Egypt Oil and Gas (EOG).

"The specialized authorities should facilitate the procedures for foreign investors in bidding for new concessions in the Mediterranean Sea in order to play a key role in the local market needs for the production of oil and natural gas, and to increase the surplus for export abroad," Nashaat added.

In addition to that he asked for compensating the foreign partner for the high costs which are disbursed in the exploration and extraction of oil and gas by increasing their proportion of profit in the contracts for drilling operations in deep waters.

Dr. Hussein Hussein, Managing Director of OMV (EGYPT) Exploration GmbH, has the same belief.

"The high cost of the deep drilling in the Mediterranean is considered the main reason behind the poor production facilities and had a bad effect on the production facilities," Hussein told EOG.

Asked what he expects from the govern-

ment with regards to drilling in the Mediterranean, Hussein replied: "We would expect encouraging companies with generous Fiscal terms and minimize the Bureaucracy."

On the other hand, an official within EGAS believes that the high cost of deepwater drilling in the Mediterranean Sea is not considered an obstacle.

"The production facilities in the Mediterranean do not present an obstacle for those interested in investing in this area".

He also demonstrated that bid-rounds' rate of success in the past year exceeded 70%, as where there were seven international companies bidding and it was agreed on four of those companies.

He commented by saying: "The role played by EGAS is to overcome the obstacles facing the foreign partners in order to explore and produce oil and gas in the shortest possible time."

He also pointed out that there is a committee which prepares feasibility studies for the promising areas that attract famous foreign companies engaged in exploration processes, and we managed to gain the confidence of those companies by the evidenced of their continuation to work in

the Mediterranean so far.

Moreover, the low natural gas price is also considered as a barrier for companies operating in the Mediterranean in the shadow of the high cost of deepwater drilling.

"The companies are aware of the drilling, production and development in the Mediterranean is very expensive, which represents a major obstacle especially with the low gas prices compared to the price of crude oil," Nashaat said. Besides, he called for a fair price for gas as the global prices of crude oil.

Conversely, the official source within EGAS declared that whenever the IOCs tackle challenges or hindrances, they use their latest technologies to rise above those obstacles.

"The financial crisis was one of the obstacles that have affected the activity of companies operating in the Mediterranean.

"Although it did not significantly affect the activities as companies began to shift from production to maintenance of wells to ensure the preservation of the highest rates of production of natural gas and crude oil. Besides, these companies use the latest technologies to overcome obstacles."

The latest technologies in the Mediterranean

Over the last few years, drilling activities have significantly increased in the Mediterranean. Operators have been mainly focusing on hitting their targets and achieving their well objectives as safely and efficiently as possible. Schlumberger, Halliburton and Weatherford are of the major Service providers in the Mediterranean Sea. Their technologies play a great important role for the offshore operators.

Schlumberger Drilling & Measurements has deployed its multifunction Logging While Drilling Technology "EcoScope", which incorporates decades of Schlumberger experience in providing quality measurements. The new LWD platform is a substantial improvement over the previous versions of LWD tools that were much longer than the current version where one single collar 26 ft long tool combines both drilling and formation evaluation measurements.

EcoScope has stepped a significant leap towards safer and risk free operations. It represents the latest generation of LWD technologies and has been efficiently deployed in the Mediterranean shallow and deepwater operations. Being Safer (Less or No radioactive source, No Lithium Batteries and Single

Collar with Reduced inter-tool connections, Smarter (Closer & Unique Measurements, Collocated Sensors & Unlimited Memory Size) and Faster (Tool Data acquisition accommodates higher ROPs up to 450ft/hr), It has delivered unprecedented data gathering and interpretation with a high data quality and resolution, which have met operators expectations and have proactively contributed to achieve their challenging well objectives as efficiently as possible.

As for Halliburton, Sperry Drilling Services Egypt recently supplied services to BP Egypt on their well Satis-1. At 21,547 feet (6,567 m) Satis-1 is the deepest well drilled to date in the Mediterranean Sea.

In a challenging HTHP environment, SDL supplied a full mud logging service with PPFG service, fast gas and mud gas in, to monitor the well.

LWD supplied for the first time in Egypt a 9 -inch LWD combo (directional-BAT™ sonic-gamma-PWD-resistivity) in the top hole sections. Deeper in the well both 8-inch and 6 -inch high-temperature (directional-BAT sonic -gamma-PWD-resistivity) tools were run. HOT BAT (170° C) was another first in Egypt. After sidetracking the well,

Sperry Drill® 6 ¾-inch motors were utilized to drill to core point.

The Geo-Pilot 9600 series tools with Geo-Span® downlink were mobilized for both the 16 -inch x 20-inch and 14 -inch x 17-inch hole sections, where historically formations had built angle in offset wells. The 16 -inch x 20-inch section was drilled to TD with an average inclination below 0.7° and a maximum inclination of less than 1.15°. During the 14 -inch x 17-inch section the BHA had only a slight build tendency and managed to drill to section TD with less than 1.7° inclination.

At TD a truly vertical well was delivered to the customer. The offset from the wellhead was below 110 feet (33.5 m), giving an average inclination from surface to bottom hole location of only 0.3°.

For Weatherford, as operators seek technologies that are designed and developed specifically to suit the unique needs and challenges of the deepwater environment, the cost benefits become quite significant.

One of the unique technologies used by Weatherford in the Mediterranean is the SurgeMaster tool which is being used by two of the major clients in Egypt: BP and Shell.

The SurgeMaster Diverter tool and auto-fill

float collar are important technologies for running liners and liner-hanger systems in close-tolerance casing programs. For example, they enable an operator to successfully mitigate hydraulic forces created while running into the well an 11 3/4 inch liner inside of 13 3/8-inch casing with little clearance for passing well-bore fluid. Such pressure surges can fracture the formation and cause massive fluid loss.

To reduce pressures the liner system is run in conjunction with a large-bore guide shoe and the auto-fill float collar at the bottom of the string. The SurgeMaster tool is run above the top of the liner system. Running the auto-fill float collar with a large-bore guide shoe allows significant volumes of fluid to move up the wellbore, inside the liner as it is run in the hole. Running the SurgeMaster tool at the top of the liner allows the fluid to pass into the annulus between the drill pipe and the casing above the liner top, reducing and often eliminating surge pressures on the formation during run-in. Upon reaching liner setting depth, the auto-fill float equipment is converted to standard float mode and the SurgeMaster tool's shifting port sleeve is permanently deactivated so that the ports remain closed for the remainder of the liner installation and cement job.





"A company that not only deals with products but also reacts with technology"



DFT

DRILLING FLUIDS TECHNOLOGY

DFT was founded by PICO Petroleum Integrated Services in 2007 to provide the customers with reliable customized and high quality engineering services. Supported by its Lab in Amreya (one of the best Labs in MENA), its HYDPRO Software and having the R&D support of Intertek Caleb Brett Lab in Houston; DFT is providing a full fledge of Drilling Fluids products & systems for WBM & OBM that ranges from traditional to high technology products & systems together with DIF(drill-in fluids) components.

DFT success is a function in performance, improving well integrity as well as enhancing the learning curve which adds to our reputation further diversity.

Mediterranean is the focus

There is a committee responsible for the development of the Mediterranean and it identifies the production and joint production facilities to maximize the use of those facilities in a simple way to reduce the time and work on a common understanding between global partners in the Mediterranean, Eng. Ismail Karara, the former first undersecretary for gas affairs in the Egyptian petroleum Ministry, said.

By Tamer Abd elAziz



1- How can you evaluate the gas industry in Egypt, especially with the MOC conference is around the corner?

I think the success that we reached here in the gas sector is considered a phenomenon, whether in the exploration, drilling, production, or meeting increased local demand. I think we should consider the Mediterranean Sea as God's gift to Egypt.

2- From your point of view as a former governmental official, what are the most important conditions in the agreement between EGAS or EGPC and the foreign partner?

All the agreements include terms and conditions which are obligate to the Petroleum Ministry and the foreign partner. However, there are some terms that can be added to replace others in the contracts concerning the Mediterranean area according to the location of the drilling and exploration fields as drilling in shallow depth is different from in the deep water. Besides, the government is aware that the exploration in the deep water costs more and with more risks; therefore, it observes such facts while signing the agreements.

3-Do you think there are any obstacles facing companies while drilling in the Mediterranean?

The obstacles are represented in the existence of the oil and gas in high depth. Drilling in deep water needs specific drilling tools which require huge investments. Nevertheless, there are no obstructions that can stand in the way of the companies to invest more in the offshore of Egypt. I must point out that the aftermath of the 114 law of the year 2008, which took the companies from under the cover of the free trade zone system, after the firms used not to pay any taxes to the investment system which made some of the firms lose trust to invest more in the area since there were no previous agreements concerning such changes. It also affected on the exploration, development and investments operations not only the refining. Moreover, there are exploration areas necessitates the approvals of other authorities to permit working, although these areas are full pf prospects. And now, there is coordination between authorities in order to resolve this issue.

4- Do you think the future of gas is in the Mediterranean though many said that it's mostly discovered?

This is totally not right! alot of companies

lately are interested in bids offered by EGAS and EGPC for the Mediterranean and that is the opposite of what was happening in the past.

5- What are the main facilities that the ministry provides to meet the high cost of drilling in the Mediterranean?

The ministry has been offering many facilities to the companies investing in the offshore of Egypt. It is represented in the amendments of the gas pricing agreed upon in the previous contracts, to change from \$2.65 to match up with the global prices of gas. In addition to adopting a clear policy in dealing with the foreign partner that makes both sides reach a point of maximum understanding. Hence, when there is a bid round, many companies aim at being the winners specially because there are certain aspects which determines that winner.

6-What are those aspects?

They are many, for instance the time period of the drilling, the volume of the investments to be invested, and the number of wells to be drilled and ofcourse the bonus signature offered by the investor. Besides, the whole process contains motivations and facilities to attract the investor to the country; that what distinguishes us from the other countries.

7-How can you attract the investors?

By the terms in the contracts, the price must be close to the global one. There are also some conditions which allow the ministry buying the share of the foreign partner, in a try to supply the growing local demands. The

price of gas used to be measured comparing to the price of Suez Blend. However, after the global crisis and how the price of oil went higher, we amended the prices to fit with the global price especially in light of the economic crisis that affected the world badly and led to the high cost of oil production.

8-Did the foreign partner demand this change or was it the ministry's way to keep the investors in the country?

The companies did ask to negotiate the old

prices and the ministry had to sit and listen to what they need and subsequently agrees on it. As the costs of production always increases with the boost of the crude's rates. The foreign partner wouldn't develop or even produce, if there were no changes in the prices. So, the ministry always tries its best to have good relation with the firms in order to guarantee providing the needed gas for domestic use.

9- How the natural gas's price is calculated depending on the costs in the Mediterranean Sea?

There is a price equation in the contract which is always revised by the People's Assembly and the Shura Council, and both discuss the fixed formula to set the gas price according to the conditions in the agreement.

10- What is the impact of the global crisis on the drilling activities in the Mediterranean?

Egypt is considered as one of the countries which slightly affected by the global crisis, as the ministry was smart enough to deal with the foreign partners during the crisis. The government granted facilities to the foreign partners as a result of petroleum policy which is characterized by flexibility.

11-But it was said that the ministry was late in paying back the foreign partner?

There was no problem, it was just due to the gap happened after the price of the barrel of oil reached \$ 147, which created this huge gap between the prices, but we managed to cover this gap by scheduling

of such payments.

12-Do you support the approach made by BP to buy Alexandria's north field whole production to meet the local demand? And would you consider it rather than exporting?

As I said before, both the ministry and the foreign partners are looking for their best interest, as for the ministry to cover the local demand, and the foreign partner to benefit from working in the Mediterranean Sea. So,

if the ministry and BP reach an agreement that would provide the mutual interest for both of them, then why not other companies follow that?

13-Do you prefer working with the Production Share System or Taxes System, or other systems, and which do you prefer?

The ministry is always in search for the best system for the Egyptian market. From my point of view, the Profit Share System is the best for our market, which will exempt the ministry from paying back to the partner and it would also give the freedom to the foreign partner to deal with the exploration and production with no supervision from EGPC and that would stimulate the period of both operations.

14-Do you think this Profit Share System would work here in Egypt to attract more investments?

Any international company would invest without second thinking if it found a country with lots of good exploring opportunities and with a government that works side by side with the investor and provide the needed facilities to them. And according to the studies and expectations before entering the bidding, the companies work and don't favors a system or the other, but for profit.

15-Are there specific strategies adopted by the ministry in the Mediterranean?

Yes, of course. There is a committee responsible for the development of the Mediterranean which is chaired by the First Undersecretary of the Ministry of Petroleum and gas affairs who is now Eng. Tarek El Hadidi, and it includes the heads of companies and gas producer in charge of production and reserves and projects of such companies. Moreover, the committee identifies the production and joint production facilities to maximize the use of those facilities in a simple way to reduce the time and work on a common understanding between global partners in the Mediterranean.

16-What are the future plans for gas in Egypt?

The main concern now for the Egyptian Petroleum Sector is how to reach the production phase in the shortest possible time and to provide the necessary investments and to achieve economic returns. The plans are always achieved in time.

17- Do you think the petroleum future is in the Mediterranean?

I'm confident about the proven reserves in the Mediterranean, and also in the South Valley.





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Speaking the global offshore language!

Digging deeper in the offshore industry, obstacles maybe come in hefty numbers, but anyone can notice that the ministry tries to apply the most appropriate strategy to cover the most of challenges

“Egypt is becoming a major player in the Mediterranean region,” Dr. Cyril Widdershoven, Middle East specialist and consultant, said. It’s the kind of industry that Egypt should’ve been practicing as its own geographical position place it in the right place to reach Europe, “Egypt is the heart of Africa, Asia and Europe,” commented OMV (Egypt) Exploration GmbH on Egypt’s vital location.

Egypt still needs to play it right; as there are lots of competitors with previous lengthy experiences. Widdershoven described this as “Egypt’s competitiveness in the international oil and gas markets, with specific relation to the European markets, is still questionable. It has to compete increasingly with the already intricate relations between North African producers, such as Algeria, Tunisia and Libya, who are all interconnected to the Italian and/or French pipeline structures.”

Does Egypt need to wake up and smell the gas slipping from under its nose? Come to look at it, lately the offshore witnessed a fair number of discoveries, started in the prime of the year, Dana Petroleum and its partner GDF Suez’s in Papyrus-1X well located offshore Nile Delta in west El Burul-

lus concession, also EGAS (The Egyptian Natural Gas Holding Company) awarding three blocks in the gas-prone Mediterranean offshore acreage to major international oil companies, like the British Petroleum Company (BP), British Gas (BG), Shell and Malaysia’s Petronas, where Shamel Hamdy, former first undersecretary at the Ministry of Petroleum, saw it as “In the deep water you need big players, so we were happy to see them ‘acquire acreage’. They have the know how and the ability to invest.”

That brings us to one of the major obstructions in the offshore; the cost of drilling could reach a number that would be so high that it affects providing the suitable production facilities; “The high cost of the deep drilling in the Mediterranean is considered the main reason behind the poor production facilities and had a bad effect on the production facilities,” said OMV (Egypt) Exploration GmbH. Yes, the discovery is the biggest part of the process, but making this oil or gas reach the hand of users stand on these facilities. We can give credit to the ministry on trying to find a solution to this by issuing a law that one company can use the facilities of the nearest firm working close to it, extended pipelines is an exam-

ple to these services. Still, the area of the Mediterranean needs a lot of services due to the tough nature of this area, and as it’s a bit fresh that it lacks the ideal infrastructure. We have to also mention the committee of development in the Mediterranean, which headed by Eng. Tariq Al Hadidy, the First Undersecretary of Petroleum Ministry for Gas affairs, administrate all the operations and how to supply the needed facilities to the firms working in that area.

Digging in the offshore industry, the companies and the industry are not the only two that face the opposite wind sometimes, the ministry face this wind in the form of the not managed coordinating between the petroleum sector and other sectors or other authorities. The environmental requirements are a main issue to the petroleum ministry, there are lots of promising lands being neglected because of obstacles from other authorities not to explore in it. Apache Corp was one of the companies that got affected by this wind and the ministry didn’t have any hand in it, the firm was drilling in acreage in Gulf Suez area and reached proven results but had to leave the block due to orders from other sovereigns, Apache was already paying a lot in drilling in that area and that made the company unwilling to invest in the country for period of time.

“Firms working in the offshore area were hit by the law 114, which is know by the 5th of May, that law lift the cover of the free trade zone system to the new system of investments,” said one official that did not want to mention his name. The free zone system used to provide the full exemption of taxes, which used to attract lots of foreign investments, but after the new law the companies found itself falling under a huge amount of fees, and again the ministry takes credit in this by facing it with applying some adjustments to the price of gas that was previously written in the contracts with the foreign partner, “The positive and stable commercial and political environment in Egypt was the reason, which encouraged OMV to invest in Egypt,” according to OMV (Egypt) Exploration GmbH, when asked about the most important conditions in the agreement between OMV and EGAS or EGPC. The ministry changed the price from \$ 2.65 to reach an appropriate price that matches the global price of gas, but at the same time it won’t be more than the international price, as the delegates already gained experience from previous negotiations.

Production share, as part of the obstacles that may face the firms in Egypt or as Mr. Ibrahim Zahran, the petroleum expert, describes it as “the old contracts system”. He added “Egypt needs a new contract system, because the production share is currently not doing any good to the country, especially in the growing demand of gas for domestic needs”. Eng. Ibrahim Eissawy, the former First Undersecretary of Petroleum Ministry for Gas Affairs Gas, agreed with Zahran that Egypt needs new type of agreements. “Profit Share contract system allows the ministry to

be free from giving back money to the foreign partner,” said an official, who did not want to mention his name.

Zahran also said that the companies face problems in the period of after production, which Egypt lacks the needed elements to know how to provide services to the firms during and after the drilling.

The main thing that struck me in Mr. Zahran’s words were something that he pointed out, which brings us back to the well coordinating between authorities, that he didn’t understand how can the bridge of Fardan been built to stand in the way without taking in mind that any rig to be moved from Gulf of Suez to the Mediterranean will need to sail across the universe!

Drilling in the deep water needs a well experienced and smart strategy to deal with the foreign partner and how to attract the international companies to our country, “We would expect encouraging companies with generous Fiscal Terms and minimize the Bureaucracy,” explained OMV (Egypt) Exploration GmbH, to show the expectations of the foreign partners from EGPC. Drilling in the offshore cost a huge amount of money and only major companies can afford such investments and needed technologies; especially that drilling in this kind of deep water would need the latest equipments and studying tools that add more to the cost. The ministry has been trying for long to build such policies that allow it to reach a success point with the investments; lately it has been adopting a new strategy of ongoing negotiations with the foreign partner, doing more amends on the fixed old price of gas in the agreements, taking up a new way of dealing with the international companies by providing the needed support and facilities in the drilling process and even after the discovery.

Moreover, the ministry should relay on the strategy of providing the required information of any offshore block, in order to help the investor and attract more international companies, as these firms likes to have the specific data of the blocks to know what kind of surveys to use on them. The international companies are known for their capability of knowing the exact needed studies to be done, and if the ministry was able to provide the right figures then the chance of attracting more firms is higher.

Finally, the main issue in the offshore is clarity. It works as the official language between the ministry and the foreign partners, it’s the kind of language that could attract more investments, “international companies need clear information, clear data and studies,” said official source that did not want to mention his name. If the international firms found a country that is so lucky with its location between Africa and Europe, and were given transparent information, and were offered the needed facilities, Egypt would be one of the major countries in the offshore industry. Clarity is now the global language and we need to start talking their words.

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Reducing Exploration Risk

Schlumberger

PetroMod* petroleum systems modeling software combines seismic information, well data, and geological knowledge to model the evolution of a sedimentary basin. PetroMod software will predict if, and how, a reservoir has been charged with hydrocarbons, including the source and timing of hydrocarbon generation, migration routes, quantities, and hydrocarbon type in the subsurface or at surface conditions.

Surface geophysical methods can image structures that have the potential to trap hydrocarbons and, in some cases, indicate the presence of hydrocarbons. In most cases however, establishing fluid content with confidence requires drilling. Petroleum systems modeling (sometimes called "charge modeling") is a vital additional component in assessing exploration risk before drilling, helping to predict which traps are most likely to contain hydrocarbons and which type of hydrocarbon (oil or gas) can be expected—as well as their properties.

PetroMod software is the industry leader in petroleum systems modeling technology, providing unique workflow capabilities. Pairing PetroMod software with the power of Petrel* seismic-to-simulation software provides customers with powerful basin-to-prospect scale exploration solutions.

Petroleum Systems Modeling

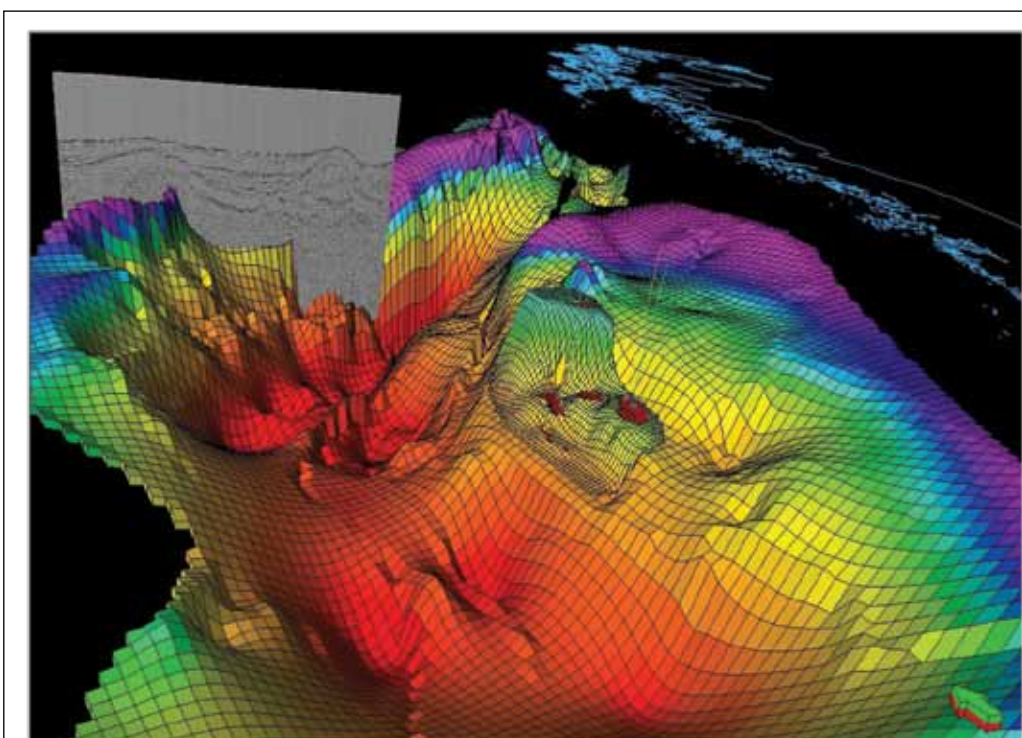
Petroleum systems modeling is the rigorous, structured, and fully integrated analysis of all available geological and geophysical (G&G) data related to the petroleum potential of a prospect or play. Petroleum systems models are 1D, 2D, or 3D large-scale geologic models covering areas ranging from a single charge area for a prospect to mega-regional studies of entire basins. The models are dynamic which means they provide a complete record of the generation, migration, accumulation, and loss of oil and gas in a petroleum system through geologic time. Properties such as gas/oil ratios and API gravities can be analyzed, understood, and then predicted. Oil versus gas distributions can be subjected to rigorous analysis. Petroleum systems modeling is a vital component of exploration risk assessment or analysis from basin to prospect. It can be applied during all stages of exploration, from frontier basins with no well control to well-explored areas and to charge assessments of single prospects or fields. Even in producing areas, charge risk on a prospect scale is still an essential component of a fully integrated risk assessment.

PetroMod software is the only petroleum systems modeling package with a standardized and fully integrated user interface covering the entire workflow and range of 1D, 2D, and 3D modeling products.

PetroMod petroleum migration simulation technology is the most advanced commercially available tool with an extensive range of unique technical features including 1D, 2D, and 3D temperature and pressure simulators and fully PVT-controlled modeling of n-component/3-phase relationships during the entire migration process and its geologic history.

1D and 2D Workflows

1D workflows enable single-point data models (wells and pseudo-wells) to be constructed from well data, from a stratigraphic column, or even from a conceptual model. 2D workflows enable



Regional source-rock color-coded according to transformation ratio, locally refined grid in the area of interest, and vapor-phase accumulations.

models to be directly constructed from seismic data or other cross sections.

PetroMod 1D

PetroMod 1D enables 1D thermal, hydrocarbon maturation, and pressure history modeling, including special tools to model the effects of salt movements, igneous intrusions, etc.

PetroFlow 2D

PetroFlow* 2D has a full 2D temperature/pressure simulator and provides the most advanced 2D petroleum migration modeling technology as a complete range of migration modeling methods can be applied to the same 2D data model.

3D Workflows

3D workflows are applied to data models created from spatial data, typically using 2D and/or 3D seismic data.

Advanced 3D Petroleum Migration Modeling Technology

A full range of petroleum migration modeling methods can be applied to the same 3D data model according to the properties in the geological model, the resolution of the model, and the goals of the analyses. The flow simulation methods include flowpath, Darcy, invasion percolation, and hybrid technology that is unique to PetroMod software.

PetroCharge and PetroGen 3D

PetroCharge* is an entry-level tool for rapid analyses and enables 3D data models to be processed using multi-1D thermal, maturation, and pressure history calculations, together with flowpath migration modeling.

It is most frequently used for initial assessments of charge and migration risk. PetroGen* 3D offers full 3D thermal, hydrocarbon maturation, and pressure history modeling.

PetroFlow 3D

PetroFlow 3D is the industry's leading full 3D petroleum systems modeling tool. It has a full 3D

temperature/pressure simulator and provides the most advanced 3D petroleum migration modeling technology, as different migration modeling methods can be applied to the same 3D data model. The software packages PetroMod 1D, PetroFlow 2D, PetroFlow 3D, PetroCharge, PetroGen 2D, and PetroGen 3D, plus an entire range of modeling tools for salt movements, igneous intrusions, and other special geologic processes are all available in the PetroMod software system.

Fully PVT-Controlled 3-Phase/n-Component Migration Modeling

The unique PVT-controlled modeling offered by PetroMod software gives the ability to accurately

determine hydrocarbon phases in the subsurface (for example whether they are in a liquid or vapor phase) as this is essential for the migration process and seal breakthrough assessments. PetroMod software uses flash calculation methods to determine the hydrocarbon phase for the in situ multicomponent mix, temperatures, and pressures. A direct flash to surface condition for any selected accumulation (known or prospective) is also possible in order

to determine API gravities, GOR values, and other properties so that models can be calibrated using known production data.

systematic geologic risking procedures

3D petroleum systems models include all of the key elements of geological risk in exploration: the charge, the trap and timing of hydrocarbon generation, migration, and loss. It therefore enables rigorous risk analyses to be performed in a fully integrated and dynamic geologic data model. This ensures the risk analysis procedures are consistent and can be quantified.

Petromod and petrel software

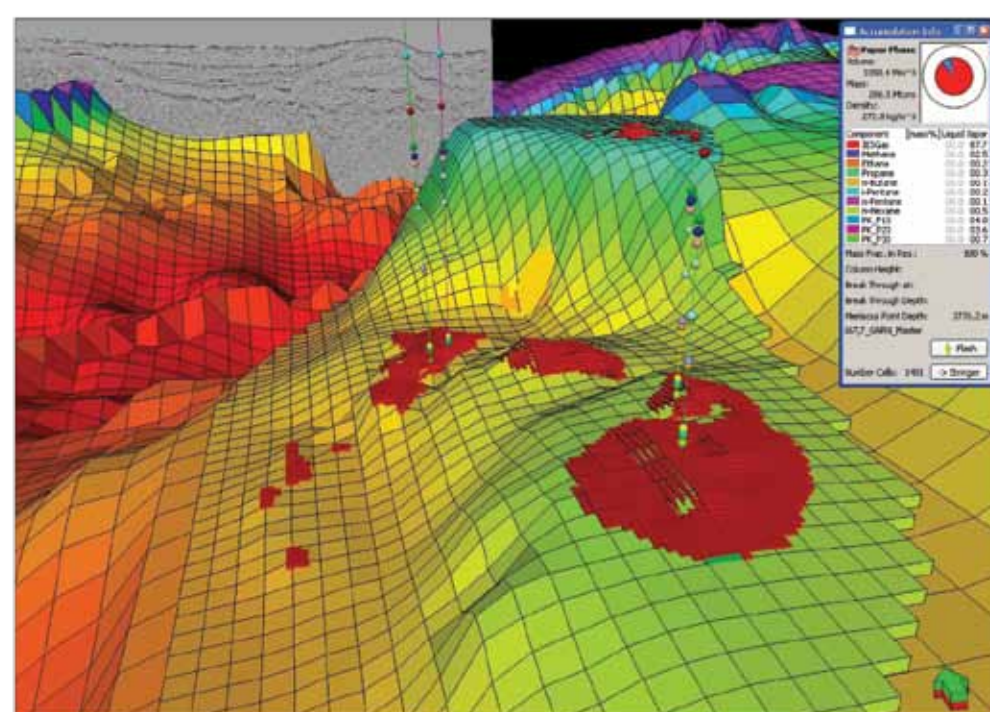
With the Petrel-PetroMod Data Exchange plug-in, it is possible to construct PetroMod input models directly from Petrel data models, and to view PetroMod output data in Petrel software for a fully integrated analysis of all available data. New PetroMod products that are very closely coupled with Petrel exploration workflows are currently being developed.

Supported Hardware Platforms

Include Windows® XP, Windows Vista 32- and 64-bit, and Linux®.

Contact Information

For additional information, technical or otherwise, please e-mail Bjorn Wygrala at bwygrala@slb.com or sisinfo@slb.com, or contact your local Schlumberger representative.



Close-up of area of interest modeled using a locally refined grid, plus accumulation information: distribution of hydrocarbon components within the accumulation in the foreground.



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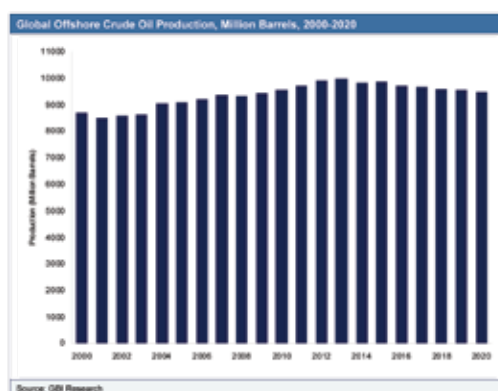


The Future of the Offshore Oil and Gas Industry to 2020

GBI Research's report, "The Future of the Offshore Oil and Gas Industry to 2020", provides an in-depth analysis of the offshore oil and gas industry, highlighting the various concerns, shifting trends and emerging regions in the global offshore oil and gas industry. The report also provides in-depth analysis of key trends and challenges faced by the global offshore oil and gas markets. It provides the current and forecast offshore oil and gas production and reserves for major offshore regions of the world. The report provides an analysis of the competitive scenario and highlights the fiscal regimes in the major offshore regions. Additionally, the report provides forecasts on the offshore drilling spend to 2020. The report also analyzes the major offshore projects globally and provides asset valuations for some major offshore projects.

Depleting Onshore Reserves, Discovery of New Large Offshore Reserves and Adoption of New Technologies are Driving the Growth of the Global Offshore Oil and Gas Production

The global offshore oil and gas industry is expected to continue to increase in the coming years. Global offshore crude oil production was 9,349 million barrels and global offshore natural gas production was 26,807 bcf in 2008. With a positive outlook and the continuing trend for the offshore industry, the global offshore crude oil production is expected to increase to 9,852 million barrels by 2015. On the other hand, the global offshore natural gas production is expected to increase to 27,045 bcf by 2011. According to GBI Research estimates, the Global offshore crude oil production is ex-



pected to be 9,481 million barrels and Global offshore natural gas production is expected to be 26,544 bcf by 2020.

World Offshore Drilling Spend is Expected to Recover by 2010 and Continue to Grow in the Future

Global offshore drilling spend has increased in recent years, particularly during the period of 2004 to 2008. According to GBI Research estimates, approximately \$350 billion was spent on offshore drilling during 2000-2008. Regions accounting for the major share of the spending were the US Gulf of Mexico (US-GOM), West Africa, Brazil and Asia Pacific. Offshore drilling spend had peaked in the period of 2007 to 2008.

However, various factors such as the global economic slowdown, decrease in demand for oil and gas, and a drop in the prices of crude oil and natural gas, are expected to have a nega-



tive effect on the offshore drilling activity in 2009. Nonetheless, with the global economy expected to recover by 2010, the global exploration and development activity is expected to increase. According to GBI Research estimates, more than \$490 billion is expected to be spent on offshore oil and gas drilling during 2009-2015.

The Global Offshore Industry is Witnessing a Shift in Investment to New and Emerging Offshore Regions

In the recent years, there has been a growing trend in investments in the offshore oil and gas industry. Offshore areas in the USGOM and

from mature regions such as North Sea to offshore areas in Brazil, West Africa and Asian countries such as China and Vietnam.

The drilling spend offshore regions of Brazil, West Africa and Asia Pacific was \$180 billion and accounted for more than 50% of the \$350 billion spent on offshore oil and gas drilling globally from 2000 to 2008. According to GBI Research estimates, the drilling spend in the offshore regions of Brazil, West Africa and Asia Pacific is expected to be over \$300 billion, which is almost 60% of the more than \$490 billion expected to be spent during 2009-2015.

Exploration and Development Moving Towards Deep, Ultra Deep Sub-salt Reserves

The recent years has witnessed an increasing trend towards deep water exploration. With the decline in available resources in the onshore areas, there was a move towards increased offshore exploration. There have been huge deep water discoveries in various regions of the world, from Brazil and the USGOM to West Africa and Asia Pacific regions. In the USGOM alone, there has been decreased activity in the shallow water areas. Natural gas production, which was the mainstay of shallow water activity in the USGOM, has seen a steady decline in the recent past.

Another major factor promoting increased activity in the deep and ultra deep waters has been the advancements in technology. Perdido will be the deepest production platform in the world operating at depths of 8,000 feet under water. Petrobras' FPSO, to be introduced next year, is a converted double hulled tanker that can operate at extreme water depths and will also have a detachable turret buoy to be used during hurricanes while the FPSO can be moved to safer waters.

Tupi Field, which was discovered in November 2007, is the largest discovery in North and South & Central Americas since 1970. It has estimated recoverable reserves in the range of 5-8 billion barrels. As shallow water resources decrease, deep and ultra deep sub-salt areas will play an increasingly significant role in the offshore oil and gas production.

About GBI Research

GBI Research is a leading business information company providing global business information reports and services.

Our highly qualified team of Analysts, Researchers, and Solution Consultants use proprietary data sources and various tools and techniques to gather, analyze and represent the latest and the most reliable information essential for businesses to sustain a competitive edge.



the North Sea in Europe were traditionally the hotspots for investments in the last decade. However, recent discoveries of offshore fields with huge reserves in various other regions of the world have started a shift in investments

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First HSE Forum in Egypt's Oil & Gas sector

In January 2006, Egypt's Oil & Gas Health Safety and Environment (EOGHSE) forum was launched. The forum is chaired by BP Egypt and includes oil and gas upstream and downstream companies operating in Egypt. The forum addresses health, safety and environmental issues with a focus on safety.

The EOGHSE forum was initiated with several objectives in mind:

Information sharing, enhancing joint venture (JV) operations and promoting HSE standards within the community are major focuses of this forum. The Executive Committee (EC) consists of oil and gas HSE managers as well as EGAS and EGPC HSE managers. The Egyptian Environmental Affairs Agency (EEAA) representatives and service company chairmen may also take part. The EC meets annually and is responsible for setting long-term goals, identifying objectives, approving projects for implementation, monitoring progress, and making resources and budgets available to support approved EOGHSE projects and other activities.

After the establishment of the EOGHSE forum, and from 2006 until mid 2009, the first main topic of focus was Contractor HSE Management. Because of the variation of the HSE requirements and expectations from one contractor to another, the need for better alignment seemed compelling. Accordingly, the EOGHSE forum developed "Contractor HSE Management Guidelines" with the intention to be implemented throughout the Oil and Gas

Sector within Egypt. This effort could not have been successful without the keen involvement of EGPC and EGAS especially by approving, adopting and cascading the Guidelines.

EGPC and EGAS's endorsement and support were key in ensuring that minimum HSE requirements are embedded within all contractor companies and that consistency in HSE expectations exist across all oil and gas companies operating within Egypt.

The developed guidelines brought together the essence of the committee members' experience and knowledge, and it has been prepared using the International Association of Oil & Gas Producers (OGP) Standard entitled 'HSE management – guidelines for

working together in a contract environment'. The OGP Standard was simplified and further enhanced to include 'Best-In-Class' Practices of Contractor HSE Management. The Guidelines is designed with

a focus on improving contractor

HSE performance, and it

includes an eight-phase

contracting process:

planning, contrac-

tor pre-qualifica-

tion, contractor

selection, pre-

mobilization, mobilization,

contract ex-

ecution, de-

demobilization,

final evalua-

tion and con-

tract closeout.

To assist both the

company and con-

tractor, detailed check-

lists are included within the

guidelines. The importance of the

guidelines lies in the facts that it provides

a consistent way of evaluating the HSE

Management System for all contractor

companies across the sector, and being

an effective tool for screening contracting companies based on their HSE Performance. It can also be considered an effective monitoring tool for the continuous evaluation of the Contractor company through-out the contract phases.

After being done with the work on Contractor HSE Management, the Committee moved their focus to driving safety as a major area of high concern in Egypt. After the huge ring road accident, the issue of road safety became prominent, and drove many companies to turn away from using the ring road, turning towards the downtown area and looking for alternatives roads. The Committee saw the urgency in dealing with the root causes and the efforts that can be employed to minimize road risks.

Finally, it is valid to consider that the EOGHSE Forum went several steps in a longer journey to embed a continuously improving HSE culture across the Oil and Gas Sector in Egypt. The vision is to set HSE principles as core values in the Oil & Gas Communities hearts and minds, while the mission will be always to deliver efficient, reliable and safe business serving the welfare of the Egyptian people.



EOGHSE

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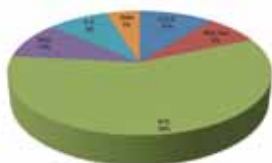
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Egypt Statistics

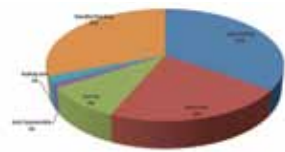
Table 1 Egypt Rig Count per Area -April 2010

Area	RIG COUNT		
		Total	Percentage of Total Area
Gulf of Suez	11	11	11%
Offshore			
Land			
Mediterranean sea	8	8	9%
Offshore			
Land			
Western Desert	60	60	57%
Offshore			
Land			
Sinai	10	10	10%
Offshore			
Land			
Eastern Desert	9	9	9%
Offshore			
Land			
Delta	5	5	4%
Offshore			
Land			
Total		99	100%

Rigs per Area



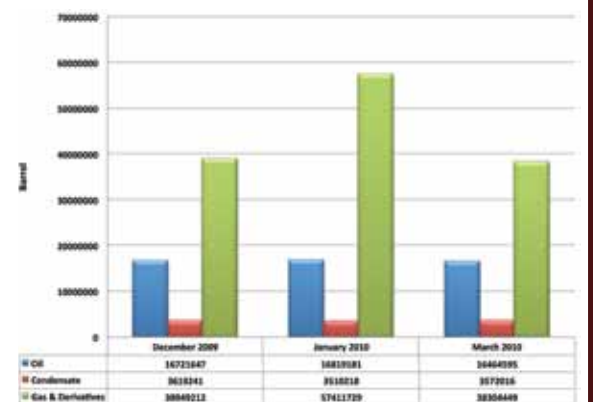
Rigs per Specification



Production - March 2009

	Sold Million cubic feet	Planned Million cubic feet	%	Oil Barrel	Equivalent Gas Barrel	Condensate Barrel	Liquefied Gas Barrel	Ton	Total Gas & Derivatives Barrel
Upper Egypt				33108					33108
E.D.				2223211					2223211
Med. Sea	133990	160549	83.46		26798000	1616256	443699	39440	28857955
W.D.	36520	38595	94.62	6979396	7304000	1635719	564545	50182	16483660
Delta	13423	8959	149.83	145226	2684600	203603	94700	8418	3128129
GOS	465	3224	14.42	5034470	93000	60310	144416	12837	5332196
Sinai	488	465	104.95	2049184	97600	56128	79889	7101	2282801
Total	184886	211792	87.3	16464595	36977200	3572016	1327249	117978	58341060

	Actual	Planned	%
Oil	16464595	18634968	88.35
Condensate	3572016	3726324	95.86
Gas & Derivatives	38304449	43704637	87.64
Total	58341060	66065929	88.31



Source: Egypt Oil & Gas

**Average Currency Exchange Rate against the Egyptian Pound
(March 2010/ April 2010)**

US Dollar 5.486	Euro 7.419	Sterling 8.325	Yen (100) 5.956
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**Stock Market Prices
(March 2010/ April 2010)**

Company	High	Low
Alexandria Mineral Oils [AMOC.CA]	45.68	39.98
Sidi Kerin Petrochemicals [SKPC.CA]	15.80	12.77

**Table 1 World Crude Oil Production (Including Lease Condensate)
(Thousand Barrels per Day)**

	Libya	Sudan	Other	World	OPEC ¹	Persian Gulf ²	North Sea ³
2009 May	1,650	480	2,391	71,471	30,399	20,249	3,556
June	1,650	485	2,381	71,652	30,514	20,511	3,479
July	1,650	490	2,380	72,472	30,857	20,771	3,761
August	1,650	495	2,396	72,092	31,012	20,711	3,248
September	1,650	500	2,388	72,555	30,962	20,616	3,314
October	1,650	500	2,382	72,961	31,013	20,577	3,595
Novemer	1,650	495	2,411	73,233	30,960	20,542	3,753
December	1,650	495	2,467	73,038	30,854	20,464	3,644
2009 Average	1,650	483	2,414	72,261	30,647	20,402	3,673
2010 January	1,650	500	2,458	73,228	31,088	20,571	3,526

¹ OPEC: Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

² The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Kuwait-Saudi Arabia Neutral Zone is included in Persian Gulf production.

³ North Sea includes the United Kingdom Offshore, Norway, Denmark, Netherlands Offshore, and Germany Offshore. Revised data are in **italic font**.

Table 2 World Oil Supply¹ (Thousand Barrels per Day)

		United States ²	Persian Gulf ³	OAPEC ⁴	OPEC ⁵	World
2009 May	E	9,040	22,681	23,466	33,567	83,213
June	E	9,987	23,001	23,782	33,740	83,480
July	E	9,007	23,319	24,150	34,151	84,494
August	E	9,084	23,273	24,117	34,332	84,127
September	E	9,297	23,184	24,020	34,290	84,643
October	E	9,279	23,167	23,988	34,363	85,135
November	E	9,354	23,136	23,950	34,306	85,475
December	E	9,398	23,083	23,879	34,219	85,349
2009 Average	E	9,056	22,890	23,717	33,882	84,166
2010 January	PE	9,287	23,208	24,003	34,477	85,529

¹ «Oil Supply» is defined as the production of crude oil (including lease condensate), natural gas plant liquids, and other liquids, and refinery processing gain (loss).

² U.S. geographic coverage is the 50 States and the District of Columbia. Beginning in 1993, includes fuel ethanol blended into finished motor gasoline and oxygenate production from merchant MTBE plants. For definitions of fuel ethanol, oxygenates, and merchant MTBE plants

³ The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Kuwait-Saudi Arabia Neutral Zone is included in Persian Gulf production.

⁴ OAPEC: Organization of Arab Petroleum Exporting Countries: Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

⁵ OPEC: Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

E=Estimated data. RE=Revised estimated data. PE=Preliminary estimated data. Revised data are in **italic font**.

Source: EIA

Source: EIA

A large industrial CO2 turbocompressor train is shown in a factory setting. Two workers in high-visibility yellow and blue safety gear and white hard hats are working on the machinery. The machinery consists of large green pipes and a large red circular opening. The background shows a complex industrial structure with steel beams and other equipment.

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