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650 Companies at Iran Plast
Zangeneh:
Iran Petchem
to Hit \$25bn in 2021





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Energy, a Weapon Targeting People

Kasra Nouri
Director General of Public Relations

The 21st Ministerial Meeting of the Gas Exporting Countries Forum (GECF) was held in Moscow. GECF member states account for 67% of global gas reserves, 44% of global gas production and 66% of liquefied natural gas (LNG) trading. Sitting atop 17% of world gas reserves and producing nearly 1 bcm/d of gas, Iran is a leading member of the GECF. The main idea behind the establishment of the GECF, like OPEC, is to secure energy supply through cooperation and coordination between producers and consumers. Secure oil and gas production and supply are the most essential elements to meet the world growing demand for energy. It covers all beneficiaries in this sector, states and nations. Secure energy supply is part of global cooperation in investment, transfer of technology and expansion of trade infrastructure. Creation of tension in the oil and gas sector by any nation would leave destructive impacts on global economy. Ensuing negative impacts may be also seen on industrial and social growth and development of producers and consumers, as well as public welfare and calm. One of the most significant reasons leading to ups and downs in the oil and energy market and subsequently on global economy is political meddling by some countries in this sector. Imposition of unlawful sanctions by the US and their politically-motivated meddling along with the application of trans-territorial rules and regulations have

transformed oil and gas into a weapon which is threatening the security and welfare of not only Iranians but also all individuals in the world.

Iran considers regional cooperation and international interactions as priorities in its energy diplomacy. The country has always reiterated that secure energy supply and free flow of oil must be in harmony with the interests of all nations. The Islamic Republic has told US officials time and again to let these two sectors serve people aside from their tension-creating unilateralism.

As noted by GECF producers in their recent Ministerial Meeting, unilateral economic sanctions and the trans-territorial nature of domestic regulations posed the most serious threat to global peace and security.

Iran is an influential oil and gas producer in the world, and considers resistance to US pressure as a must.

Tehran is determined to use every approach to exercise its legitimate right for oil and gas exports. Furthermore, the energy sector needs to be depoliticized in partnership with the international community, while politically-motivated meddling has to give way to economic and participatory logic and balance in all sectors. Economic sanctions violate the most fundamental international principles. They are targeting all nations in the world. Every nation must feel morally and humanely compelled to counter the sanctions.

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Zangeneh: Iran Eyes Maximum Oil Output

Iran's petroleum minister, Bijan Zangeneh, has said that the ministry would be looking for maximum production.

Asked what policy the Petroleum Ministry would pursue in case sanctions on Iran's oil sector are lifted, the minister said: "Maximum production." Zangeneh, who was speaking after signing an agreement for the development of the Belal gas field, also said Europe's plan to provide Iran with a \$15 billion credit line would be useful when Iran would be able to sell oil. "In terms of oil, it does not mean sanctions relief. Rather, a sum is allocated. I think the logic behind this decision has been the lifting of oil sanctions so that we can export and sell oil. If not, we will be indebted in the future," he said. Asked about a proposal for further cut in the oil production level by some ministers of OPEC MCs during the 16th meeting of the OPEC/Non-OPEC Joint Ministerial Monitoring Committee (JMMC) held in Abu Dhabi, Zangeneh said: "Those who harmed the market have to fix it now." In response to the question whether global oil markets would reach stability with a decline of 1.8 mcm/d, he said: "We have to test the market and its reaction."

Pergas Not Active
Regarding contract with Pergas, he said: "The Pergas consortium has failed to resolve its financial issues, therefore it is not active. It does not mean negligence."

Phase IV of Condensate Refinery Nears End
Zangeneh said Phase IV of the Bandar Abbas Gas Condensate Refinery, commonly known as the Persian GulfStar refinery, was in the final steps. "The current capacity of the refinery stands at 420,000 b/d, which would reach 480,000 b/d by the end of the [current calendar] year with an investment less than \$100 million," he added. Noting that there was no utility and extra feedstock for the Persian GulfStar refinery, Zangeneh said: "I don't understand why when a project could be implemented with \$100 million we have to spend \$1 billion for it." Regarding the Siraf refining project, he said: "The financing of this project is in its final stages following instruction from the President. This project is to be financed through capital market and necessary arrangements have been made with the stock market. I suppose we can soon finalize these issues."

Domestic Potential in Belal Development
Masoud Karbasian, CEO of National Iranian Oil Company (NIOC) said Iranian companies would be prioritized in the project. "Petropars, as the general contractor of the development project, is tasked with holding tender bids for various sections of the project. Relevant officials will be awarded to Iranian contractors under NISOC supervision," he added. Karbasian said: "The Belal gas field is located east of the South Pars field. Based on the agreement signed between POGC and Petropars for development, this field would be developed over a 34-month period by relying on domestic potential." He said the \$440 million agreement would be aimed at the production of 500 mcf/d of gas and 15,000 b/d of condensate.



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Zangeneh: Iran Ready to Help Secure Hormuz Strait

■ Iran's petroleum minister, Bijan Zangeneh, travelled to Moscow early October to attend the third Russian Energy Week 2019 International Forum and also the 21st Ministerial Meeting of the Gas Exporting Countries Forum (GECF).

During his two-day stay there, Zangeneh highlighted US sanctions on Iran, saying: "The US is using oil and gas as a weapon, but we believe that oil and gas are not weapons; rather, they are for public welfare." He also said Iran was "ready to help other countries in the region to ensure the security of the Persian Gulf and the Strait of Hormuz". The Russian Energy week forum provided a venue for ministers, managers of international oil and gas firms and energy exporters to exchange views on international cooperation in the energy sector. In his address to this forum, Zangeneh mainly spoke about the global role of the gas industry and the Islamic Republic's position on the sanctions imposed on Iran and also regional security. The minister reiterated his position that the energy market had to remain depoliticized. He said: "This market has to steer clear of unilateral and unlawful meddling because this issue will in the long-term benefit both producers and consumers."

Oil & Gas No Weapon

Addressing the panel on the gas industry priorities,

Zangeneh outlined Iran's policy for achieving natural gas capacity to meet growing domestic demand and foster international cooperation in this sector. "Depoliticization of the energy sector, Iran's readiness to share its rich experience in the natural gas development sector with other nations, compliance with international obligations and expansion of cooperation, and relying on multilateralism are Iran's three strategies in this sector," he said. Zangeneh touched on the unlawful US sanctions imposed on Iran's oil sales, saying: "The US has used all its tools against Iran in the past one year. Therefore, our plans for leaving behind these conditions could not be expressed and they are secret." He said the US had used every tool at its disposal to "sanction Iran and now it has no more tool to pressure Iran and the Iranian nation". Zangeneh said: "The Americans say we are friendly to people of Iran and we have problems with the government of Iran. That is while such claims are untrue and the sanctions are against the nation and people of Iran." He added: "When there is no money for buying medications and food the government will not be the sole to come under pressure;

rather, people will be pushed to bottlenecks." Zangeneh said the US was using oil and gas as weapon. He said: "We believe that oil and gas are not weapon. They are for the welfare of all people in the world, including producers and consumers."

Focus on Gas Exports

Zangeneh said the impact of sanctions was inevitable, adding that Iran would do its best to drive the country out of such conditions. "Iran's gas sector is currently in good conditions and by the end of the current calendar year [March 2020], more than 70 mcm/d would be added to gas recovery rate from the jointly owned South Pars gas field," he said. Zangeneh said Iran's focus was on gas exports, adding that neighboring nations were prioritized. He named Iraq, Turkey, Pakistan, Armenia and Oman as prioritized destinations for Iran's gas exports. He expressed hope for the acceleration of Iran's gas exports after sanctions relief and de-escalation in the Middle East. "We believe that the southern section of the Persian Gulf is one of the best regions for exporting Iran's gas," he said.

International Cooperation

Zangeneh said Iran favored

regional and international cooperation in the energy sector. He said that Iran was a founding member of GECF and the Organization of the Petroleum Exporting Countries (OPEC). Zangeneh said the presence of Iran, Russia and Qatar in the GECF ministerial meeting was a source of pride because they were the founders of this gas forum. "We are currently witnessing the development of this forum and the improvement of its global status as an international body," he added.

Russian President Vladimir Putin also told a panel discussion on the sidelines of the Russian Energy Week forum that he opposed pressing accusations against Iran in connection with the recent attacks on Saudi oil facilities.

GECF to Strike Energy Balance

Addressing the GECF Ministerial meeting, Zangeneh said the main task assigned to the body was to strike a balance into the energy sector and ensure sustainable gas supply for development. Stressing the necessity of cooperation among GECF member states, he said: "Alongside this task, it is necessary to take into consideration environmental

concerns and counter challenges lying ahead in the gas sector." Zangeneh said defending national interests of GECF member states and resisting pressure from global powers was a must. "Securing the supply of energy and free oil transfer have to be in line with the interests of all nations," he said. Zangeneh also said that GECF was getting a bigger role in the global domain based on the gas market mechanism.

Iran No Enemy to Region

Zangeneh also told reporters that unilateralism was threatening the world, saying the Europeans did not favor the US government's behavior. "Iran is a friend to everyone and in my view we have no enemy in this region," he said. "We believe that all the Muslim countries, all the neighboring countries, should have a peaceful environment among themselves ... Our enemy is another country out of this area," he said. Zangeneh said: "We believe that all the countries around the world believe that unilateralism doesn't work and their increasing pressure on Iran cannot be the solution for a stable situation and a peaceful environment in the region and for the world and for the security of supply of oil, gas and

LNG." He said all the countries around the Persian Gulf "should try to stabilize the region and to defend the peace for all in the Persian Gulf region and to secure the Hormuz Strait for the free transport of oil and other commodities' transportation to the international market."

Meeting With Russia, Qatar and Armenia Ministers

Zangeneh also met with Russian, Qatari and Armenian ministers during his stay in Russia. He met with Russian Minister of Energy Alexander Novak after the panel discussion about gas industry priorities. On the sidelines of the GECF ministerial meeting, he met with Qatar's minister of state for energy Saad Sherida Al Kaabi to discuss cooperation in joint gas fields, sharing technical experience and working in favor of peace and stability in the Persian Gulf. Zangeneh also met with Armenian Minister of Territorial Administration and Infrastructure of Armenia, Suren Papiqyan. They exchanged views about the potential presence of Iran and Armenia in the Eurasian Economic Union for further development of cooperation between Tehran and Yerevan, particularly in the energy sector.



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Multi-Phase Pumps Made in Iran

National Iranian South Oil Company (NISOC) and Petroiran Development Company (PEDCO) signed a memorandum of cooperation on using domestically-manufactured multiphase pumps in oil fields. The MOU was signed between Ahmad Ahmadi, CEO of NISOC, and Sepehr Sepehri, CEO of

PEDCO. Mohammadi said wellhead multiphase pumps were important equipment used in the process of oil production and extraction from low-pressure wells. He said installing such pumps in the oil wells with wellhead low stream pressure would be instrumental in preserving national oil output

levels. "Using this equipment for low-pressure wells is more optimal and cost-effective than downhole pumps, not to mention increasing the well life, improving the production process, preventing the flaring of associated gas and environmental protection,"

he said. Mohammadi said: "Downhole pumps would cost higher than wellhead pumps, due to the necessity of mounting the drilling rig for installation, as well as the short lifecycle of these pumps." He added: "Therefore, using wellhead pumps would be

prioritized for reviving low-pressure wells." Mohammadi touched on the experience of using multiphase wellhead pumps in the Ahvaz oil field, saying: "Due to the significance of this equipment and support for domestic manufacturing, NISOC decided to manufacture them."

Maroun Co. Output Plan Realized 105%

CEO of Karoun Oil and Gas Production Company Hamid Kavian said the company had realized its production target plans at 105.9% in the first half of the current calendar year. He said: "We also managed to reach a good result in terms of workover and development of wells." Kavian said MOS and MOT systems had facilitated the recovery of 103,000 b/d of crude oil, which was up about 16.5% year-on-year. He added that during the first half of the current calendar year, about 14 kilometers of primary and secondary pipelines had been immunized. He said: "Among the most important projects carried out in the first half of the current year included designing, simulation and modification of the transfer of 12,000 barrels of sour gas from Industrial Plant No. 5 of Maroun to No. 3 in order to avoid flaring of gas and overhaul rotary machinery."

Registration in Oil Commodity Website Obligatory

Ramin Qalambor Dezfuli, manager of commodity manufacturing and procurement logistics at National Iranian Oil Company (NIOC), said domestic companies willing to cooperate with the Ministry of Petroleum are required to register with the electronic system of petroleum commodity supply (EP). "Since the petroleum industry's cooperation with the private sector depends on the registration of companies in the EP system of the Petroleum Ministry, candidate companies can refer to this website in order to not lose the chance of assessment and being listed among Petroleum Ministry-endorsed companies," he said. Qalambor Dezfuli underscored the necessity of technological production, saying: "In parallel with this objective, the Petroleum Ministry shifted its policy from reverse engineering to technological production."

Iran, Syria Oil Ministers Discuss Cooperation

Iran's Petroleum Minister Bijan Zangeneh said he and Syrian Minister of Petroleum and Mineral Resource Ali Suleiman Ghanem had discussed higher level of cooperation between the two nations. "The sooner peace and stability return to Syria, the more Iranian companies will be present for reconstruction there," said Zangeneh. He added that he had discussed expansion of cooperation between Iran and Syria, particularly in reconstruction. "Iran's private sector can play a role in manufacturing equipment, producing petrochemicals, manufacturing machinery and building industrial plants in the petrochemical, oil and gas sectors," he said. Zangeneh said training manpower in Syria in the oil, gas and petrochemical sectors was another topic of discussion between them. "We expressed our readiness to share experience with the Syrian side in the gas industry, gas transmission and distribution networks."

5-PSEEZ Ready to Win Toehold in World Markets

9-Armenia Seeks Iran Gas-Power Swap Renewal

Armenian Prime Minister Nikol Pachinian has called for renewing gas-electricity swap deal with Iran up to 2040. "Iran is a sustainable source of energy and gas supply to Armenia and Yerevan wants to extend gas-electricity swap deal with Iran up to 2040," Pachinian said in a meeting with Iranian President Hassan Rouhani. He said that Yerevan favored improved ties with Iran, adding: "We are determined to increase the level of relations and ties between the two nations, particularly in the economic sector, as much as we can." Rouhani said Iran was fully ready to meet Armenia's energy needs, adding: "The gas-electricity swap agreement between the two nations could be also extended to the commodity and service sector, too."

Decision Due on Kangan Gas Compressor Station

Ramin Hatami, CEO of the Iranian Central Oil Fields Company (ICOFC), has said plans were made for sustainable supply of feedstock to refineries, adding that decision was due about the Kangan gas compressor station. He said that ICOFC was the exclusive supplier of gas to the Parsian, Ilam and Shahid Hasheminejad refineries, as well as contributor to the Fajr Jam and Sarkhoun refineries. He added that ICOFC-run onshore fields

accounted for feeding these gas refineries. Noting that timely feedstock supply to refineries and sustainable production required comprehensive planning, he said: "We have the Kangan gas compressor station under way in order to provide sustainable feedstock to the Fajr Jam refinery." Hatami said negotiations had been concluded for contracts on the Kangan gas compressor station, adding: "Conducting the feasibility studies of the project



was assigned last month, which requires the feasibility studies to have been done over four months. With the preparation of the package of contract and the conclusion of

talks, we hope that the project would be finalized by the end of the current [calendar] year." Referring to ICOFC projects for sustained feedstock supply to the Parsian refinery, he said:

"In this regard, the Homa and Varavai gas compressor stations and the Tabnak separation center are on the agenda. Construction has started, primary feasibility studies have been conducted and contract talks on financing have been finalized."

Hatami said over the coming two months, a contract would be signed for the construction of the three aforesaid projects, which would mean the start of the project. "Undoubtedly, over the coming five years, we will witness sustainable feedstock production by the Parsian refinery." He said

that the second phase of developing the Tang-e Bijar and surrounding fields was under way. "Hopefully, with a constructive view held by the Ministry of Petroleum vis-à-vis development of underprivileged areas and supply of gas to refineries and downstream industries, this project has been developed," he said. Hatami said National Iranian Oil Company (NIOC) had allocated IRR 4,000 billion plus \$120 million in credit for the second phase development of the Tang-e Bijar field. "The project practically started last year."

Modern Pipeline Overhaul Technology Mastered

Saeed Tavakoli, CEO of Iran Gas Transmission Company (IGTC) has announced the development of homegrown knowhow for repairing high-pressure gas pipelines using the composite technology. "With the partnership of knowledge-based companies, the monopoly of foreigners in offering this modern technology for reparation in the gas transmission network was broken," he said. Tavakoli said planning started two years ago for achieving this success, adding: "Reparation of high-pressure gas pipes using the composite technology was monopolized by American and European companies, and foreign companies and even their agents did not provide IGTC with this new technology and technical and engineering services under conditions of sanctions. Therefore, since two years ago we adopted a comprehensive and integrated plan in order to acquire this technical knowhow." He said that an eight-phase plan had been formulated for acquiring knowhow to repair gas pipes using the composite technology. He added: "In order to do reparation without having to deplete the pipe and waste gas, we started this plan in eight phases." Tavakoli said: "In the first step, we examined the mechanical and chemical properties of the composite materials used in the gas pipe reparation, in the second step, we examined producers and domestic market of composite materials and in the third step, we examined designing and simulating composite reparation."

Petchem Production Sustainable

Qodratollah Farajpour, director of production control at National Petrochemical Company (NPC), told a meeting of petrochemical managers that Iran's petrochemical production had increased year-on-year despite restrictions. "Although we witnessed unprecedented flooding at the start of the year, causing numerous problems for the petrochemical industry, the issue was managed effectively and the reparations were carried out in the shortest possible time, and five 300,000-tonne polyethylene units that had been stopped, were back into operation," he said. He added: "Despite a nearly two-month halt in the production of units connected to the Wes Ethylene Pipeline, national petrochemical production increased in the first half of the current calendar year y-o-y." During the meeting, several petrochemical plants shared their experience in overhaul and startup of new units. Petrochemical Research and Technology Company (PRTC) presented its achievements. Farajpour said that domestic manufacturing was being pursued by the Petroleum Ministry and NPC. He said that NPC had developed special approaches to guarantee increased petrochemical production from plants across the country. "Despite some problems and restrictions that exist for the petrochemical industry in the country, the increased production indicates the reality of prosperity of this industry," he added.

OIEC Strikes Deals with Iran Contractor Group

Oil Industries Engineering and Construction Company (OIEC) and Iran International General Contractor Company (IGC) have signed memorandum of cooperation for purchase, manufacturing, installation and pre-startup of the PC2 section of NGL 3100 plant in Dehloran in western Iran. Gholam-Reza Manouchehri, CEO of OIEC, said the NGL project was aimed at gathering flare gas from the oil fields around Cheshmeh Khosh and Azar to be converted into gas that would be fed into national trunkline. He said that completion of this chain could lead to the production of valuable petrochemicals. Manouchehri said this project would depend on the startup of gas compressor stations. "Raw and sour gas will be transferred from storage tanks, and in the next phase the gas will be injected into petrochemical units for conversion to olefin," he said. Manouchehri said: "The NGL project of Dehloran is for a 10-year period. Some changes in the quality, volume of gas and modalities of investment in this project in recent years have delayed it." He said: "We intend to finish this project within two years. The project has had 35% progress, but the main issue is that the olefin project should be finished alongside this project for the NGL project to be fruitful." Manouchehri said the Dehloran NGL project was valued at over \$2 billion.

IOTC Equipment Repaired

Abbas Assadrouz, CEO of Iran Oil Terminals Company (IOTC) said the first offshore coupling connected to a single-point mooring was repaired in the country. He said that the reparation was done by using domestic facilities and human resources without spending any costs. "In order to establish stability and security in the process of gas condensate exports by SPMs, MBC is installed on the equipment lying between SPMs and tankers. After the activation of MBC, this piece should be reassembled and repaired. Designing, manufacturing and assembling are monopolized by an Italian and a British company. But the reparation work was done by IOTC engineers in South Pars," he added.

Assadrouz said besides economic advantages, domestic reparation ended dependence on foreign companies. He said IOTC had to spend IRR 10 billion on reparation of this device, while it was now repaired in the country without spending any money. He added: "This [calendar] year, with proper planning and the instruction of the petroleum minister for using domestically made equipment and domestic startups, this issue is being followed upon in different sections of the company." Assadrouz said: "Among crude oil loading, unloading and export terminals across the world, Iran's export terminal in the Persian Gulf in Kharg Island with two jetties is the best known, the oldest and the largest oil terminal ever known in the world."

China Quits SP11 Project, Petropars to Work Alone

Iranian Minister of Petroleum Bijan Zangeneh said China's CNPC International had pulled out of a contract to develop South Pars Phase 11, adding Iran's Petropars would develop the project alone. In 2017, National Iranian Oil Company (NIOC) signed a contract with a consortium of France's Total, CNPC International and Petropars to develop the offshore project in Persian Gulf waters. Following US's withdrawal from the Iran nuclear deal back in May

2018 and imposition of new sanctions and restrictions for foreign companies working in Iran, Total pulled out of the contract. On Sunday, Mr. Zangeneh told reporters that CNPC International had also exited the project, meaning that Petropars would deal with the project alone. "The fate of the South Pars Phase 11 has been determined and Petropars will continue developing the project alone and by the end of this [Iranian calendar] year (to March 20, 2020), the first jacket



will be installed in the phase for a platform with 500 mcf/d of gas production capacity," Zangeneh said. Asked why the project was not initially awarded to Petropars Co., Zangeneh said: "We had intended to attract foreign capital for developing the project, besides the fact that the pressure booster platform was very important for us and Petropars was supposed to learn from other companies in the consortium." Asked whether CNPC International had pulled out of the project, he said: "Yes. It is no longer in the project." Zangeneh said he dropped by his Saudi counterpart in Moscow. "I told him had been friends for

22 years; a friendship which had outlived all the ups and downs in Iranian-Saudi relations, and that I had no trouble meeting with him."

He further said that Iran had not instigated any disputed with Saudi Arabia and wanted to be friends with everyone in the region. "They must not regard us as enemy; the enemy is outside of the region." Asked whether the Iranian Ministry of Petroleum had prioritized development in addition to selling oil, the minister said: "When we sell oil, we can accelerate and boost development, too; we are an extrovert organization, but we must also be endogenous."

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"Those who harmed the market have to fix it now." In response to the question whether global oil markets would reach stability with a decline of 1.8 mcm/d, he said: "We have to test the market and its reaction."

Pergas Not Active

Regarding contract with Pergas, he said: "The Pergas consortium has failed to resolve its financial issues, therefore it is not active. It does not mean negligence."

The minister said: "At the moment, there is not replacement for Pergas and we have to wait for the National Iranian South Oil Company (NISOC). However, if we want to implement such a project we need to rely on domestic capital market." Asked about the Farzad B development project, he said: "I hope that we would soon start drilling appraisal/exploration wells in this field. In case the Indians decide over coming months, we would be ready to work with them. If not, we will develop it on our own."

The minister also said he had not heard anything about China's plan to invest \$400 billion in Iran's petroleum industry.

"We have not received any information through official channels to that effect," he said.

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NIOC Official: Iran Known Oil Reserves Up

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→ Reza Dehqan, deputy CEO of NIOC for engineering and development, says due to such studies, Iran was proven to have more known oil reserves. In an interview with "Iran Petroleum", Dehqan speaks about a wide range of issues related to Iran's petroleum industry.

Negar Sadeqi

» After the signature of the Joint Comprehensive Plan of Action (JCPOA), NIOC signed MOUs with oil companies with a view to striking deals. Did this trend stop after the US JCPOA withdrawal? What was achieved from the MOUs?

After signing the JCPOA, over 100 MOUs were signed between NIOC and domestic and foreign firms for developing about 50 fields. Signing these MOUs are significant for us because NIOC would incur no costs and the parties to the memorandum would pay for studies as marketing costs. These studies have provided our experts with valuable information that did not exist before. Thanks to these studies, estimates of Iran's proven oil reserves have officially increased and registered in global data. With each study costing at least \$1.5 million, the studies are worth between \$150 million and \$200 million. Despite the US's withdrawal, negotiations have continued, and last calendar year NIOC signed 12 feasibility study memorandums with domestic and foreign firms. Given the negotiations we have under way now, several development agreements are likely to be signed this year.

» However, the process of talks has slowed down, hasn't it?

It may be thought that some of these activities have come to a halt following the US's withdrawal and NIOC is sitting idly for a new chapter to open in the international arena. Naturally, due to the US's pullout, the talks have been slowed down, but NIOC has signed MOUs both before and after the US quit. Those MOUs led to studies based on which we started a new round of talks. At present, five instances of talks are under way with domestic firms and one case with international companies.

» At what stage are IPC contract talks now?

In addition to the SP11 agreement, NIOC has signed three IPC agreements for the development of the Sepehr & Jofair, Aban & West Paydar and Cheshmekhosh & Dalpari & East Paydar fields. The Abadan and West Paydar agreement has become operational and is under way on schedule. The Sepehr and Jofair agreement is being implemented. The agreement for Cheshmekhosh, Dalpari and East Paydar will become operational this year.



After the landmark 2015 nuclear deal was signed with world powers, Iran signed more than 100 feasibility study agreements with domestic and foreign companies for the development of 50 oil and gas fields. That provided National Iranian Oil Company (NIOC) experts with valuable information on the fields.

» France's Total has pulled out of the SP11 project. China's CNPCI has not yet decided to remain a partner. When will this project start? Are you still waiting for CNPCI's decision on the matter?

We seriously plan to start the SP11 development this year. As you know this agreement was signed between NIOC [on one side] and Total, CNPCI and Petropars. After Total's withdrawal, our talks are under way with the Chinese company. But since SP11 is shared by Iran and Qatar, we don't want to lengthen our talks with the Chinese company. Petropars is able to develop Phase 11 like other South Pars phases without foreign companies' presence.

» The SP11 agreement calls for pressure booster platforms in order to avoid fall-off in production. Pars Oil and Gas Company (POGC) had separately conducted a study in this regard in partnership with a foreign consulting firm. Have you thought of any remedy to contain output decline in South Pars?

Since the very beginning, we predicted to see output cut in the South Pars gas field in coming years, which would affect production. Therefore, we need to enhance the pressure.

We have conducted some basic and conceptual studies with the help of foreign consultants. We almost know what has to be done and we are ready to take necessary action when we would face pressure fall-off even if there is no foreign company to help us. Of course, in case of favorable international conditions, we would hire leading companies. Otherwise, we will do it in partnership with Iranian companies. I don't think things will go on like this forever. I'm sure there would be the possibility of international interaction and utilization of international capacities in oil projects in the future.

» What happened to the South Pars Oil Layer (SPOL) development?

Last calendar, two MOUs was signed with one Iranian and one foreign company for development of the SPOL. The foreign company presented its findings to NIOC. They were reviewed by NIOC Consulting Committee.

» At what stage is the West Karoun field development?

Iran is currently recovering about 350,000 b/d of crude oil from West Karoun fields, which would reach 400,000 b/d by March 2020. South Azadegan field accounts for ninety



In addition to the SP11 agreement, NIOC has signed three IPC agreements for the development of the Sepehr & Jofair, Aban & West Paydar and Cheshmekhosh & Dalpari & East Paydar fields

percent of the relevant increased production. The first train of a mobile processing unit in the South Azadegan field was launched under conditions of sanctions. The second train will become operational soon. This processing unit has capacity to treat 50,000 b/d of oil. Iran is currently recovering 180,000 b/d of oil from south Azadegan. Production in the Yadavaran field has increased to 115,000 b/d. Our talks with domestic and international companies are ongoing for the development of West Karoun fields. Due to the sanctions, I can't reveal any details. But as a general rule, I have to say that we will be making maximum use of domestic potential for developing our oil fields. We also welcome interaction with the global community because in light of interaction we will be witnessing transfer of technical knowhow. In other words, we are for interaction with international companies while relying on domestic capabilities.

» **Alongside contract negotiations for the development of oil fields, NIOC has signed agreements with domestic contractors to increase oil production. Do you think we will witness signing more agreements in**

this year in this sector?

This project is on the NIOC agenda with the objective of maximum use of domestic capabilities. In other words, signing deals with Iranian companies and prosperity in the business of domestic manufacturers would constitute the most significant advantages of the project. Of course, enhanced oil production, empowering contractors and spreading joy among domestic manufacturers are among the most significant objectives of contracts signed for enhanced domestic output. So far, 10 packages have been signed with domestic companies while 8 tenders have been launched. We plan to hold signing ceremonies for these eight contracts. One of these contracts is for Iran Offshore Oil Company (IOOC)-run Resalat field and National Iranian South Oil Company (NISOC)-run Siah Makan, Zilaei, Ramin, Mansourabad, Maroun 14, Ahvaz 14, Maroun 2 and Maroun 5 fields. The remaining packages are expected to be signed by the end of the current calendar year.

At the height of talks with international companies, we decided to design enhanced recovery projects prior to the signature of IPC agreements. The objective was first to engage domestic manufacturers in another

sector and follow up on enhanced recovery from oil fields. Documents were drawn up and submitted to the Economic Council which gave the go-ahead for 33 projects. These projects, i.e. direct and indirect investment, are totally valued at \$6.2 billion. With financing costs, the figure rises to \$7.2 billion. This project would also lift the oil output to 280,000 b/d, which means generating \$14 million a day in revenue. These projects would be launched in the seven provinces of Khuzestan, Bushehr, Fars, Hormuzgan, Kermanshah, Ilam and Kohguiluyeh Boyer Ahmad. Therefore, next calendar year we will no longer focus on the tender bids, rather than that we will concentrate on the implementation of projects because these projects would require two years, and we have no financial problems either.

» **At what stage is the Goureh-Jask project now?**

Among the major projects prioritized by Petroleum Ministry and NIOC is construction of the Goureh-Jask pipeline, as well as the crude oil export terminal in

Jask Port. It is under construction with a maximum share for domestic contractors and manufacturers. This project includes building about 1,000km of pipeline, five pumping stations, gauging and mechanical equipment, building storage tanks and an export terminal. Once completed, the pipeline would carry 1 mb/d of crude oil from the Goureh oil terminal in Bushehr Province to the Jask area in the coasts of Sea of Oman. That would make Jask the second largest crude oil terminal in Iran and Jask will take up strategic significance. That would also lead to decentralization in the Iranian oil export terminals, which would in turn guarantee sustained oil exports from Iran. This project, which is among our major ones at NIOC, involves nearly 30 contracts including consulting, EPC and supervision on pipeline construction. Most of them have already been signed and construction has started. The first phase is planned to become operational through exports of first cargoes by March 2021. A major part of this project is maximum use of the capability of domestic manufacturers which have agreed to supply pipes, pumps and storage tanks.



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Among the major projects prioritized by Petroleum Ministry and NIOC is construction of the Goureh-Jask pipeline, as well as the crude oil export terminal in Jask Port





\$440bn Deal Signed for Belal Development

Zangeneh: Sanctions Fail to Stop Iran

■ The investment made by Iran's Petroleum Ministry during the past seven years in upgrading refineries has lifted Iran's gasoline production to 110 ml/d, putting an end to Iran's dependence on gasoline imports. The quantitative and qualitative increase in Iranian oil products has attracted foreign buyers to bid for the gasoline sold on the floor of the Iran Energy Exchange (IRENEX). Therefore, some of products sold on IRENEX floor have been destined to regional states. Iran's private sector hopes to be able to export more gasoline in future trading. The gasoline trading on the international ring of IRENEX has won a prosperous market and launched a trend for the successful export of gasoline to regional markets.

A \$440 million CAPEX agreement for the development of the Belal gas field was signed between Pars Oil and Gas Company (POGC) and Petropars. The buyback deal would target the production of 500 mcf/d (14 mcm/d) of

rich gas over 34 months. The gas extracted from the field would be transmitted to the refinery of Phase 12 of the giant offshore South Pars gas field for processing.

Addressing the signing ceremony, Iran's Minister of Petroleum Bijan Zangeneh

said: "Sanctions have not stopped Iran's petroleum industry. Should they want to stop us, we will exhaust our creative power to overcome problems."

This agreement has been signed against the backdrop of the US tough sanctions on

Iran's petroleum industry. After unilateral withdrawal from the 2015 Iran nuclear deal in 2018 and the subsequent re-imposition of sanctions, the US has sought in vain to zero Iran's oil exports. Zangeneh said the agreement would be the start of development of the eastern part of the South Pars field. The minister said the agreement was similar to Open CAPEX or Iran Petroleum Contract (IPC) agreements where a tender bid is held for choosing general contractor for the project and then fees are set under the supervision of National Iranian Oil Company (NIOC).

Zangeneh said the agreement would be financed by National Development Fund of Iran (NDFI) credit.

He said without NDFI's contribution, Iran could not have been successful in South Pars and West Karoun projects. He added that Bank Tejarat and Bank Mellat had served as agent banks.

Zangeneh referred to US sanctions on Iran, saying: "We don't intend to say what we have done, but we have shown everyone that the US could not zero Iran's oil exports."

"The sanctions have not halted Iran's petroleum industry. We are active. We are alive," he said.

Zangeneh said Iran was seeking to interact with the world, "but if they intend to pin us down, they cannot stop us and we will try our best to overcome problems."

Joint Fields Finalized

Zangeneh said he had submitted a plan to the parliament for the finalization of cases of all oil and gas fields which Iran shares with neighboring countries before the end of the term of the current administration

in 2021. "By the end of the [current] administration, there would be no field without clear contractor and financing," he said.

Zangeneh also said that development of Farzad B gas field would start this year. He added that despite sanctions, Iran would try to go ahead with the development of Phase 11 of South Pars.

"We are making efforts to bring the first phase of SP11 development onstream" by 2021, he said.

The minister said plans for the development of jointly-owned Forouzan, West Karoun and Ilam fields, including Aban and West Paydar, had been finalized.



Zangeneh said: "Sanctions have not stopped Iran's petroleum industry. Should they want to stop us, we will exhaust our creative power to overcome problems."

Zangeneh said Iran was not lagging behind co-owner Qatar in terms of gas recovery rate from South Pars.

"We are even ahead in daily recovery. So is the case for West Karoun. Therefore, despite all sanctions imposed on us, the train of petroleum industry development has not stopped and the Petroleum Ministry's performance is a clear symbol of resilient economy," he said.

Zangeneh said certain measures had been taken for countering production loss in

South Pars.

He added: "One of the objectives of the SP11 development agreement which was signed with [France's] Total and the Chinese party was to avoid pressure fall-off. Such thing has not been seen in the region and we wanted to learn after its implementation in Iran."

Zangeneh said: "But now that sanctions have not let us go ahead, I ask our friends to start it and find remedies for designing and manufacturing equipment. We should not give up."

He said: "We should do whatever needed for upgrading the level of national technology and focus on internationally acceptable design."

Zangeneh said the Belal field agreement was important, adding that Petropars was the best Iranian Exploration and Production (E&P) company currently operating in Iran. He added that Petropars had fulfilled its commitments in terms of time and finance.

Zangeneh said compliance with fees and scheduling was important in assessing the company's work, adding that Petropars had shown good performance.

Long-Term Solution to Pressure Falloff

Mohammad Meshkinfam, CEO of POGC, said a new approach had been defined for the South Pars development over 25 years based on the sustainable supply of at least 75% of gas which is needed.

"After full development of South Pars, we need to find ways to preserve the output level. The pressure falloff has so far not been very tangible in this field, but the field's output would be falling 28 mcm/d within five years," he said.



Reza Dehqan, deputy CEO of NIOC for development and engineering, said about 70% of equipment used in the Belal field development had been provided by Iranian manufacturers

Meshkinfam said long-term and short-term solutions had been envisaged for the maintenance of production in South Pars.

"Carrying out acid job and perforation, workover of wells, drilling new wells, and laying out new pipelines between platforms are among short-term solutions. For this purpose, 11 wells have been acidized and 11 more would be acidized up to the end of the current calendar year," he added. Meshkinfam said perforation of 11 wells in the

K1 layer, drilling 60 new wells in the current block limits and well workover are among other measures that would help preserve output in South Pars. "One well has been worked over and four more would be worked over by the end of the year," he said.

Meshkinfam also said pipelines built between offshore platforms had helped cut gas pressure falloff by 50%. He said: "Based on this scenario, laying pipelines between platforms and also from platforms to the onshore

refinery, tops the agenda."

South Pars Reservoir Pressure Falloff

Meshkinfam said that long-term solutions required concentration on the blocks surrounding the South Pars field. "With the signature of the agreement for the Belal gas field development, we can say that long-term solutions have already begun," he added.

Meshkinfam said Belal gas field had a 500mcf/d capacity, which can help compensate

production loss.

Geographically speaking, he said, one-third of the South Pars gas field belongs to Iran while their recovery is now equal. "In other words, we are recovering the same volume of gas as Qatar from one-third of the field. In other words, our recovery has now exceeded that of Qatar," he said.

Meshkinfam said South Pars accounts for 8% of the world gas reserves and made up about 10% of Iran's gas deposits. "We have so far

extracted 10% of the South Pars in-place gas reserves, which is valued at \$270 billion," he said.

Sanctions, Nothing New

Reza Dehqan, deputy CEO of NIOC for development and engineering, said about 70% of equipment used in the Belal field development had been provided by Iranian manufacturers.

He said that sanctions were nothing new for Iran's petroleum industry, adding: "But despite the repetition

of sanctions, development of the petroleum industry has continued."

"Therefore, all joint fields are expected to be finalized in two years," said Dehqan. He added: "Of course, more joint fields are currently under development."

Dehqan said: "We favor cooperation with the world, but should conditions go ahead differently we will handle everything based on domestic potential."

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Why Belal Gas Field Development Matters

Following drilling of the first exploration well in the South Pars gas field in 1991 and once the extent of the giant reservoir was known through analysis of seismic data and the drilling of subsequent appraisal wells, the development of this field got under way in 1997 by Pars Oil and Gas Company (POGC) with a view to achieving output level of 29 bcf/d of rich gas. To that end, the South Pars field was divided into phases. Iran managed to make first gas recovery from South Pars in 2002.

Now 22 years on, 290 wells are operational while 31 platforms have been launched at the distance of 90-110 kilometers off Assaluyeh and Kangan. In order to carry rich gas from these platforms, 3,000 kilometers of offshore pipeline has been laid out. In parallel with the development of this offshore field, 13 gas refineries were also under construction by POGC. As soon as the

administration of Hassan Rouhani took office in 2013, Iran accelerated efforts to develop this field which it shares with Qatar. As a result, the South Pars gas production capacity has doubled since 2013. Accumulated production from the South Pars field has reached 1,450 bcm valued at \$260 billion. In coming years, South Pars

is forecast to meet 75% of Iran's gas needs. As the South Pars development nears finalization, preserving the output level remains POGC's top priority. Therefore, the most significant measure in this regard has been complementary perforation and acidizing of production wells. For instance, these operations have increased the sustainable production period for one to five years. Meantime, POGC has embarked on other measures undertaken for the preservation of South Pars output at 800 mcm/d and optimal use of existing potential and installations in coming years. In parallel with identifying new reservoirs adjacent to South Pars, infill wells have been drilled, more subsea pipelines have been installed, areas outside the phases have been developed, and gas compressors have been installed.

Belal, Yalda and

the areas lying north of South Pars are among fields focused upon by POGC for development in order to prevent a pressure fall-off in South Pars in coming years.

South Pars Eastward Development

Given the surplus processing and refining capacity in Phase 12 of South Pars as the easternmost reservoir block and the largest phase development project, POGC prioritized adoption of a comprehensive development plan for the eastern section of the South Pars field in order to make optimal and maximum use of existing installations.

The reservoir structures of Yalda and Belal fields were identified as new targets with a high likelihood of hydrocarbon content. Given the connection between Belal and South Pars and the availability of extra processing capacity in Platform C of SP12 with a production capacity of 1 bcf/d, POGC's proposal for recovery from Belal gas field and

transmission of gas from this field to Platform 12C and subsequently to South Pars refineries as the first development phase of the eastern part of the gas field was endorsed by the Board of Directors of National Iranian Oil Company (NIOC). In parallel with the development of the Belal gas field, assessment of other reservoir targets including the Yalda structure is also under way by POGC.

Belal Development

The oil layers of Belal field were discovered in 1967. In late 1990s, the oil layers were awarded to France's Total for

development under a buyback deal. The field started production in 2002. It is currently supplying about 10,000 b/d of crude oil. Gas was proven to exist in the gas layers of the Belal field in 2004 following the drilling of the first gas exploration well by Exploration Directorate of NIOC. Later on, plans were made for developing the gas layers of this field. The gas in the field is rich in condensate. Under the development plan for the field, the output is forecast to reach 500 mcf/d of gas and 15,000 b/d of condensate. The objective of this buyback agreement would be to produce 500 mcf/d (14 mcm/d) of rich gas over 34 months. The gas extracted from Belal would be carried to the SP12 refinery for processing. Petropars has been awarded the Belal gas field development project. Under the agreement, Petropars would be charged with project leadership, contract management, reservoir studies, drilling design and drawing up tender documents. Petropars has agreed to make maximum use of Iranian contractors and manufacturers in the development project. Under the agreement, Petropars is to drill eight wells, install a wellhead jacket, install a topdrive with production capacity of 500 mcf/d of rich gas and build 20 kilometers of subsea pipeline. Mohammad Meshkinfam, CEO of POGC, has said National Development Fund of Iran would be tapped for financing the Belal project. Petropars is recognized as general contractor in this project.





Iranian Firms to Make Electropumps for Goureh-Jask Pipeline

Three agreements, worth €48 million, for manufacturing 50 pumps to be used in the Goureh-Jask pipeline have been signed between Iran's Petroleum Engineering and Development Company (PEDEC) on one side, and the Iran Industrial Pumps Company, Pumpiran and PETCO on the other. These agreements are part of a project for carrying crude oil from Goureh to Jask Port.

Once this pipeline becomes operational, Iran would be able to carry 1 mb/d of crude oil from oil fields in southwest to southeastern coasts in order to facilitate crude oil exports from the prospective Jask

terminal.

Iran's Minister of Petroleum Bijan Zangeneh, addressing the signing ceremony, said these pumps were domestically manufactured for the first time. He said it would lead to prosperity in production

and industry, adding: "These pumps are the largest manufactured in Iran."

Zangeneh said the initial capacity of these pumps was 5MW, adding that even now that the capacity has been halved, the figure is good.

"Domestic manufacturers could not make 5MW pumps. That is why we decided to halve this capacity so that domestic manufacturers would be able to handle the affair. It was decided that they technologically design such equipment so that they would be manufactured domestically and domestic companies would receive money," he said.

The minister said: "In these agreements, pump manufacturing companies would be operating pumping stations for at least five years and the companies will be remunerated based on each barrel of oil they would transfer." Zangeneh said the Petroleum Ministry's policy

was to assign operation or repair work to manufacturing companies. "That would have a positive impact on the quality of manufacturing, future costs and the availability of installations," he said.

The minister stressed the Ministry of Petroleum's support for domestic manufacturers, saying rotary machinery was one of the major equipment in the petroleum industry.

"We are largely importing rotary machinery and we have to work on the manufacturing of this machinery in Iran," he said.

Zangeneh said his ministry was seriously following up on the domestic manufacturing of

10 items widely needed by the petroleum industry.

He added: "In the new agreements signed it has been expressly referred to the type commodities that should be supplied domestically."

Supporting Domestic Manufacturers

Massoud Karbasian, CEO of National Iranian Oil Company (NIOC) said the agreements signed in Iran contained a clause expressing to the necessity of utilizing the domestic manufacturers' potential. He said: "The petroleum industry's support for domestic potential is not stoppable."

He added that the Goureh-Jask

Zangeneh said: "Domestic manufacturers could not make 5MW pumps. That is why we decided to halve this capacity so that domestic manufacturers would be able to handle the affair"





Mehdi Farajpour, CEO of IIPC, said Iran's petroleum industry had reached self-sufficiency under the aegis of support by officials, particularly Minister Zangeneh.

project would improve the downstream sector and help develop the Makran area.

"This project has various sections including five pumping stations with a contract worth €143 million, construction of 1,000 km of pipeline, 20 500,000-barrel storage tanks for storing oil, and building a big oil terminal in Jask. All will be accomplished using domestic capabilities," said Karbasian.

He said that domestic manufacturing of slabs in Iran had saved the country €300 million. Karbasian said Mobarakeh Steel Mill was producing 30,000 tonnes a month of slabs to be converted into sheets for pipe building. He said 20 kilometers of pipes had been delivered to Petroleum Ministry.

Touraj Dehqani, CEO of PEDEC, said contractors were involved in 50 sectors for the transfer of crude oil from

Goureh to Jask.

He said: "I hope that domestic companies involved in this project would respond to the petroleum industry's trust in the best possible way taking into account the three principles of quality, cost and time."

Pump Market Potential

Mehdi Farajpour, CEO of IIPC, said Iran's petroleum industry had reached self-sufficiency under the aegis of support by officials, particularly Minister Zangeneh.

He said that Iranian engineers and technicians were able to handle each and every part of the job - designing, engineering, modeling, assembling, delivery and operation- with regard to the pumps required in the oil, gas, petrochemical and power plant projects. Massoud Baqer Tajrishi, CEO of PETCO, said global pump trade was worth more than \$30 billion.

"Once, foreign companies were competing in Iran to receive order for manufacturing pump," he said. "But today the conditions have improved. However, the number of pump manufacturers in Iran is low and requires more players in this sector."

Mohammad Hossein Heyhat, CEO of Pumpiran, said the company had started preparatory work for designing pumps.

"As the Petroleum Ministry has trusted us, we promise to fill the order at perfect quality," he said. Based on the agreements signed for pump manufacturing, IIPC would provide 20 electropumps for €19 million, Pumpiran would provide 20 electropumps for €19 million and PETCO would provide 10 electropumps for €10 million.

The Goureh-Jask project is forecast to become operational by March 2021.



650 Companies at Iran Plast

The 13th edition of Iran Plast opened on 22 September 2019 in Tehran with 605 Iranian and foreign companies in attendance. That was against the backdrop of tough US sanctions against Iran's petroleum industry, re-imposed following Washington's withdrawal from the 2015 Iran nuclear accord. Addressing the inaugural ceremony, Iran's Petroleum Minister Bijan Zangeneh said petrochemical products would be worth \$25 billion by 2021.

Zangeneh: Iran Petchem to Hit \$25bn in 2021

The 13th edition of Iran Plast opened on 22 September 2019 in Tehran with 605 Iranian and foreign companies in attendance. That was against the backdrop of tough US sanctions against Iran's petroleum industry, re-imposed following Washington's withdrawal from the 2015 Iran nuclear accord. Addressing the inaugural ceremony, Iran's Petroleum Minister Bijan Zangeneh said petrochemical products would be worth \$25 billion by 2021. He said that Iran's petrochemical industry was on the frontline of an economic war launched against Iran. Zangeneh said the petrochemical sector is instrumental in bringing back revenue from exports into Iran's economic cycle. The minister highlighted development of the petrochemical industry in recent years, saying Iran's petrochemical revenue stood at \$1 billion in 1997, and the figure has now increased to over \$16 billion. He said: "In fact, the endeavor by the government, the Petroleum Ministry and National Petrochemical Company (NPC) helped implement such projects with international cooperation." He added that efforts were now under way for the completion of half-finished projects.

Petchem Output Capacity to Hit 130mt

Zangeneh touched on the Petroleum Ministry's plan for the third jump in petrochemical production, the first of which started in 1997. "The second jump started in 2013 and will be complete by 2021. Therefore, Iran's petrochemical production capacity will exceed 100 million tons, while products would be worth more than \$25 billion based on the 2013 prices," he said.

Zangeneh said the third jump is set to materialize by March 2026, adding: "In the third jump, the Ministry of Petroleum insists on the diversification of the

downstream chain and diversifying feedstock and products like propylene. Furthermore, in this jump, the production capacity will go beyond 130 million tonnes, worth \$37 billion."

Zangeneh said since 2013 when the first administration of President Hassan Rouhani took office, 15 projects worth \$5.2 billion had become operational. He added that 27 projects would also become operational by March 2022. The minister said one key policy of the Petroleum Ministry was to quit selling raw materials and instead to increase the petrochemical production capacity. He said his ministry had allocated

\$5 billion in feedstock to downstream petrochemical units, \$2 billion of which having gone to petrochemical plants.

No-Flaring Policy

Zangeneh said South Pars projects, NGL 3100, NGL 3200, NGL Kharg and the Bid-Boland gas refinery were instrumental in providing feedstock for petrochemical plants. The Bid-Boland gas refinery project will be producing 3.4 million tonnes a year, NGL 3200 8 million tons a year, NGL 3100 900,000 tons a year, NGL Kharg 2.4 million tons a year, Parsian Sepehr refinery 3.3 million tons a year and Kangan Petrochemical Plant 3.6 million tons a year. The minister said flare gas gathering was under way by the Persian Gulf Petrochemical Industries Company (PGPIC) and Maroun Petrochemical Plant. Zangeneh said: "After the implementation of NGL projects, startup of Bid-Boland and gas gathering projects, flaring will reach

zero and will turn into national wealth without causing any environmental pollution." He said one reason for the delay in no-flaring projects was international sanctions. "These sanctions are anti-human and anti-environmental. They do not let us import the machinery required for prevention of the burning of sulfur or the apparatuses which we need for refining substandard gas," he said. "That is while we have purchased all these apparatuses and paid for them. Some of them have been manufactured, but we are not authorized to import them."

\$93bn Investment in Petchem Sector

Behzad Mohammadi, CEO of National Petrochemical Company (NPC) said Iran Plast was the most important plastic industry event in Iran and the Middle East. He said: "Development of the downstream industry is directly proportionate to

the petrochemical industry development. The more we diversify products in the upstream sector, the more diverse products we will have in the downstream sector." Mohammadi said the petrochemical industry development involved the four sectors of feedstock, investment, technology and market. He added: "Development will materialize when apart from production, market conditions are taken into consideration."

Mohammadi said \$53 billion had been invested in 56 petrochemical plants, adding: "This figure will reach \$70 billion with 83 new projects becoming operational by 2021 and \$93 billion by 2025."

He said Iran's petrochemical industry received 33 million tons of feedstock from oil and gas refineries and NGL plants, which is 650,000 boe/d.

According to Mohammadi, the feedstock receipt capacity of 83 petrochemical plants would reach 62 million tonnes,

which is 1 million boe/d. "The feedstock receipt capacity of petrochemical plants would be 74 million tons, 1.7 mboe/d, by 2025," he said. Mohammadi said gas constituted 77% of petrochemical plants' feedstock, while the remaining 23% was liquid feedstock. The figures would reach 86% of gas and 14% of liquid feedstock by 2025. Regarding diversity in petrochemical feedstock, he said natural gas had a 27% share, ethane 14%, rich gas 17%, gas liquids 23%, kerosene 1%, NGL 10%, naphtha 7% and platformate 1%. Mohammadi said exporting more natural gas was impossible, adding that with petrochemical industry prosperity, natural gas may be converted to generate value.

He said that despite diversity in products, the petrochemical plants fed on liquid feedstock had a weaker economy. He added that the solution to this problem was to use combined feedstock. He said 2004 saw the biggest investment in the petrochemical sector, adding: "For each 1 million tonnes of petrochemical production, \$800 million was invested."

Mohammadi said that catalysts were a major pillar of production in the petrochemical industry. He added: "The country needs \$450 million of catalysts and 40% of catalysts in the country are used in the petrochemical industry."

Iran Plast is hosting 570 Iranian and 35 foreign companies from Iraq, Afghanistan, Turkey, Azerbaijan, Pakistan, Vietnam, Armenia, Kenya, India and Tunisia, as well as individual businesspeople from Italy, Ukraine, China, Romania, Russia, Syria and Lebanon.



\$40bn Investment Eyed in Petchem Sector

Bijan Zangeneh, Iran's petroleum minister, recently said Iran would soon see its petrochemical output cross 100 million tonnes a year and then 140 mt/yr.

Behzad Mohammadi, CEO of National Petrochemical Company (NPC), said Iran would need \$23 billion for its petrochemical sector to experience a third jump in production. Iran's relative advantage in hydrocarbon resources and the Islamic Republic of Iran's policy of not selling crude oil and converting it to products of higher value-added have led the Petroleum Ministry to focus on the development of petrochemical industry and activate the downstream sector with a view to increasing the petrochemical share of Iran's economy. At present, a significant share of Iran's non-oil exports comes from petrochemical exports. There are currently 54 petrochemical production plants and two service-providing plans operating in Iran with a total production capacity of 65.8 million tonnes, which have earned Iran \$17 billion. Iran's petroleum minister recently spoke about a third jump in the petrochemical sector. Between 1996 and 2006, Iran's petrochemical sector

witnessed a significant jump in production capacity that is why Iran's petrochemical production reached 57 million tonnes a year in 2013. Iran is currently producing 31 mt/yr of final products at 56 petrochemical plants, 22.5 mt of which is exported. The rest is consumed domestically. Mohammadi said Iran started the second jump in petrochemical production in 2013, adding it would continue up to 2021. "In the second jump, the petrochemical production capacity would reach 100 million tonnes to earn Iran \$25 billion," he said. The Petroleum Ministry would need to bring 27 petrochemical projects into operation by 2021 in order to realize the second jump. During next calendar year, the Kaveh methanol, Ilam olefin, Bushehr methanol and Takht-e Jamshid PVR projects would come online. The calendar year 1399 (starting March 2021) would be key for Iran's petrochemical industry as 16 projects would come online. The year after, seven more petrochemical projects come online. Therefore, as the second jump in the petrochemical sector



is fulfilled, the number of petrochemical plants in Iran would rise from 56 to 83. Completing petrochemical projects for the second jump in the petrochemical sector up to 2021 would need about \$5 billion in investment.

Petchem Output to Earn \$37bn

Mohammadi said the third jump in the petrochemical sector would materialize between 2022 and 2025. He said: "Twenty-six projects with various levels of progress would come online during that time and Iran's petrochemical production capacity would reach 133 million tonnes with a total value of \$37 billion by early 2026. Mohammadi has said that realization of this objective would make the petrochemical industry one of Iran's key economic sectors behind oil. He said the second and the third jump in the petrochemical sector would

respectively need \$17 billion and \$23 billion in investment. He added that currently \$40 billion was being invested in the petrochemical sector; \$13 billion of which has been provided by domestic and foreign finance. Alongside planning for boosting the petrochemical production capacity in Iran, 40 licenses have been issued for petrochemical projects, which are currently in the stage of providing capital and technology. In case these projects come on-stream by 2025, Iran's petrochemical production capacity would go beyond projections for the second jump. Mohammadi said NPC would be tough with issuing licenses for petrochemical projects. He added: "Only projects in the value chain would be granted license. In fact, the petrochemical industry is tasked with drawing up a roadmap for the quantitative

and qualitative development of the industry. We have been moving in this direction with more sensitivity and we would develop the industry more intelligently based on the availability of feedstock."

33mt Feedstock

Iran's petrochemical industry is currently receiving about 33 million tonnes of feedstock from oil and gas refineries and NGL units. Of this, 25 million tonnes is supplied directly, while the rest pertains to fuel. That is 650,000 boe/d. Mohammadi said petrochemical products are used in the industry, adding: "Currently, 31 million tonnes of final products are manufactured to be supplied on domestic and foreign markets. About 22.5 million tonnes is exported and 8.5 million tonnes is used in domestic markets, 5 million tonnes of which on the stock market." He said that the issue

of feedstock supply should be also taken into consideration in parallel with development. He added that six projects for petrochemical feedstock were under operation, three of which are LNG. These six feedstock supply projects would come online by 2023 to increase the petrochemical feedstock by 15 million tonnes.

350 Products

Touching on the diversity of petrochemical products in Iran, Mohammadi said: "Currently, 44 chemicals, 18 polymer products with 300 various grades, totaling 350, are produced in the petrochemical industry, which shows the resilience of the petrochemical industry and prosperity in the downstream industry." He said the focus of activities were on the acquisition of technical knowhow to produce widely-used products and catalysts. "Of a total 40 catalyst groups, 16 groups have been produced domestically while 9 others are in the manufacturing process up to 2021. We hope that we would have manufactured 25 groups by that time," said Mohammadi. He stressed the need for the qualitative and quantitative development of the petrochemical industry in parallel, saying: "We should know global markets and move in such a way to make good progress in exports and prosperity in the downstream industry." Mohammadi said balanced development would not happen overnight i.e. it would require planning, adding: "Sustainable development of the petrochemical industry is eyed in the third jump."

B2B Talks at Iran Plast

One of the key issues at Iran Plast was the holding of Business 2 Business (B2B) meetings between Iranian polymer companies and foreign delegates. Throughout the exhibition, meetings were held between Iranian companies on one side and delegates from commercial companies from Vietnam, the Republic of Azerbaijan, Afghanistan, Armenia, China, the Kurdistan Regional Government (KRG), Iraq, and Kenya.

A trade delegation from Azerbaijan, specializing in the manufacturing of pipes and doors and windows for buying raw materials and supply of factory equipment, held eight rounds of talks with Iranian companies. A KRG 22-member delegation held talks with seven Iranian companies on foodstuff, agriculture products and household appliances. One round of these talks made significant progress.

The representative of Vietnam held seven rounds of talks with Iranian polymer industry actors to launch a factory involved in the manufacturing of downstream petrochemical products.

The delegates from Afghanistan, involved in producing mineral water bottles, held 11 rounds of talks with Iranian companies. They gave an upbeat assessment of their talks. Kenya's delegates also held talks with four Iranian companies raising the

request for cooperation.

PP Raw Materials

The Iraqi business delegation with 13 businesspeople from the cities of Najaf, Karbala, Divaniya and Ammara was among the largest business delegations attending B2B talks. The main need of this delegation comprised raw materials for polypropylene, granule and masterbatch and petrochemical equipment in the upstream industry, sacks, garbage plastic bags, water storage tanks, disposable tablecloth and plastic baskets in the downstream products.

Ali Helal Kazem Mandil, director of international relations at the Iraqi Chamber of Commerce, said nearly 30 rounds of talks were held during the business forum. "This is the third time that I am heading the Iraqi business delegation at Iran Plast. Compared with previous rounds, our focus has been mainly on raw materials, but the diversity of upstream and final



products was lower."

He touched on the insufficient advertisement for Iranian products in Iraq, saying: "Iranian polymer products are rarely advertised in Iraqi media. Therefore, I suggest that a permanent exhibition of polymer products be established along the Iran-Iraq border in order to allow for more trade exchanges and facilitate our access to Iranian plastic products."

He said: "Iran needs Iraq's market and Iraq prefers purchasing plastic products from Iran, rather than Turkey and Saudi Arabia."

Iran-KRG Cooperation

Behzad Mohammadi, CEO of National Petrochemical Company (NPC), met with Mostafa Abdurrahman,

head of the Union of KRG Exporters and Importers, on the second day of Iran Plast. Mohammadi stressed the Iranian petrochemical sector's readiness to expand cooperation with KRG companies. Touching on deep-seated ties between Iran and KRG, he said: "Iran's petrochemical industry is growing and development at a high pace. We are ready for cooperation and assistance." Abdurrahman also gave a positive assessment of favorable trade between Iran and KRG, stressing broader ties between Iranian and KRG companies.

Khaled al-Favazi, CEO of a water treatment company from Iraq, said it was his first visit to Iran Plast. "I used to purchase

material from European companies and today I was shocked to see progress in Iran's petrochemical industry," he said.

Favazi said Iran's petrochemical industry was advanced, adding: "We have had good talks at this exhibition with the companies involved in PVC pipe manufacturing. We will sign agreement after considering the situation."

Agreement with Chinese

Sanctions have caused restrictions to the presence of foreign companies at Iran Plast. Some of them preferred to continue their cooperation with Iran in secret. However, there were some others that preferred to attend Iran Plast for the first time. Based on their talks with Iranian

companies, they were happy with their presence in Iran.

The sales manager of a Chinese company said Iran's downstream petrochemical sector was well-developed, adding that necessary raw materials existed in Iran for a variety of products.

"However, manufacturing needs advanced equipment, and we can provide Iranian manufacturers with necessary equipment," he said.

Regarding further cooperation with Iranian manufacturers, he said: "Prior to presence at Iran Plast, three agreements were signed between this company and Iranian companies for the purchase of machinery producing protective covers."

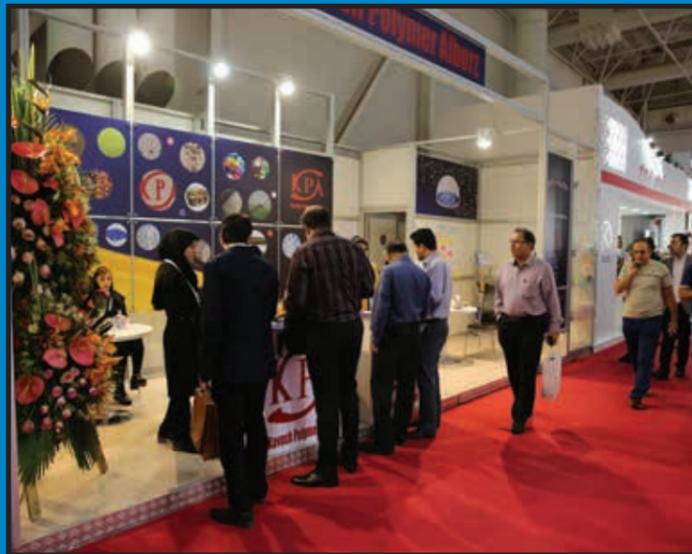
"That is why with the objective of attracting more Iranian manufacturers and signing agreements for sales and cooperation, I attended the 13th Iran Plast exhibition," he said.

He added: "Although it is the first time we are attending Iran Plast exhibition, the clear point is the development of downstream petrochemical industry and the diversity of products in Iran."

Vietnam for Trade Ties

The project manager of a Vietnamese company was attending the Iran Plast exhibition for the first time.

"We are gathering necessary information to launch the production line in the downstream petrochemical sector," he said. He said his objective was to use the capability



and experience of Iranian manufacturers. "We intend to pave the ground for future trade ties with Iran and to get to know Iranian products by attending Iran Plast," he said. He added that establishing relations with Iranian manufacturers would be for more profitability. "That is why after assessing circumstances, we will make up our mind. However, given the high potential of actors of the petrochemical industry in Iran and the accessibility of raw materials, I hope to see cooperation between Iranian and Vietnamese

companies in this sector in the future," he said.
Iranian Products, Best Choice
Mohammad Nassim Ahmad Zehi, manufacturer of mineral water in Afghanistan, said his company needed PET bottles. "This is the first time that for making PET bottles for mineral water; I plan to use Iranian bottles. So far, 11 rounds of talks have been held with the Iranian manufacturers of bottle and one round of these talks is expected to lead to a memorandum of cooperation with Iranian

bottle producers," he said. Ahmad Zehi touched on the production capacity of his own factory, saying: "Our production capacity is 12,000 half-liter bottles and 6,000 1.5-liter bottles a day. We have always bought our bottles from Iran through dealers, which affected the cost price of the product. But now we intend to directly enter into talks with the manufacturers of bottle and embark on imports."

Ahmad Zehi also highlighted the high quality of Iranian products, saying: "I believe that purchasing Iranian products would be the best choice for the buyers of plastic industry."
PET Machinery Export to Armenia & Iraq
The number of Iranian companies involved in the plastic industry was higher at this latest round of Iran Plast than that of

the previous editions. A number of these companies, while not denying the impact of sanctions on their economic activities, said they continued to export products to Iran's neighboring countries. They said they had struck good deals for exporting their products. The manager of one of these companies said: "In addition to supplying domestic needs, we have started

exporting the machinery to neighboring countries including Armenia and Iraq." "In addition to Iran, we have sought to cover neighboring countries and invite them for cooperation," he said. He noted that Iranian and European products were comparable in terms of price and quality. "At this exhibition, two agreements were signed with Armenia and three others with Iraq, valued totally at IRR 8,000 million," he said. "Talks have been also held with Pakistan, and we have different views on only on terms of payment. We have also held talks with Turkmenistan and Kazakhstan."

Agreement for Export to Iraq

Sanaz Baygani, chairman of Kian Polymer Engineering Company, said the company had reached agreement with an Iraqi businessman. "Every year, we witnessed normal visitors who demanded our products, but this time we held talks with Afghan and Azeri businesspeople and we also managed to sign an MOU with an Iraqi businessman for selling products," she said. She added: "Of course the agreement would set the precedent for our future cooperation. Given the participants' strong presence at this exhibition, we hope that export to Iraq would continue."
Baygani said: "Our products were distributed only in Iraq's Erbil in the past, but this time this agreement would lead to the distribution of our products in entire Iraq."

Diverse Markets for Iran Petchem Products

The diversity in Iran's petrochemical products market and investment made in this sector over the past 20 years have minimized the impact of US sanctions on Iran's petrochemical exports. According to data collected during Iran Plast exhibition, petrochemical plants across Iran have not seen any halt in their exports, rather than that they have seen diverse markets for their products.

IBC Tank Grade Made in Iran

Amir-Hossein Bahreini, CEO of Arya Sasol Polymer Company, on the sidelines of the 13th annual Iran Plast unveiled a new grade of IBC tank production, known as HBM4261A.

He said: "The specialized and new high-density polyethylene grade with a new catalyst was produced at Arya Sasol Polymer Co., and the country no longer depends on imports of this product."

He added that Arya Sasol was the first Iranian company to have produced this product in compliance with international standards on the industrial scale.

Regarding the features of the product, Bahreini said: "The new high-density polyethylene is used in manufacturing fuel tank for cars, high-quality plastic barrels and IBC tanks for carrying maximum one tonne of chemicals. All these products have the same specifications as BASEL's." He said that consumption

of the product in Iran stood at 50,000 tonnes.

Bahreini underlined its high attractiveness in global markets, adding: "With the supply of this product, the exported products mix will become more diverse."

He said Arya Sasol earned more than IRR 32,000 billion in net profit after selling IRR 58,000 billion of products last calendar year.

Arya Sasol has a nominal capacity of 1 million tonnes of ethylene, 600,000 tonnes of low-density and high-density polyethylene and about 100,000 tonnes of C3. Bahreini said over the past three years the company had run at full capacity.

Regarding future projects by Arya Sasol, he said arrangements were under way for the final phase of a planned 10% increase in the ethylene production with an investment of \$50 million by Germany's Linde.

"In parallel with generating more value-added and completing the value chain of products, operations have started for the construction



of a new polyethylene unit with a \$300 billion investment for a capacity of 300,000 tonnes a year," he said, adding that the project was expected to become operational by February 2022. According to Bahreini, once this project has become operational, Arya Sasol's production capacity would hit 2 million tonnes. Arya Sasol with a production capacity of 1.7 million tonnes of ethylene, C3 and polyethylene is known as Iran's polymer giant.

Diversity in Products and Market

Mohammad Reza Saeedi, CEO of Jam Petrochemical Company, also said that in our view diversity in

products and markets was a major strategy for upgrading the company. He said the company was effectively present in global markets. He said that Jam company had recorded good domestic sales and exports, adding: "Although we saw some uncontrollable developments like fluctuations in the price of polymer products and a decline in the price of these products in global markets, production plans materialized in terms of amount and quality."

Saeedi said the company was exporting 35% to 40% of its products, adding it was looking for development in the future. "One of the strategies in the Jam Petrochemical Plant

is to develop the market in order to develop new grades and markets," he said.

Saeedi said that one of the strategies pursued by the Jam Petrochemical Plant was development of products in the market. "We seek to increase our market share and production capacity and upgrade the quality of products."

He said the Jam Petrochemical Plant was manufacturing new projects to meet the needs of new customers. "Identifying new markets is another strategy adopted the company."

"Simultaneous diversification of products and markets is planned to help complete the value chain in the downstream and upstream sectors."

Saeedi said the Jam company had benefited from domestic potentialities.

"We primarily depend on the Jam Petrochemical capabilities and in the next phase we will focus on domestic partners." He said sanctions targeting Iran's petrochemical industry were not welcome, but they could also be of help in the development of domestic plants. He said since downstream sector customers were faced with restrictions and challenges, efforts were under way to resolve their problems.

Saeedi said: "based on our plans we intend to upgrade the status of the Jam petrochemical in the capital market and business activities."

MOUs and Agreements Signed at Iran Plast

On the sidelines of the 13th edition of Iran Plast, four memorandums and agreements were signed by participant companies for development of polyethylene terephthalate (PET) technology, manufacturing of polymer products, domestic production of raw materials used in industries and building a desulfurization unit at Ilam Petrochemical Plant.

PET Technology Agreement

The PET technology development agreement was signed between Petrochemical Research and Technology Company (PRTC) and Shahid Tondguyan Petrochemical Co., while the agreement for the development of technical knowhow for high-density polyethylene production was signed between Ali Pajoohan, CEO of PRTC and Siavash Derafshi, CEO of Tabriz Petrochemical Company. Pajoohan referring to the PET technology agreement said: "Based on the agreement, necessary data has been extracted while conditions have been prepared for production in the demo unit of PRTC and then the industrial plant of the product would be supplied." He said that PRTC had the required hardware and knowhow for PET production. Ali-Mohammad Bosaqzadeh, director of projects at National Petrochemical Company (NPC), said

Tondguyan Petchem Co. was of high significance in Iran's petrochemical industry due to the supply of special products. He said the products of the company were unique. He said that Tondguyan Petchem Co. sold all its products on domestic markets last calendar year, adding it was planning for export. He touched on the necessity of increasing diversity in production, boosting quality and enhancing output, saying: "Cutting edge technologies must be used for the optimization of the Tondguyan Petchem Co's units, and that is why this agreement was signed."

Polymer Product Agreement

Pajoohan said PRTC had worked for 15 years on the technical knowhow for heavy polyethylene, adding: "This plant is now able to present technical savvy for this technology at different capacities." He said all the required hardware and software was



available at PRTC, adding: "The license for high-density polyethylene with a capacity of 310,000 tonnes a year was agreed upon after negotiations with Tabriz Petrochemical Co." Derafshi said it was the first time a polymer product was being manufactured with local knowhow in Iran. He added: "Tabriz Petrochemical Co. plans to double its output over four years."

Raw Materials

NPC also signed an MOU with Iran's Industrial Development and Renovation Organization (IDRO). The agreement was signed by CEOs of the companies for the purpose of domestic supply of raw materials used in various industries. Behzad Mohammadi, CEO of NPC, said the MOU was aimed at enhancing downstream industry and giant industries like car manufacturing.

"We need to learn about the downstream industry's needs and identify polymer grades matching this industry prior to activating the corresponding research and technology system," he said. Mohammadi said one objective sought at Iran Plast was to establish a communications channel between producers of petrochemicals in the upstream sector and consumers in the downstream sector. "Petrochemical upstream and downstream industries must have close ties and know each other's needs," he added. Mohammadi said about 15,000 enterprises were active in the downstream sector. He added that the enterprises were receiving about 5 million tonnes a year of feedstock, which has created 880,000 job opportunities. Baqer Ali, CEO of IDRO,

underlined the high capacity of petrochemical industries in completing the value chain, saying: "The MOU has been signed in order to help NPC deepen the movement of domestic manufacturing."

Desulfurization Plant

The MOU on designing, engineering and equipment procurement, commodity and manufacturing, installation and launch of granulated sulfur recovery, with a capacity of 8,815 tonnes a year was signed between Ilam Petrochemical Co. and Nourhan Industries based on the Claus process and by using the technical savvy of Research Institute of Petroleum Industry (RIPI). Rasoul Ashrafzadeh, CEO of Iranian Investment Petrochemical Group (IIPG) said the technology was owned by RIPI. He added: "After the implementation of this project, in light of

Persian Gulf Holding's policy of maximum utilization of local knowhow and Iranian licenses, this technology would be used in other units, too." He said that implementation of the project saved €10 million in addition to the development of Iranian knowhow and job creation. Shapour Taqipour, CEO of Ilam Petrochemical Co., said this project was environmentally significant. "By implementing this project, the H₂S which was expected to be carried to the refinery with a 14-km-long pipeline, will be eliminated from this cycle, which would be of great help to the environment of the region," he said. Taqipour said: "By implementing this project, the H₂S will be solidified and sold. In addition to eliminating a threat to the environment, it would be a profitable product for the plant."

NIGC Chief: Iran Gas Output to Hit 900mcm/d



Due to the approach which has been taken vis-à-vis the gas industry in recent years, Iran's technical and engineering capabilities have significantly grown in terms of design, development of gas networks and commodity supply

→ In an interview with "Iran Petroleum", he said US sanctions against Iran's petroleum industry, albeit effective, had failed to bring Iran's gas flow to a halt. The full text of the interview is as follows:

Negar Sadeqi

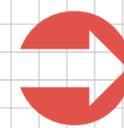
» Iran has one of the largest gas transmission networks in the Middle East. The country's gas production capacity has significantly increased as new development phases of the giant South Pars gas field have become operational. That is why 98% of Iran is connected to gas grid. Now, will the US sanctions affect Iran's gas production in coming years?

It would not be true to say that the sanctions have not had any impact on Iran's gas industry. The sanctions have caused some problems for us, but they have not been deterrent. It is visible in the gas sector because Iran's gas industry has long taken steps towards self-sufficiency and we have in parallel with the sanctions prepared ourselves to deal with these circumstances. We mainly pushed the issue by relying on the domestic sector. As you know, at NIGC we mainly need commodities and equipment for gas refineries, gas distribution network and gas trunklines. In certain cases, the necessary equipment was not manufactured domestically and we had to import it. In some other cases, domestic manufacturing of some equipment was not economically justified due to its high technology. However, as sanctions were toughened and Iran's gas transmission network, gas distribution and processing at refineries were expanded, we decided to

provide the strategic commodities which are not domestically manufactured. Therefore, we have asked knowledge-based companies to do so. Fortunately, we have made good breakthroughs over this time. Therefore, in the commodity supply and gas network equipment sector, I dare to firmly say that we were not deeply affected by the sanctions and the restrictions have not hindered the gas industry activity.

» We are moving towards nationalization of gas industry technologies. In light of the fact that foreign companies spare Iran their services, to what extent is that possible?

It's tough. However, during the past years Iranian manufacturers have enhanced their potential in the gas industry. For instance, last year, injection substances used for gas odorization or many catalysts used in the gas industry were produced in Iran. Therefore, you can see that despite all restrictions caused by the sanctions for us the technical and engineering capabilities of Iranian specialists have grown. At present I can say with certainty that Iranian manufacturers have seen their potentialities increase in supplying necessary products. The important issue is now to learn how to communicate with domestic manufacturers and knowledge-based companies and introduce our products. In Iran we can manufacture most equipment



Ever since the first administration of President Hassan Rouhani took office until now, 11 phases of the giant offshore South Pars gas field have become operational. Iran's gas production is forecast to increase 70 mcm/d in the current calendar year. Hassan Montazer Torbati, CEO of National Iranian Gas Company (NIGC), says Iran's gas production would reach 900 mcm/d by 20 March 2020 (the end of Iran's calendar year).

needed in the gas industry. I reiterate that we don't worry a lot for the sanctions and we are mainly seeking to develop technologies for the gas industry. We have started talks in this regard, and we will soon start building such equipment.

» Iran's share of global gas trade is meager and NIGC also announced it had detailed plans for boosting Iran's share of gas trade. To what extent will sanctions be effective?

The sanctions might create problems for us to break into some markets; however, it is noteworthy that Iran sits atop 18% of total world gas. Nevertheless, global gas consumption is increasing. Iran's neighboring countries have great potential to receive gas from Iran. Therefore, we are lucky enough to develop our gas trade among our neighbors. Despite all restrictions we are faced with, the Ministry of Petroleum has taken effective steps in this regard and we have recorded good figures in gas exports. We have still great opportunities for developing Iran's gas exports. You must know that gas export talks are time-consuming due to their sensitivity. But in light of our neighbors' dependence on gas, we are not anxious about gas exports in the future. Naturally, gas export processes would naturally hit some obstacles, but the sanctions will not throw any obstacle to the continuation of our negotiations.

» To what extent the gas industry development depends on foreign investment?

We may need foreign investment in upstream development because upstream projects are capital-intensive and they also need technology. But in the downstream sector we may not need too much foreign investment and there is sufficient capital and technology for downstream projects.

» How do you assess Iran's potential in exporting technical and engineering services to neighboring states?

Due to the approach which has been taken vis-à-vis the gas industry in recent years,

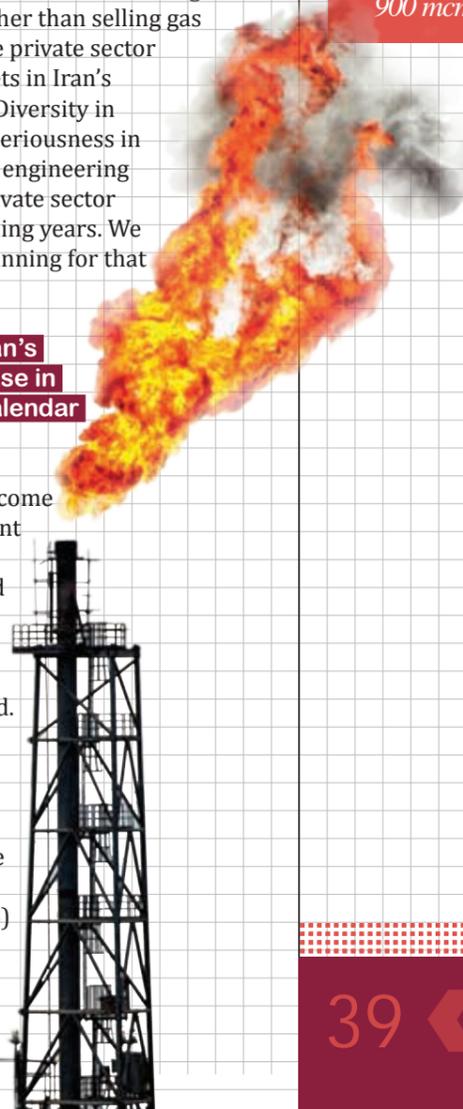
Iran's technical and engineering capabilities have significantly grown in terms of design, development of gas networks and commodity supply. Iran is currently enjoying a good position in the region. However, I believe that not only should the private sector be more engaged in gas trading, but also we have to think twice about government approaches for exporting technical and engineering services and increasing our share of global gas trade. Enjoying good potential for development of technical, engineering and consulting knowledge, Iran's private sector would be able to implement acceptable projects outside the country. I believe that Iran's private sector can build power plants and distribution network overseas. The government had better sell gas to the private sector rather than selling gas to governments, and the private sector would break into markets in Iran's neighboring countries. Diversity in the export market and seriousness in exporting technical and engineering services through the private sector top NIGC agenda in coming years. We have already started planning for that purpose.

» How much will Iran's gas output increase in the current Iranian calendar year?

As new South Pars development phases become operational in the current year, we forecast to have an extra 70 mcm/d production in our production capacity. Iran's gas production would reach 900 mcm/d. In parallel with this output hike, it would be possible to transmit gas from southern Iran to northern Iran due to the completion of the Iran Gas Trunkline 6 (IGAT 6) and part of IGAT 9.



As new South Pars development phases become operational in the current year, we forecast to have an extra 70 mcm/d production in our production capacity. Iran's gas production would reach 900 mcm/d.



Dey, Sefid Zakhour Offer Investment Opportunity

The objective behind the development of Dey and Sefid Zakhour gas fields is to produce 5.1 mcm/d and 10 mcm/d of gas respectively, and the delivery of gas processed at Farashband refinery to Iran Gas Trunkline (IGAT) 2 and 3 for supplying national needs. Dey is located 60 kilometers south of Firouzabad and 140 kilometers south of Shiraz in the southern Fars province. Dey which is estimated to contain 2.6 tcf of gas is close to Aghar and Dalan gas fields. Sefid Zakhour which is located near the city of Qir in Fars Province holds 5.6 tcf of gas in place, 8.5 bcf of which is recoverable. If 17 wells are

drilled in this area 30 mcf/d will be recovered from this field. Development of these fields needs investment and state-of-the-art technology and that is why these two reservoirs were introduced as opportunities for investment during a conference held earlier this year on Iran's new model of oil contracts. Sefid Zakhour which is 40 kilometers long and 8 kilometers wide is situated 150 kilometers southeast of Shiraz. According to studies conducted by the Reservoir Engineering Studies Office of National Iranian South Oil

Company (NISOC), Iran plans to recover 15.1 mcm/d of gas from these fields after drilling seven new wells and workover of two wells in Seif Zakhour and drilling four new wells and workover of one well in Dey. According to surveys, delivery of gas and gas liquids from Sefid Zakhour field to Farrashband refinery will be done through two pipelines of 20 and 6 inches in diameter. Once the gas produced at Dey field is collected, it will be delivered to Farrashband refinery. Upstream development

of Dey and Sefid Zakhour fields need acquisition of land for the construction of pipelines and drilling of wells, completion of two wells, drilling and completion of 11 new wells, purchase of wellhead commodities and installations, building wellhead pipelines, establishing gas and condensate separation units in Sefid Zakhour, installation of two pumps for the delivery of condensate from Sefid Zakhour, purchase and installation of pigs and installation of double butterfly valves. The Board of Directors of National Iranian Oil Company has given the go-ahead for the initial production of 13.2

mcm/d of gas from Dey and Sefid Zakhour gas fields with a budget allocation of IRR 1,645 billion plus \$159 million. In the light of change in flow from 13.2 mcm/d to 15.1 mcm/d and changes in the nature of fluid produced by Sefid Zakhour field, the NIOC Board of Directors has given its nod to a budget allocation of IRR 1,572 billion plus \$272.65 million. Given the decline in the feedstock supplied to Fajr Jam refinery and the plan for supplying feedstock to this refinery from adjacent fields, gas delivery from Sefid Zakhour to Fajr Jam refinery with the objective of making up for feedstock shortages of the refinery is currently under review. In case of final

approval, the planned gas delivery from Sefid Zakhour to this refinery, more than IRR 822 billion will be required for the upstream development of this field. After the start of drilling operations in the second half of the Iranian calendar year 1384(2005), the first exploration well was drilled up to the depth of 5,271 meters. The Exploration Directorate of NIOC managed to explore sweet gas in different layers of Kangan and Dalan. As a result, the reserves in this field were increased to 4.11 tcf. Sefid Zakhour is estimated to hold 205 million barrels of gas condensate. Its gas recovery rate is 75% and its condensate recovery rate is estimated at 35%.

Jofair High Potential for Development

■ Jofair oil field is located in the West Karoun area in southwestern Iran. The field is estimated to contain 2.1 billion barrels of oil in place. It was among oil fields offered for development under the Iran Petroleum Contract (IPC) model, the restructured model of oil contract in Iran. Once fully developed, Jofair could produce 50,000 b/d of oil.

West Karoun covers a vast area of land along Iran-Iraq border. West Karoun lies in Khuzestan Province, but due to the 1980s imposed war and post-war demining operations, oil exploration and production had not been possible.

The area is proven to contain huge oil reserves. Thanks to relentless efforts by Iranian petroleum industry experts and Iranian firms, all mines dating from the Baathists invasion have been cleared.

Most oil fields located in West Karoun are

jointly owned by Iran and Iraq, but fortunately Jofair is independent and belongs to Iran. Several years ago, National Iranian Oil Company (NIOC) devised a development plan for the oil field as part of the country's strategic plan to boost oil output. According to NIOC, more than \$500 million in investment is needed to increase oil recovery from the Jofair field.

Over the past years, further attention has been paid to this field. Iran intends to have developed Jofair by 2021 under the country's long-term petroleum industry development plan.

Jofair field has also several gas layers, which can produce a significant amount of natural gas.

Jofair is administered by Arvandan Oil and Gas Production Company. Development of this field has been awarded to an Iranian company. That means foreign companies willing to work in this field are required under IPC to hire an Iranian partner. From 1975 to 1978, four exploration wells were drilled in the Jofair field, leading to the discovery of three reservoirs known as Ilam, Sarvak and Gadvan.

Jofair field is located near the Azadegan, Yadavaran and Ab Teymour oil fields. Preliminary development operations are under way and early production has become operational.

Heavy crude makes up 96% of Jofair's content with the remaining 5% being light crude oil. The API gravity of Jofair's oil is 23, which is relatively high.

The field is planned to be developed in three

phases; early production with production capacity of 6,000 b/d, Phase 1 with 15,000 b/d output, Phase 2 with 25,000 b/d output and Phase 3 with 50,000 b/d output.

Analysis of 3D seismic data, comprehensive reservoir studies, drilling and completion of two wells and workover of two wells, as well as construction of 40 kilometers of pipeline and installation of crude oil gauge systems are among major activities for early production from Jofair field.

The Iranian company tasked with developing this field will formulate the master development plan and repair wells with the help of downhole pumps. That would help increase production from this field without having to drill any new wells. Jofair field had previously given to Belarus's state oil firm for development under a \$500 million buyback deal in September 2007. But the agreement was cancelled due to the Belarusian company's failure to honor its obligations; oil recovery from Jofair was expected to reach 3,500 b/d, but after four years it had managed only to extract 2,800 b/d of oil. The contract was fifty-fifty between Iran and Belarus. The Belarusian company was expelled and the Iranian firm continued the development of Jofair on its own.



Aramco; Fire Set Ablaze by Saudis

■ The surprise attacks by the Yemeni Houthis on the oil giant Aramco-owned Abqaiq oil processing facilities and Khurais oil field in eastern Saudi Arabia left significant political and economic impacts at the regional and global levels. That caused a 5mb/d decline in Aramco's oil output. The unprecedented attacks were interpreted as Yemen's retaliation against the Saudi-led coalition's war on Yemen since 2015. The Saudi-led coalition has been targeting Yemeni people. The attacks on the Aramco facilities showed that many equations have changed.

Shuaib Bahman

Aramco Attack Messages

Aramco, a state-owned Saudi company, started out in 1933. It owns the world's largest proven oil reserves. In terms of crude oil and natural gas reserve ownership, Aramco is one of the most valued companies in the world.

Aramco is protected by the most advanced defense and military systems due to its key role in global oil supply; however, Yemeni forces managed to strike a heavy blow at the Saudi oil facilities. This blow was so effective that it halved the Saudi oil production, forcing the country to become an importer of petroleum products.

Politically speaking, what happened in Aramco carried important message. First and foremost, the Yemeni army's

action in attacking the Saudi oil facilities proved that small actors could deal striking and telling blows. Second, unilateral aggression against a country with no defense forces would not end in a predetermined result. Third, in the current international system, the US is no longer able to provide full support for its traditional allies. Fourth, it would be impossible to exert pressure on other countries without expecting any response. Fifth, buying and accumulating military assets could not guarantee national security.

Saudi Arabia, spending \$67.6 million on weapons purchase, is the third largest buyer of weapons in the world. Despite such military spending, the country is highly vulnerable.

Therefore, merely buying advanced arms and enjoying super powers support could not ensure security for a country.

Impact on Global Markets

Economically speaking, what transpired Aramco was a rare event in energy exports. With a single attack, oil-rich Saudi Arabia's oil exports were cut to half. What adds to the significance of such an event is that rebuilding the damaged oil facilities would take time. Even under suitable conditions, it would take months.

The question here is to know of the fate that would befall energy markets. Will the market recover from the shock caused by a 5mb/d decline in Saudi oil output

or would it have to suffer the consequences of these attacks in coming months? Can a sudden increase in oil prices be managed by increased production from other nations or isn't there any such capacity? Are oil producers willing to increase production to keep prices low or do they prefer to see oil prices rising?

Over recent months, international energy markets have been dealing with oil production surplus. Despite all measures undertaken by OPEC+ to freeze oil prices, the energy price has been following a steady state.

However, the attack on Aramco sent shockwaves through international energy markets. The impact of this shock went beyond market oil shortages, raising fears of an all-out war in the Persian Gulf region. In fact, fearing similar attacks on oil facilities in other countries significantly pushed up oil prices. That is while many oil producers are happy with high prices in global markets and show no inclination for any decline. Therefore, even if petrostates

are able to increase their production they will not use such capacity in order to keep prices high.

What Next?

In light of conditions prevailing over global markets, predicting future developments would require taking into account several major issues as follows:

First, due to inaccurate and unreal information provided by Saudi officials, the exact time of Aramco's return to the pre-attack levels remains unclear. Saudi officials' inaccurate information would add to ambiguities in global markets and subsequently oil prices.

Second, Saudi Arabia has already announced the total value of Aramco's assets at \$2,000 billion, intending to earn \$100 billion in revenue from floating 5% of the company's shares on stock markets.

Now even if the Saudis manage to restore the pre-attacks production levels, Aramco's assets would no longer become as valuable as

they were. Such installations that have been attacked once and remain vulnerable are susceptible to be targeted again. Investors and stock buyers are less willing to invest in an insecure area which may be attacked at any time. That means lower investment in one of the most important oil facilities in the world. That is likely to also affect energy prices in the future.

Third, if Saudi Arabia does not halt its attacks on Yemen, the Aramco incident is likely to repeat itself. That would cut Saudi oil output and cause a new shock in the global markets.

Fourth, US policies in the region would bring about more insecurity and therefore oil prices would be affected. Any mistake by the US to trigger a conflict with Iran would engulf the entire region in a war. That would result in a reduction or full halt to oil exports from the Persian Gulf to global markets, in which case energy prices will increase sharply.

Therefore, should Saudi Arabia continue to attempt for engaging the US and Iran in a war and the White House make such a calculation mistake, global energy markets will see a new shock.

In general, global energy markets mainly depend on Saudi policies in the region. In case the Saudi government continues its belligerence it will be stuck in a widespread war which would destroy itself. Now, everyone is waiting to see whether or not Aramco would manage to get out of the unwanted conditions imposed on it by Saudi politicians. The response to this question lies in the hand of Saudi leaders.



Brazil to Open Up Presalt Region

Brazil's Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (ANP) hopes three forthcoming licensing rounds will increase the diversity of upstream oil and gas operators present in Brazil, according to GlobalData. The consultant's analysis suggests the 6th PSA Round and the Transfer of Rights Round will likely boost the number of IOCs designated as an operator in the presalt region, which remains the country's key growth area. In 2016, Congress voted for private oil companies to be the operator in the presalt, although Petrobras retains the right of first refusal for operatorship and to take a share of 30% or more in license awards.

Rosneft Expands Links With Mozambique

Rosneft has signed a cooperation agreement with Mozambique's National Petroleum Institute (Instituto Nacional de Petróleo, INP), and memorandum on expansion of cooperation with the national hydrocarbon company Empresa Nacional de Hidrocarbonetos (ENH). The arrangement will give Rosneft the right to study available geological data on numerous offshore and onshore blocks in Mozambique and allow the company to potentially enter projects on those blocks in the future.

Ireland Halting Offshore Exploration

Irish leader (An Taoiseach) Leo Varadkar says his government intends to phase out the award of new offshore exploration licenses in the future. He made his announcement at the UN Climate Action Summit in New York. Irish independent Europa Oil & Gas commented that as far as it was aware, phasing out of oil exploration only relates to future oil licenses and not

future gas licenses. It also understands all of the options, licences, and leases already in place will be allowed to progress for their full duration. Europa has a large exploration position offshore western Ireland, which includes the potentially large Inishkea gas prospect close to the producing Corrib field in the Slyne basin off northwest Ireland.

Neptune Acquiring Interests Offshore Indonesia

Neptune Energy has agreed to acquire interests from Eni in the Kutei basin production sharing contracts (PSC) offshore Indonesia. Neptune will acquire a 20% working interest in the East Sepinggan PSC and a 30% working interest in the East Ganal PSC. The East Sepinggan PSC includes the fasttracked Merakes development and the recent Merakes East discovery. Merakes is being developed as a subsea tieback to the Eni-operated Jangkrik FPU in the Maura Bakau PSC, in which Neptune has a 33.3% working interest.

Tap Withdrawing From Offshore Australia E&P

Tap Oil has agreed to sell most of its E&P interests in Australasia to Kensington Energy, a privately-owned Australian oil and gas investment company. The package comprises a 20% interest in the BHP-operated WA-72-R permit offshore Western Australia, containing the Tallaganda gas discovery; 15% in the Eni-operated WA-25-L including the shut-in Woollybutt oil field (where abandonment is due to start during 2020-21) and a 5% oil, gas and condensate overriding royalty interest over 66.67% of NZ PMP 38748, which includes the producing Sidewinder oil and gas field.

VIEW



VIEW



VIEW



Brazil

Ireland

Mozambique

Indonesia

Australia

Bangladesh Shortlists Companies for Spot LNG

Bangladesh has shortlisted 17 companies for its spot tender process as it plans to buy around 1 million tonnes of liquefied natural gas (LNG) next year to capitalize on lower prices for the super-chilled fuel, two company officials said. Petrobangla, in charge of LNG imports into the South Asian country, plans to sign sales and purchase agreements with the shortlisted companies after it receives cabinet approval, the officials with direct knowledge of the matter said. "We are moving ahead with plans to import LNG through the spot market by shortlisting 17 companies out of a total of 43," one of the Petrobangla officials said. The companies shortlisted are Mitsui, Marubeni, Osaka Gas, AOT Energy, Diamond Gas, Summit Oil & Shipping, Excelerate Energy, Jera, Gazprom, Vitol, Trafigura, Woodside Petroleum, Eni, Petronas, CNOOC, Cheniere and Chevron, the official said.

Asian spot LNG prices LNG-AS are currently at their lowest in years due to new



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supply entering the market from the United States, and as demand growth slows in major economies. Traders who sign the sales and purchase agreements will then be able to participate in spot tenders Petrobangla will issue when cargoes are needed, said the officials, who declined to be identified because they are not

authorized to talk to the media.

One of the officials said the state-owned company could buy about 1 million tonnes next year through the spot market. The nation of 160 million people is expected to become a major LNG importer in Asia, alongside Pakistan and India, as domestic gas supplies fall.

NEWS



Malaysia May List Petronas' Exploration Arm

Malaysia is considering listing the exploration and production arm of state energy company Petronas, the world's third-biggest exporter of liquefied natural gas, state news agency Bernama reported citing Prime Minister Mahathir Mohamad. Mahathir has previously said that the government was looking to sell or list some state assets to reduce debt.

There has been speculation this could include selling a portion of Petronas. "At the moment, we feel that selling Petronas shares is not going to be good for the government," Mahathir said in a dialogue session in New York, according to Bernama. The government may consider listing Petronas at a later stage, he said.

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NEWS



Hungarian Polyol Plant to Hit Full Capacity in 2023

Hungarian energy company MOL's polyol plant in the east of the country will be operational by mid-2021 and running at full annual capacity by 2023, boosting its petrochemicals business in a fast-growing market, it said.

The plant, built by Germany's ThyssenKrupp, will make MOL the only integrated producer of polyether polyols in Central and Eastern Europe.

The compounds are needed for products in the automotive, construction, packaging and furniture industries.

The project will cost about 1.2 billion euros (\$1.3 billion), with the Hungarian government contributing 131 million euros in the form of corporate tax allowances and cash.

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COSCO Sanctions Drive Global Oil Freight Rates Up

Key oil freight rates from the Middle East to Asia jumped nearly a fifth, with the global oil shipping market spooked by fresh United States sanctions on units of Chinese giant COSCO for alleged involvement in ferrying crude out of Iran. In what the State Department called "one of the largest sanctions actions the U.S. has taken" since curbs were re-imposed on Iran in November last year, two units of COSCO were named alongside other companies in claims of involvement in sanctions-busting shipments of Iranian oil. [The surprise move, affecting one of the world's largest energy shippers, operating more than 50 supertankers, comes as President Donald Trump seeks to exert maximum pressure on Iran to drop nuclear programmes.

As some Asian oil buyers rushed to the shipping market to secure vessels, rates for chartering supertankers, or Very Large Crude Carriers (VLCCs), to bring crude oil from the Middle East to Asia surged nearly 19% overnight to about 75-76 points on Worldscale, an industry tool used



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to calculate freight charges. But there was also uncertainty over how the sanctions on the COSCO units - COSCO Shipping Tanker (Dalian) Co, Ltd and its subsidiary COSCO Shipping Tanker (Dalian) Seaman & Ship Management Co, Ltd - will be implemented. Industry sources said some oil buyers were holding off hiring COSCO tankers while they check

with legal teams to better understand the impact of the sanctions. "The market is fearful of sanctions so refiners are taking some preventive measures. We'll have to see how widely implemented the sanctions will be," said KY Lin, spokesman for Taiwanese refiner Formosa Petrochemical, a major crude oil buyer in Asia.

NEWS



Bosnia Region to Issue Exploration Tender

The government of Bosnia's autonomous Bosniak-Croat Federation plans to issue a tender in October to award oil and gas exploration and exploitation licences.

The Federation, which makes up Bosnia alongside the Serb Republic, is offering investors the opportunity to search for hydrocarbon deposits in four blocks in the Dinaridi and Panonian basin regions covering an area of 4,591 square kilometres.

The exploration area has been estimated to worth up to \$700 million.

Experts say that southern deposits, located at a depth of 4,000 to 8,000 metres, could contain up to 500 million tonnes of reserves, while northern deposits are estimated at around 70 million tonnes.

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NEWS



India Iraq Oil Imports Hit Record

India's oil imports from Iraq surged to a record high in August as refiners replaced costly African imports with cheaper Basra crude, tanker arrival data obtained from industry and shipping sources showed. The world's third biggest crude oil importer shipped in about 1.32 million barrels per day (bpd) of Iraqi oil last month, about a third more than July and 29% higher than August 2018, the data showed. African crude imports fell 18.3% to 764,500 bpd as prices for heavy sweet crudes from Angola, Cameroon and Chad - sought by China's so-called teapots (small refiners) and major refiners ahead of IMO 2020 - rose. Production cuts by the Organization of the Petroleum Exporting Countries and U.S. sanctions on Iran and Venezuela tightened heavy sour crude supplies, also enabling Iraq, OPEC's No. 2 producer, to gain market share in India.

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Floating LNG Terminal in Philippines

U.S. liquefied natural gas (LNG) company Exceleerate Energy will proceed with its floating LNG import terminal project, Luzon LNG, after receiving the go ahead from the Philippines. "Exceleerate will develop, design, permit, construct, finance, and operate the terminal," the company said after reporting a notice to proceed from the Philippines government. It will also arrange the supply of LNG to the terminal. The facility, which will have a storage capacity of 150,000 cubic meters, will be set up in the Bay of Batangas on the main island of Luzon, near power plants running on Malampaya natural gas, the Philippines' Department of Energy (DOE) said. "As proposed, by the third quarter of 2021 we are expecting that Exceleerate's FSRU LNG facility will commercially operate," Philippine Energy Secretary Alfonso Cusi said in a statement. The Southeast Asian country will rely on imported natural gas to feed some of its power plants currently running on its Malampaya gas, which is



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expected to be depleted within the next decade.

Within six months from the issuance of the notice to proceed, Exceleerate has to comply with permit requirements and submit the proof of financial closing to the DOE. The completion of construction and commissioning of the facility will take around two years, from October 2019

to June 2021, the DOE said. At least three other Philippine LNG projects are currently in the pipeline: First Gen Corp's venture with Tokyo Gas Co Ltd, Australia-listed Energy World Corp's LNG hub project in Pagbilao province, and Phoenix Petroleum Philippines Inc's LNG hub proposal.

NEWS

IEA May Cut Oil Demand Growth Estimates

The International Energy Agency (IEA) may cut its growth estimates for global oil demand for 2019 and 2020, should the global economy weaken further, its chief said.

The Paris-based agency trimmed in August its global oil demand growth estimates for 2019 and 2020 to 1.1 million and 1.3 million barrels per day (bpd), respectively, as trade woes weighed on global

oil consumption, making demand grow at its slowest pace since the financial crisis of

2008.

"It will depend on the global economy. If the global economy weakens, for which there are already some signs we may lower oil demand expectations," Fatih Birol told Reuters on the sidelines of the World Knowledge Forum in Seoul.

He said China's economic growth, which has fallen to the lowest in nearly three decades, could also mean there would be some revisions, as Beijing is "an engine of the demand growth."

China's economic growth

slowed to 6.2% in the second quarter, its weakest pace in at least 27 years, dragged down by weaker demand amid heightened trade tensions with the United States.

"But at the same time, we shouldn't forget low oil prices also (put) upward pressure on the demand," the IEA chief said.

Global crude benchmark Brent is hovering around \$62 a barrel, while U.S. West Texas Intermediate is sitting around \$56, weighed down by worries over slowing global economic growth that could dent oil demand.

Canada Ships Solid Oil Sands Bitumen to China

A Canadian company has loaded a test cargo of solid bitumen onto a vessel destined for a refinery in China, the latest effort by the energy industry to avoid congested export pipelines and find new ways to export more oil sands crude. Calgary, Alberta-based Melius Energy loaded 130 barrels of neat bitumen, similar in consistency to a hockey puck, onto a 20-foot shipping container in Edmonton, Alberta, and transported it by rail to the Port of Prince Rupert in northern British Columbia. The cargo is now on its way to a Chinese refinery.

A number of firms including CN Rail have been working on processes to solidify diluted oil sands crude so it can move more cheaply and efficiently by rail and ship. Solid bitumen is also considered less hazardous than liquid crude because it is not combustible and would float on water.

Canada's oil sands hold the world's third-largest crude



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reserves, but development has been slowed by a lack of new export pipelines. Environmental opposition and regulatory delays have held up new projects including the Canadian government-owned Trans Mountain expansion, resulting in declining capital investment and weak Canadian crude prices.

Yuri Butler, manager of

logistics and supply chain at private company Melius, said he believed its cargo was the first-ever export of solid bitumen to China. He declined to name the buyer. "The most exciting part is once you put it in a container, you can ship it anywhere in the world," Butler told Reuters. "It opens up new markets for Alberta."

NEWS

Exxon to Sell Norway Assets to Eni

Exxon Mobil Corp has agreed to sell its Norwegian oil and gas assets to Var Energi AS for \$4.5 billion, ending its production in a country where it started operations more than a century ago. The deal includes ownership interests in more than 20 producing fields mostly operated by local producer Equinor with a combined production of about 150,000 barrels of oil

equivalent per day in 2019. ExxonMobil, which will hang on to its refining operations and retail network in

the country, said the sale was expected to close in the last quarter of this year.

The transaction is part of the U.S. major's plans to divest about \$15 billion in nonstrategic assets by 2021.

Reuters had exclusively reported earlier this month that Exxon had agreed to sell its Norwegian assets.

In a separate statement, Var Energi, 69.6% owned by Italian major Eni SpA, said the acquisition would make it the No. 2 exploration and production company in the area with overall resources

of 1.9 billion barrels of oil equivalent (boe). Total production is expected to be around 300,000 boe per day in 2019 and will grow to more than 350,000 in 2023 as it invests some \$7 billion in development projects.

"The acquired assets complement and strengthen Var Energi in core areas ... and open up new opportunities for growth," said Eni Chief Executive Claudio Descalzi.

Eni set up the unit, which is 30.4% owned by Norwegian private equity HitecVision, at the end of 2018.

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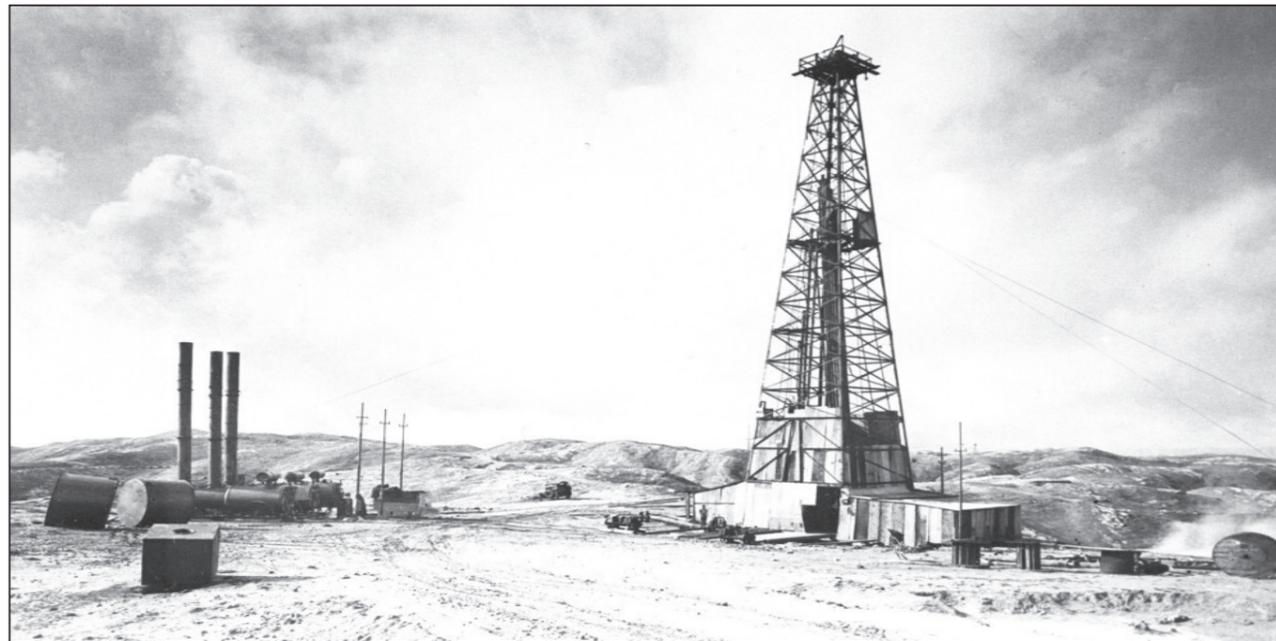
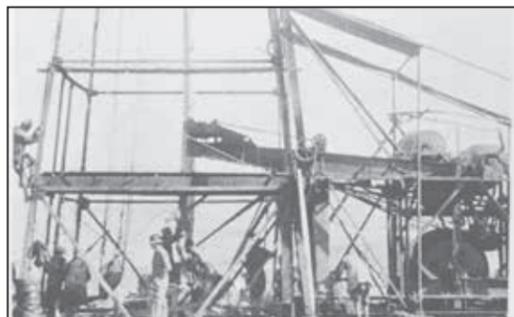
Asian Crude and Product Markets

■ On 14 September 2019, the air attack by the Yemeni Houthis damaged the Saudi Aramco Abqaiq oil processing facility and the Khurais oil field in eastern Saudi Arabia declined Saudi production by 5.7 mb/d and the global market witnessed a 5% drop in crude oil production level.

■ Brent oil prices surged by nearly 15 percent close to \$70 following the incident but have since recovered close to pre-attack levels following statements by US President and the newly appointed Minister of Energy of Saudi on strategic stock releases and recovery times.

Shocks emanated from the rising crude prices and fears of the continued rising trend of oil prices, led to hike in the price of products and refining margin across all refineries. Over the past two years, the growth in refining margin in Asian market has been unprecedented. Asian refining margin in September averaged \$ 7.50 per barrel, the highest since September 2017. Given the situation in Abqaiq oil processing facility, Saudi Arabia to meet its domestic needs rushed to the market to buy products, especially gasoline to offset any shortage, and it resulted in a significant rise in naphtha and gasoline crack. Besides, on the eve of the implementation of the new IMO regulations coming into effect on 1 January 2020 demand for LSFO (0.5 %) and low sulfur content gasoil has increased. Therefore, we will witness further reductions in fuel oil supplies with a tightening market possibly supporting prices. And low sulfur content gasoil market has once again witnessed significant growth in demand in recent weeks. Following the implementation of restrictions on bunker sulfur content, demand for gasoil would rise to between 1.4 and 2 mb/d. On 17 September 2019, when the price of Dubai crude oil reached \$ 67.55 per barrel; the price of naphtha and gasoline 95 Octane on the Asian market stood at \$ 63.31 and \$ 84.57 per barrel, respectively. Asian product markets lost ground, pressured by weaker fundamentals and a deterioration in high-sulfur fuel oil (HSFO) markets, as buying interest from the bunker sector declined and weighed on HSFO prices, and eventually, refining margins. Asian refinery margins declined from

multi-month record highs recorded the previous month, pressured by a rise in product output due to finishing overhaul. The Asian gasoline 92 crack spread against Dubai moved slightly higher, supported by healthy exports despite a rise in product output, as refineries ramped up operations following peak refinery maintenance season. The Singapore gasoline crack spread against Oman averaged \$7.67 /b in August, down by 23 cents m - o-m and by minus \$2.30 y- o- y. Singapore naphtha crack spreads declined for the second consecutive month as lackluster demand witnessed the previous month was exacerbated, and ample petrochemical feedstock supplies were linked to higher refinery runs in the region, following the end of peak scheduled turnarounds. The Singapore naphtha crack spread against Oman averaged minus \$8.18/b, having declined by 65 cents m - o-m, and \$7.47 y- o- y. In the middle of the barrel, jet/kerosene crack spreads in Asia trended slightly upward on the back of firm fundamentals, as regional jet fuel consumption remained well sustained. However, as the summer vacations in Europe comes to an end; a narrowing of the arbitrage window to Europe is probable, which could exert pressure on Asian jet/kerosene markets in the near term. A rise in refinery fuel oil output, as refineries returned from peak maintenance season in Asia, eliminated the market tightness recorded in the recent past, which weighed on Asian fuel oil cracks. HSFO prices in Singapore saw a hard fall in the first week of August, losing \$11.64/b to average \$54.44/b. The negative performance in fuel oil cracks was further exacerbated by a reduction in crude prices during the same time period.



Iran and Pre-D'Arcy Oil

William Knox D'Arcy is a name intertwined with Iran's oil and contemporary history. The day when oil gushed out of Well No. 1, a page was turned in Iran's contemporary history.

Everyone has heard the story of D'Arcy and oil exploration in Iran. Everyone knows big revenue he gained from oil exploration and extraction in Iran. However, oil did not enter into Iran's nomenclature only after D'Arcy stepped into Iran. More than one century before D'Arcy came to Iran, people were using oil and gas. Here, we review the history of oil and gas in Iran's contemporary history.

Apart from that, in ancient time, Persian people had used oil and natural tar for religious and medical purposes. After the occupation of Isfahan by Mahmud Hotak and the downfall of the Safavid dynasty, there has been news about oil and gas. That shows Iranians were curious to know about using oil.

Oil vs. Indian Elephants

In the wake of the downfall of the Safavid Dynasty, Nader Shah sought military and intellectually to restore Iran's lost credit. Nader Shah's reign was spent on war and conflicts. In 1108, he drove out Ashraf Afghan, who had succeeded Mahmud Hotak, of Iran, spelling an end to seven years of Afghan riots. Nader Shah led many wars, but one of his main military campaigns was the Battle of Karnal. The battle was a decisive victory for Nader Shah, the founder of the Afsharid dynasty of Persia, during his invasion of the Mughal dynasty. Nader's troops defeated the army of Muhammad Shah within three hours, despite being heavily outnumbered, paving the way for the Persian sack of Delhi. The engagement is considered the crowning jewel

the elephants would overpower horses. Relying on oil, Nader Shah had intimidated the Indian army of elephants to the extent that this army was overcome and collapsed very quickly. Nader Shah occupied land as far away as Delhi and he reinstated his empire with war spoils. However, this weakened empire did not last long under Nader Shah and Britons established the East India Company to establish their sovereignty over it.

A narrative of the Karnal Battle is as follows: This war is marked by specific conditions which many war historians have ignored. They have spoken about war elephants, but they have not said how they were used. These horrible animals had been equipped for war and been placed at the head of the Indian army. War elephants were always used in Eastern nations for striking fear in the enemy camp. Historians and poets have widely spoken about the big size of these animals. Nader knew quite well how the Indians were fighting. That is why he ordered his camel riders to accumulate firewood on the back of the camels and set them afire with oil. Everyone knows how these giant animals were terrorized to see this fire. Therefore, Indian elephants instead of attacking Iranians fled as the camels approached and they caused big chaos in the Indian camp. A total of 2,000 Indian elephants were killed in this war.

Nader Shah was not content with this use of oil. He also ordered Iranian naval forces to use tar for making warships and become more effective in sea battles. A Qajar statesman writes: "One of the entry gates into this city is Naft (oil) and the other one is Khorasan. There is so much oil on the ground."

Oil in Travelogue

Following the downfall of the Zand dynasty that had taken over from the Afsharids, the Qajar dynasty came to power. Lotfali Khan Zand was defeated heavily by the Qajar. But the Qajar dynasty signed the embarrassing Golestan and Turkmenchai treaties on the detachment of some parts of Iran's territory. That was when kings and princes started traveling to the West and become enchanted by those nations. Such persons used to write travelogues, and they were mainly surprised by gas lamps in the streets of cities. The authors of travelogues have mainly described the lighting systems in the streets of Paris, London and Saint Petersburg. That coincided with the time Iran saw dark nights. People used candles and firewood for lighting, but gas lamp was totally different.

in Nader's military career, as well as a tactical masterpiece. The battle took place near Karnal, 110 kilometers north of Delhi, India. This battle changed the fate of the Indian Subcontinent very soon and reshaped the Middle East region. However, the sensitive and decisive role of oil in this war is interesting to study. The Mughal Empire always used big elephants in their wars on enemies. The idea behind using elephants in the wars was to strike fear into the enemy camp and military assets. Moreover, were it for direct conflict,

Palayesh Naft Abadan Finishes 3rd among Asian Clubs

Arash Jafari

The Palayesh Naft Abadan basketball team has finished third in the FIBA Asia Champions Cup 2019. This position was achieved during the first-ever presence of Palayesh Naft Abadan in the Champions Cup matches. That sounds good for a team which was formed 11 years ago. It was promoted in Iran's basketball sector five years ago.

The Palayesh Naft Abadan basketball team was representing Iran in the FIBA Asia Champions Cup 2019 in Thailand. In its last match in

this tournament, Palayesh Naft Abadan came third.

It was initially drawn into a group with teams from Bahrain, China Taipei, and Thailand.

Coached by Hamad Sameri, the Palayesh Naft Abadan basketballers made a strong start and topped the group. They first overpowered the Bahraini side 85-64, which was a powerful start. Then, they defeated the China Taipei team 68-66, while they finally fought the host team, which gave them a 71-62 victory. That was how the Palayesh Naft Abadan team made its way into the semi-finals. The Palayesh Naft Abadan



team faced the Japanese side in the semi-finals. Despite its brilliant performance in the first two quarters, it was finally defeated 73-80 by Japan and was barred from going into semi-finals. In its last match, the Palayesh Naft Abadan team faced the Bahraini team, leading to an 81-69 victory for the Iranian side. That was how the Palayesh

Naft Abadan team finished third in Asia. The Palayesh Naft Abadan team won 30-25 in the first quarter, but was defeated 23-20 in the second quarter. They made up for their failures in the third and fourth quarters 17-12 and 14-9. Saeed Davarpanah was recognized as the best basketballer after scoring 31 scores.

Background

The Palayesh Naft Abadan team has made progress ever since it was formed. This team made its debut in the second league of Iran's basketball. Two years later, it was promoted to the first league category.

The Palayesh Naft Abadan team experienced a longer presence in the second league

than in the first league. However, in their fourth year of its presence, they managed to enter Iran's premier league. Everyone was surprised at the Palayesh Naft Abadan team's brilliant presence. This team made gradual progress, showing in the pro league it was great and deserved respect.

During five consecutive presences in the Iranian clubs basketball pro league, the Palayesh Naft Abadan team has finished top once, runners-up twice and third once.

Hamad Sameri has been coaching the Palayesh Naft Abadan team for the past 11 years. He has been with this team ever since it played in the second league. The Palayesh Naft Abadan team is experiencing its sixth season presence in the Iranian basketball pro league, so it should preserve its previous season championship title.

Interview with Palayesh Naft Abadan Coach:

Ranking Third Is Good Achievement

■ Hamad Sameri, the head coach of Palayesh Naft Abadan basketball team, says the level of Asian games was very high. He told "Iran Petroleum" the third position was significant. Here is the full text of the interview with Sameri.

Let's start with the third position in Asian games. How do you see the level of matches?

The Asian clubs matches are the highest-level ones across the continent. We were through tough stages to reach this level. First, we need to become champion at the national level. Then, we had to be among the top four teams in West Asia in order to berth a place in the Asian matches. That is why I reiterate that the matches were held at a very high level.

Did everyone expect you to be champion?

We overpowered powerful rivals in the group stage and stepped into the semi-finals with good spirit. We had made plans for championship. However, in the semi-finals, we hit a powerful rival. The Japanese team that had finished runners-up in last year's Asian matches had prepared itself to become champion this year. We were lucky enough to win the championship title among Asian clubs, but we were defeated by the Japanese team because of bad luck. I always make efforts to improve and my objective is championship. But due to special conditions we were in, I think that we achieved a good result.

Would you please explain further?

Look! We always try to reach the best place. In Thailand, we competed to win championship title. But in Iran we had only five training sessions for presence in these matches. Meantime, all other teams in the competition had high quality foreign players, but we could not hire any foreign players. Therefore, we went into the matches with our top Iranian players. It is noteworthy that all Asian teams coming first

to third, experienced one defeat each. It shows that the teams were approximately at same levels. Although in the semi-finals, we had an acceptable performance vis-à-vis the Japanese team, we were defeated out of bad luck.

You had apparently hired auxiliary players too, hadn't you?

We went to Thailand to achieve the best result. It was not just Palayesh Naft Abadan, rather, we had to defend Iran. That is why we had auxiliary players, too. Furthermore, many of our players left the team at the end of the season. Were we able to preserve the previous structure, we would not hire this number of auxiliary players. In any case, I offer my special gratitude to the Iranian national players who agreed to join the Palayesh Naft Abadan team despite fatigue caused because of their presence in the World Cup.

Can Palayesh Naft Abadan become champion again?

First and foremost, I have to say that these matches were a very good experience for us.

We have to benefit from this experience in the pro league matches. The Palayesh Naft team will be in rest until next week when it will start its exercises for a strong presence in the pro league matches.

I would also like to see this team become champion again. But it is very difficult to preserve the title particularly because we are faced with a budget squeeze this year. We have to cut our costs. But other teams like Mahram Tehran are rich and they are building up a strong team, which makes it difficult for us to compete with.



Gonabad, City of Saffron, Pistachio and Silk

In this issue, we further introduce some tourist attractions in the city of Gonbad in the northeastern Khorasan Province.



Qasabeh Qanat

The Qasabe Qanats of Gonabadis is one of the world's oldest and largest networks of qanats (underground aqueducts). Built between 700 and 500 BC by the Achaemenid Empire in what is now Gonabad, the complex contains 427 water wells with a total length of 33,113 meters. The site was first added to UNESCO's list of tentative World Heritage Sites in 2007, and then officially inscribed in 2016, collectively with several other qanats, as "The Persian Qanat".



Saffron

Saffron, which is known to be the oldest ever plant in the world, is mainly raised in Khorasan Razavi Province. The saffron produced in Gonabad is exported across the globe. The UN's Food and Agriculture Organization (FAO) has registered saffron as an Iranian product.

Sheikh Bohloul Gonabadi House

A house there is attributed to Sheikh Mohammad Taqi Bohloul Gonabadi, a Qajar-era scholar. The building has two sections, one for summer and one for winter. There is also a wind catcher on top of the eastern wing of the house.



Friday Mosque

Gonabad's Friday Mosque is a monument dating from the Khawrazmshahian period. The mosque has two verandas and a decorative façade. The mosque's architecture shows that it was built on an older mosque. During the Ilkhanid dynasty, the mosque was expanded.





NIOPDC Activity in Torbat Heydarieh

One of the 37 zones of National Iranian Oil Products Distribution Company (NIOPDC) is located in Torbat Heydarieh. This distribution point is located in northeastern Iran and on the south-north transit line.

About 235 million liters of petroleum products could be stored in storage facilities provided for the Torbat Heydarieh zone of NIOPDC in order to supply products to nine cities.

This fuel distribution center is responsible for Khorasan Razavi Province, as well as part of South Khorasan Province.

Javad Bolandi, manager of the Torbat Heydarieh zone of NIOPDC, said this area is the largest producer of saffron in Iran, the top producer of pistachio and raisin in Khorasan, the top producer of silk in Iran and the owner of 42 mining companies. He said such potential underscored the high significance of fuel supply in Torbat Heydarieh.



Bolandi said about 1.3 billion liters of fuel including gasoline, gasoil, kerosene and fuel oil were being distributed annually. Furthermore, more than 70 mcm of CNG was being distributed across the region. "There are 62 gas stations, 32 CNG stations, as well as 120 local oil products' retailers across Torbat Heydarieh zone," he said.

Bolandi said during the first half of the current calendar year, more than 352 million liters of fuel had been distributed incessantly, up 5% year-on-year.

He touched on the construction of railroad linking Torbat Heydarieh to Afghanistan and the final

stages of the implementation of the project with proper infrastructure in storage and the transportation fleet capacity, saying: "The Torbat Heydarieh region enjoys potential for exporting products from Torbat Heydarieh."

Bolandi said more than 462.5 mcm of CNG had been distributed in 32 stations during the first half of the current calendar year. He added that CNG consumption saved gasoline.

He also spoke about self-sufficiency in the implementation of technical projects relying upon the experience and expertise of local manpower.

"Signing memorandums of cooperation with universities and implementing research-oriented projects through a local research committee has produced favorable results," he said. Bolandi said the local transportation fleet had 185 tankers including 118 trailers.

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