



IRAN MONTHLY Petroleum

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**Iran
Russia
Gas MOU
to Lift Iran
Share**

**\$10bn Deals Signed Under
Outgoing Administration**



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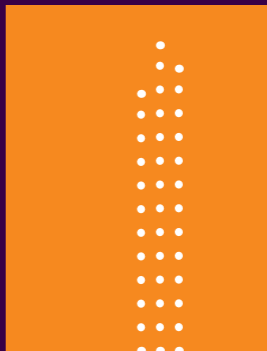
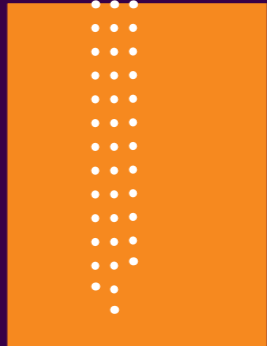


\$22bn Oil Deals

Ali Forouzandeh
Director General of Public Relations

One of the main and most significant plans by the Ministry of Petroleum has been to make maximum use of domestic potential, capabilities and capitals to accelerate implementation of projects. Minister of Petroleum Javad Owji has time and again said that the Ministry would not wait for sanctions to be lifted; rather, it would try to make maximum use of local contractors and manufacturers. Three years after taking office, the 13th administration's Ministry of Petroleum has lived up to its pledge. Reliable international sources confirm that Iran's oil production and export has increased despite sanctions being in effect. Most incomplete projects in various oil, gas, refining and petrochemical sector have come online and many key projects have been decided upon particularly for development of oil and gas fields by Iranian E&P companies. Under the 13th administration, the petroleum industry had 300 projects on the agenda, 80 of which had been recently drawn up. They are

valued at \$130 billion. From 2013 to 2021, \$13 billion worth of deals had been signed but during the past 2 and a half years, \$22.5 billion of deals have been finalized, 80% of which pertaining to joint oil and gas fields development. Under the 13th administration, more than \$8.5 bn of agreements has been signed while under the 11th and 12th administrations, on average \$1.6 billion of deals had been signed. That shows the 13th administration has struck deals six times the past eight years. After the martyrdom of Ebrahim Raeesi in a helicopter crash, the Ministry of Petroleum goes ahead with its efforts. It recently operated three major gas projects in Sistan&Baluchestan Province and four oil agreements worth \$2 billion for development of the Changuleh and Band-e Karkheh fields, as well as crude oil processing services. The Ministry of Petroleum will keep working until its last day in office and more projects would come online.



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Energy Transition in Persian Gulf Littoral States

Fereydoon Barkeshli
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The term "Energy Transition" refers to a global shift from oil and gas production and consumption to cleaner sources of energy like renewables. Transition is driven by the need to reduce GHG emissions and combat climate change. This move has gained momentum given the fact that oil and gas are finite sources of energy, and given the rate of population growth and economic performance, they will not be adequate to meet the growing demand. However, the transition to a low-carbon energy system involves wide and complicated changes and adjustments over multiple sectors, including power generation, transportation, industry, and building construction. Key elements in the process of transition include the rapid deployment of renewable energy technologies such as solar, wind, or hydropower, as well as improved energy efficiency and all types of energy storage technologies. Energy transition also involves a structural shift in the way energy is produced, distributed, and consumed. As such fundamental changes include the decentralization of energy systems, the integration of smart grids and digitized technologies, and the promotion of energy conservation and sustainable consumption practices. While the benefits of the energy transition are evident in new employment opportunities in relevant technologies and industries, it has been noted in most studies that the current rate of economic development and energy consumption cannot be sustained at the rate witnessed during the last century. Some challenges and barriers must be addressed carefully and overcome. These include the high upfront costs of renewable energy technologies and the need for new infrastructure and regulatory frameworks. Social and economic impacts on communities and communities that rely solely on traditional sources of energy have to be scrutinized and addressed.

Energy Transition in Perspective
Below, different challenges, considerations, and opportunities ahead are addressed. The world economy owes its rapid growth since the early 20th century to the oil industry. Oil and at a later date gas fueled the economic growth. During the last half a century, about one billion people have been ushered out of poverty in different parts of the world, mainly Asia owing to the abundant and cheap and easy to transport fuel that is oil. Industries are built and designed to use oil products, infrastructures, pipelines and storage facilities, oil terminals, oil tankers, and several other facilities and logistics are designed and built aimed at producing and consuming oil and gas. Indeed, oil companies and oil-producing and exporting countries have not traditionally been of the best reputation in the world at large. Oil businesses have often been associated with international cartels involved in unscrupulous activities, sometimes revolts and even bloodshed.

Renewable Energy Competitiveness
It is important to note that despite all the lobbying and generous subsidies by the Western governments, oil and gas remain the most competitive source of energy. As such international oil prices can also impact the policy response towards energy transition. Relatively low oil prices may lead to a temporary slowdown in efforts to transition toward renewable sources of energy. This is not a new phenomenon. Price competitiveness has always been a key element in investment decisions by the stakeholders. In fact, for the countries in the Persian Gulf, it is important to adjust and implement policies in the oil sector while designing their energy transition. Persian Gulf oil producers are principally of the opinion that gas in all its forms like LNG is a path through which the transition from oil to renewable sources of energy passes. Gas is not an obstacle. It is a bridge. Most OECD countries in contrast believe that gas is equally responsible for carbon dioxide emissions and must be treated as badly as oil. It is interesting to note that most of these countries use plenty of coal and do not take on coal.

Transition

Petroleum

According to the International Energy Agency report published in summer 2023, there were an estimated 1.5 billion vehicles and cars on the road. In the same report and for the same period, there were an estimated 28 million cars on the road. That is something like 2.2 percent of cars are electric. On the same taken, the number of charging stations in the United States of America is estimated at 23000, while there are some 14,000 petrol stations in the country. Figures published by international bodies and climate lobbying always refer to percentages and not absolute numbers.

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Iran Petroleum

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\$10bn Deals Signed Under Outgoing Administration


Photo: MOJTABA MOHSENI

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17 New Projects Lift Iran Oil Output



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17 New Projects Lift Iran Oil Output

Seventeen petroleum industry projects, worth more than IRR 1,800 trillion, have come online in seven provinces. Inaugurated by Acting President Mohammad Mokhber and Minister of Petroleum Javad Owji, the projects aim to enhance oil production, upgrade the quality of petroleum products, and build necessary infrastructure like crude oil storage tanks and petroleum product pipelines and petrochemical production. Noting that sustainable development can nowhere occur without paying attention to the energy issue, Mokhber said: "We had problems with oil sales and production, refineries, etc. However, the Ministry of Petroleum has accomplished difficult tasks and today we have reached a point where no threat can impact our oil sales. We increased our oil sales despite the intensification of sanctions."



Oil, Petchem Output Hike

Minister Owji said: "With the operation of these projects, more than 10 tb/d of oil, 7.5 ml/d of Euro-4 and Euro-5 gasoil, 3 mt/d of petrochemicals and 18 mb/d of storage were added to national capacity. Furthermore, 15,000 jobs were created while the projects would earn the country IRR 1,200 trillion annually."

He noted that at the outset of the 13th administration, oil production had dropped to 2.1 mb/d, and gas condensate storage capacity to 87 mb. In contrast, 25 mb of heavy and extra heavy crude remained parked on vessels. Owji said all these challenges had been overcome. Referring to the implementation of 155 in-complete projects for \$34 billion during three years, he said: "By commissioning these projects, national oil production increased from 2.1 mb/d to 3.6 mb/d. Moreover, the gas refining capacity increased 53 mcm/d, the oil refining capacity grew 270 tb/d while petrochemical production surged 13 mt/d."

Flare Gas Capture at 30 mcm/d

Minister Owji said flare gas gathering had reached 16 mcm/d, adding it would exceed 30 mcm/d by next March. Referring to the 18 ml/d gasoline output and 9 mb/d gasoil production hike over the past three years, he said: "Thanks to increased production capacity, the petroleum industry has, over the past two years, managed to record the highest economic growth rate (20%) among executive organs."

Owji said hydrocarbon products were yielding \$30 billion in revenue for the country when the 13th administration took office, adding that the figure jumped to \$65 billion by last March. "One reason for such success has been reliance on local potential. We have managed to increase the number of Iranian knowledge-based companies cooperating with the petroleum industry from 150 to 700," the minister added.

He said the operation of Phase 11 of the massive South Pars gas field, which Iran jointly owns with Qatar, was a turning point in the performance of the petroleum industry in the past three years. "The SP11 development phase changed hands between Western and Eastern companies until it came online by

Iranian petroleum industry staff. Over the past three years, the Ministry of Petroleum has struck more than \$23 billion of agreements to develop joint and independent oil and gas fields. As far as energy efficiency is concerned, the Ministry has received permission to sign \$36 billion in new projects," he added. Owji said national oil production capacity would rise from the current 3.6 mb/d to 4 mb/d by next March, while gas production would grow 34 mcm/d. He added that 15 petrochemical projects would come online by that time. Owji said that the oil and gas sector's growth rate would remain steady at 15-20%.

Storage Capacity Surge

By operating five storage projects in the provinces of Bushehr, Hormuzgan, and Sistan & Baluchestan, 18 mb/d was added to the oil and petroleum products storage capacity. These projects have received IRR 460 trillion in investment.

The increased capacity breaks down to 8 mb/d for crude oil storage in Goreh and Jask (\$680 million investment) and 7 mb/d oil storage capacity in Qeshm Island (\$180 million investment). Other projects included increasing the petroleum products loading and export capacity by operating a new port project in Assaluyeh with a \$222 million investment in Bushehr Province, commissioning bitumen and petroleum products terminal equipment in Chabahar Port with capacity to store 40,000 tonnes of varieties of bitumen following \$19 million investment in Sistan & Baluchestan Province.

Oil, Gas Output Up

Increasing oil production and export has been a priority for the 13th administration in the petroleum industry. To that effect, two main projects came online to increase oil and gas production capacity. The \$210 million project added 11 tb/d to the national oil and 7 mcm/d to the national gas production capacity. The Danan oil field's production capacity increased by 11 tb/d owing to a \$135 million investment. The field is located in Ilam Province in western Iran. Furthermore, the Varavi gas compressor station came online intending to maintain the feedstock production and supply ceiling for the Parsian oil refinery at

7 mcm/d with \$76 million in Fars Province. Gas injection into the Haftkal oil field was implemented with a \$25 million investment.

Quality Upgrade

In addition to implementing upstream projects, completion of the value chain and increasing the quality of refined products have been pursued by the Ministry of Petroleum. Given the significance of this issue, the quality of petroleum products in the country is being increased. Two projects are underway for this purpose at the Tabriz and Abadan oil refineries. The petroleum products' quality upgrade project at the Tabriz refinery is aimed at enhancing the Euro-5 gasoil output by 3 ml/d, supplying highly pure hydrogen, producing 100 tonnes a day of sulfur, and cutting sulfur dioxide emissions. The \$130 million project pertains to East Azerbaijan Province. The hydrocracking unit of the Abadan refinery in Khuzestan Province was aimed at increasing the Euro-grade gasoil production by 4.5 mb/d. It received \$322 million in investment.

Petchem Value Chain

Value chain completion in the petrochemical industry has been seriously taken into consideration under the 13th administration, as it is the most valuable link in the petroleum industry chain. Therefore, 6 megaprojects with a capacity of 3 mt have come online with IRR 350 trillion investment. The Hengam petrochemical plant with an annual capacity of 725,000 tonnes of ammonia (\$328 million in Bushehr Province), the fourth air unit of the Damavand petrochemical plant with a capacity of 814,000 tonnes a year (\$82 million in Bushehr Province) and the xylene unit renovation of the BuAli Petrochemical Plant with the capacity of 40,000 tonnes a year (\$40 million in Khuzestan Province) came online. Other petrochemical projects to have come online include the Nakhl Asmari petrochemical plant with 31,000 tonnes output (\$43 million in Khuzestan Province), the Aryan Methanol Petrochemical Plant for the production of 1.65 mt a year of methanol (\$243 million in Bushehr Province), and the first phase of the Petronad Asia Petrochemical Plant for the production of 23,000 tonnes a year of MEG and glycerin (\$40 million in Khuzestan Province).

NIOC Signs \$2bn Deals for Oil Output Hike

National Iranian Oil Company (NIOC) has signed four agreements worth \$2 billion with four local companies to develop the Changuleh and Band-e Karkheh oil fields, and crude oil processing services. Minister of Petroleum Javad Owji has said the agreements would finally add about 80 tb/d to Iran's oil production capacity and 115 tb/d to national crude oil processing capacity. He said that during the past three years, a total of 153 projects worth \$34 billion have come online, like Phase 11 of the giant South Pars gas field, which was mainly delayed in the past. Mohsen Khojasteh-Mehr, the CEO of NIOC, also said that \$22.5 billion of agreements had been signed in the petroleum industry under the 13th administration, 80% of which were on the development of joint oil and gas fields.

115 tb/d More Processing

Minister Owji said that under the 13th administration, more than 50 mcm/d was added to the national gas production capacity. Furthermore, by commissioning the refinery of SP14, the gas processing capacity increased by 55 mcm/d, while petrochemical production grew by 10 million tonnes. He said that \$130 billion worth of projects had been defined under the 13th administration, some of which have already become operational and the rest would come on-stream in coming years. Owji said no field had remained undecided, adding that all projects were underway. He said that preceding administrations had ignored flare gas gathering,

adding: "At the start of the 13th administration, 1.5 mcm/d of gas was being gathered, which has now reached 11.5 mcm/d, and is expected to increase 4.5 mcm/d."

Noting that the petroleum industry projects relied on the capability and potential of local companies and contractors, the minister said: "Had we waited for foreign companies to come in, the same trend would have continued and incomplete projects would await completion. But under the 13th administration, we benefited from the potential of holdings, banks, and private capitals to experience good events."

\$8.5bn Oil Deals a Year

Khojasteh-Mehr said oil agreements would earn the country \$17 billion in revenue. Comparing the agreements signed under the 13th and the former two administrations, he said under the two former administrations, about \$13 billion of deals (the aborted SP11 deal included) were signed while under the 13th administration, \$22.5 billion has been signed, 80% of which being for jointly-owned oil and gas fields. The NIOC managing director said under the 13th administration, more than \$8.5 billion of agreements has been signed annually on average, up from \$1.6 billion under the former administration. The data shows that under the 13th administration, oil agreements grew 6 times the entire eight years of the former administration. That is indicative of the resolve and policy of the 13th administration for petroleum industry development.



25 Wells at Changuleh

Khojasteh-Mehr said that the agreement signed for developing the Changuleh field was valued at \$1.3 billion, according to which 25 wells would be drilled for the production of 60 tb/d of oil. The agreement was signed with Oil Industries Engineering and Construction (OIEC). It would earn the country \$13 billion in income, let alone create 6,500 job opportunities. The Changuleh field, lying in the Anaran exploration block, is located in Ilam Province and is jointly owned by Iran and Iraq. This field holds 4.8 billion barrels of crude oil in place. The agreement with OIEC was struck in line with the National Economic Development Plan which requires maximum recovery from oil fields, mainly joint ones. Clinched for a 20-year period, the agreement

envisages an accumulated recovery of 228 million barrels of crude oil. The preliminary MOU for this project was signed five years ago; however, due to disagreements over costs, the project was put on hold. Talks were resumed last winter, which ended in the recent agreement.

18 tb/d Output Hike from Band-e Karkheh

Khojasteh-Mehr said the agreement for the development of Band-e Karkheh field had been signed with MAPNA Group. "Under this agreement, drilling 14 wells would add 18 tb/d to the field's oil production. This agreement is valued at \$435 million with revenues forecast to reach \$3.5 million. It would also create 2,500 job opportunities." The Band-e Karkheh field lies

in Khuzestan Province, more specifically 20 km from the capital city of Ahvaz. It neighbors the Ahvaz, Moshtaq, Ab Teimour, and Susangerd fields and is located in the Mehr exploration block. So far, three exploration wells have been drilled in this field. The existence of liquid hydrocarbon has been proven in the Ilam Formation. Band-e Karkheh holds 980 million barrels of oil in place. The agreement signed for its development is for 15 years with an accumulated output of 56.6 million barrels of crude oil. The agreement is aimed at maximum recovery from this field, job creation in the West Karoun area, directing liquidity to main oil and gas projects and maximum profitability, maximum use of the potential of Iranian E&P companies, and developing social and economic

infrastructure in Khuzestan Province. Khojasteh-Mehr said NIOC would continue signing build-operate-own (BOO) deals in the petroleum industry, adding that the first experience was related to the agreement signed for processing and desalting. "The agreement for crude oil services was signed with MAPNA for the Qal'e Nar field with a \$100 million investment, which would add 40 tb/d to the processing capacity. It would guarantee 10 years of services," he said. Noting that it was a new experience, he said: "The next agreement pertained to the processing unit of the Mansouri field for creating capacity for the processing of 75 tb/d with \$140 million investment, which has been struck with Moham Shargh Group (MSG)."

Iran Gas Output up 50 mcm/d

Minister of Petroleum Javad Owji, who recently visited “Sistan and Baluchestan” Province in southeastern Iran to inaugurate three major gas projects and five compressor stations, said projects valued at \$34 billion had become operational since the 13th administration took office three years ago. He noted that these projects had resulted in a 60% hike in oil output, a 50 mcm/d surge in gas production, and a 270 ml/d increase in refined petroleum products. Furthermore, 11.5 mcm of flare gas had been captured. Owji said the late president Ebrahim Raesi was concerned with gas supply to Sistan and Baluchestan Province. Mohammad Mokhber is currently serving as Iran’s acting president, following Raesi’s martyrdom in the helicopter crash. Owji said over the past three years 155 incomplete and new projects, worth \$34 billion, had come online. He added that construction of 50 new projects worth \$47.5 billion had begun. He added that 4.5 mcm more associated petroleum gas (APG) would have been gathered in the coming months. The minister said more than 1,800 km of new pipeline had been launched for gas transmission, while 370 km more is coming online. By next March, he said, 1,000 km of pipeline would be inaugurated for petroleum products conveyance, 400 km of which is expected to become operational before the outgoing administration bows out. Meanwhile, 6,700 villages, 50 cities, 22 power plants, 16 industrial units, and 6 compressor stations have been connected to the national gas grid over the past three years. The oil and gas industry has experienced 20% growth, the highest rate in the economic sector.

Owji said “enemies” of Iran had acknowledged Iran’s oil export hike since the United States imposed sanctions on the country following its unilateral withdrawal from the 2015 nuclear deal. “Over these years, the US has imposed more than 600 counts of sanctions against Iran’s petroleum industry; however, it failed to cut our oil exports even for a single day,” said the minister. Underscoring the need for gas supply to the Chabahar power plant and challenges to liquid fuel supply to this facility, he said: “By gas supply to this power plant, 4.5 ml/d of petroleum products would be freed up for export.”

Gas Pipelines Homegrown

Reza Noshadi, the CEO of Iranian Gas Engineering and Development Company (IGEDC), has said: “Today, for the first time in the history of Iran’s gas industry we are launching five gas compressor stations simultaneously. That is new for the National Iranian Gas Company (NIGC).” He said that gas compressor facilities were sourced locally at 92%, while gas pipelines were manufactured domestically. “I promise to launch and complete the second phase of the Ilam gas refinery, using a homegrown control system,” said Noshadi. The Iranshahr-Makran-Chabahar-Konarak gas transmission pipeline has been operated by IGEDC with an investment of \$420 million. The 200-km-long pipeline is the third largest gas project in Sistan and Baluchestan Province after gas supply to the cities of Zabol and Khash. Before that, the Zahedan-Zabol and Iranshahr-Palizan-Khash-Mirjaveh gas pipelines became operational to supply gas to the north and east of the “Sistan and Baluchestan” Province. With the inauguration of the new project, gas has reached southern cities in the province and the Gulf of Oman coast, which would be

instrumental in upgrading the quality of life and facilitating livelihood, not to mention economic prosperity and tourism development in the province.

In addition to meeting energy needs for petrochemical and power plants, this strategic project would create opportunities for maritime trading to set the stage for balanced and sustainable development in southeastern Iran. That would also motivate economic, industrial, and tourism actors to invest in this province. The Chabahar power plant, which was fed with liquid fuel, is now running on clean energy, and Makran industrial facilities will be powered by this strategic project.

The project has been operated in four 25 km, 20 km, 45 km, and 200 km sections with 16, 20, 42, and 56 inches in diameter respectively by four contractors simultaneously. That has accelerated the project.

The Iranshahr-Makran-Chabahar-Konarak project is the third major gas supply project in southeastern Iran to have come to fruition. The Shahid Baqeri (Khour Mowj), Shahid Helisaei Brothers (Dorahan), Shahid Rafeirad (Aradan), Shahid Seifoleslami (Nourabad), and Shahid Shirvani (Pol Kalleh) gas compressor

stations were launched via videoconference by Mokhber. Investment in these projects totaled \$294.5 million.

IGAT-10 Chain Completion

The Aradan gas compressor station was among the prioritized projects of the Ministry of Petroleum. It was built on the trunkline carrying gas to the north and northeast. This station has been built in Semnan Province with an investment of \$45.5 million, which can increase the transmission capacity of gas to northern and northeastern provinces by up to 10 mcm/d. The Aradan station incorporates three turbocompressors and has a 2+1 array. The station’s power is 75 MW with the possibility of transmitting 60 mcm/d of gas. Local factories have supplied 90% of their equipment including control systems, power systems, and actuators.

The Khour Mowj station has come online with a \$72 million investment to boost pressure by 107 mcm/d. Installed on Iran Gas Trunkline-10 (IGAT-6), it can direct the gas coming from Assaluyeh to the southwest and then west to consumers. In addition to boosting gas pressure in the west and southwest, IGAT-6 is planned to export gas to Iraq at the rate of 40 mcm/d. The Khour Mowj and the following station are to boost pressure on the IGAT-6 line. The turbocompressors have been arranged at a 3+1 array to save time and cost, to give a high yield. Furthermore, due to local manufacturing in the control

system, it is the second compressor station after the Aradan station to use a locally-built control system.

The Dorahan compressor station has been built with a \$64 million investment. Four turbocompressors manufactured by MAPNA are installed with a 3+1 arrangement. It is installed on IGAT-10 in Chahar Mahal and Bakhtiari Province. Having a capacity of 90 mcm/d and 100MW power, it significantly empowers the gas grid. The Nourabad compressor station is located in Fars Province and installed on IGAT-10.

Due to the strategic nature of this trunkline, it is highly instrumental in the national gas grid. It has been built with a \$62 million investment in Fars Province. It can carry 90 mcm/d of gas. The three turbocompressors of the trunkline are working together. If any of them breaks down for any reason whatsoever, it would be replaced immediately to guarantee sustained gas supply. The Pol Kalleh gas compressor station is built on IGAT-10. It is an auxiliary ring to be used when there is gas oversupply or undersupply. Therefore, in case IGAT-2 and IGAT-3 face gas shortages in cold months, IGAT-10 would be used. In summer, it would save gas. This compressor station is the last station on IGAT-10. It was built with a \$51 million investment in Isfahan Province. With a 2+1 array, it may carry 60 mcm/d of gas. If IGAT-2 and IGAT-3 installations experience any problems, the Pol Kalleh station units may serve as replacements to compensate for the gas shortage. That matters specifically in cold months. IGAT-10 cuts through the Fars and Isfahan Provinces and extends as far away as Qom. Therefore, the projects built along this pipeline may supply the gas needs of central and western Iran. Therefore, IGAT-10 has been completed with the launch of the Nourabad, Pol Kalleh, and Dorahan gas compressor stations by IGEDC.

\$10bn Deals Signed Under Outgoing Administration

One outstanding development under the 13th administration was broadening its external ties and signing agreements for cooperation with foreign companies. During its three years in office, cut short due to the sudden death of former president Ebrahim Raeesi, 25 contracts worth \$10.4 billion were signed with 20 countries including Russia, China, Oman, Armenia, Turkmenistan, Iraq, Cuba, Venezuela, Nicaragua, Uzbekistan and Indonesia. That led to a 235 tb/d oil output hike in Iran. Over the same period, more than 66 MOUs worth \$62 billion were signed with foreign companies in the upstream and downstream oil sectors, signaling the active and constructive diplomacy of the Ministry of Petroleum under the outgoing administration. "Iran Petroleum" provides its audience with a review of the three-year term in office of the 13th administration.

Constructive Diplomacy

The 13th administration took office against tough US sanctions on Iran's petroleum industry. Despite that, the Ministry of Petroleum has concentrated on improving ties with all nations and benefiting from the chance of cooperation to develop Iran's petroleum industry.

Whereas Iran intends to bring its oil production to about 5 mb/d and its gas output to 1.5 bcm/d in ten years, the upstream sector would need \$200 billion in investment. To that end, the Ministry of Petroleum has decided to expand foreign cooperation to attract the required investment for the petroleum industry development. To that end, exploring avenues of oil cooperation between Iran and other countries topped the agenda of the late president's foreign tours.

During the three-year term in office of the 13th administration, 25 agreements worth \$10.4

billion were signed with 20 countries including Russia, China, Oman, Armenia, Turkmenistan, Iraq, Cuba, Venezuela, Nicaragua, Uzbekistan, and Indonesia. That led to a 235 tb/d oil output hike in Iran. Over the same period, more than 66 MOUs worth \$62 billion were signed with foreign companies in the upstream and downstream oil sectors. The three leading countries with which Iran signed deals were Russia, China, and Venezuela. Russia accounted for 12 MOUs worth \$42 billion and 6 agreements worth \$4 billion, China for 24 MOUs worth \$14 billion and 3 agreements worth \$6 billion, and Venezuela for 3 MOUs worth \$1.45 billion and 4 agreements worth \$320 million. Development of the Yadavaran, Kupal, and Shadegan oil fields as well as the South Pars Oil Layer, extension of the deal for gas export to Iraq for five years, swapping gas from Azerbaijan that had begun in 2022, signing an MOU with Oman for gas exchanges, MOU with Chinese companies for better trade transactions in the energy sector and partnership in the development of fields and refinery construction in Iran constitute the MOUs and agreements

signed with foreign companies. Cooperation with Latin American nations also experienced a jump under the 13th administration. Iran-Venezuela energy ties grew specifically in the energy sector. The two countries have signed agreements for cooperation over the past three years. Both OPEC member states, Iran and Venezuela hold significant proven oil reserves and have been under US sanctions for years. Iran's petroleum industry has seen significant growth in refinery equipment manufacturing despite US sanctions. That explains why the Ministry of Petroleum decided to benefit from this potential for improving cooperation between Iran and Venezuela. The outcome of this cooperation was the signing of seven MOUs and agreements worth \$430 million, covering

overhaul and throughput completion of the 140 tb/d El Palito refinery, completion of the Jose oil port, renovation of the ammonia unit of the Ana Maria Campos petrochemical plant and the full recovery of Venezuela's gas stations telemetry, building a 54 km pipeline, reviving the Cardon refinery and overhaul of the Petro Sandino refinery. Over the same period, five compressor stations were equipped in Venezuela by Iranian knowledge-based companies.

Iran-China Ties

Iran-China cooperation in the energy sector is designed for the long term. Apart from China being a potential buyer of Iran's oil, China has

contributed to developing Iranian oil fields. The North Azadegan and Yadavaran oil fields are two cases in point. In the petrochemical sector as well, the Chinese have been potential buyers of Iran's petrochemicals. Chinese companies have also cooperated with Iran in refinery construction. Due to US sanctions, Iran-China oil cooperation faced restrictions, but thanks to the Ministry of Petroleum's initiative, the restrictions failed to end Iran-China cooperation; rather, new channels were opened for more cooperation. Iran and China struck a 25-year cooperation pact in which energy was a key point. Chinese companies have also signed MOUs for investment and partnership in the development of fields and construction of petrochemical refineries. The MOUs are largely expected to be finalized as agreements. Among other MOUs signed between Iran and other countries in the energy sector is the preliminary MOU for capacity stabilization, supply of spare parts and reparation at Syria's Homs refinery, signing an agreement with Armenia for a 64% natural gas export hike and extension of gas-for-electricity deal with Armenia up to 2030, signing MOU with Oman for gas exchanges, full settlement of gas debts to Turkmenistan (\$1.7 billion) that had remained unpaid since the former administration, negotiations and reaching agreement with the Iraqi side for extending the deal for supplying

Russia accounted for 12 MOUs worth \$42 billion and 6 agreements worth \$4 billion, China for 24 MOUs worth \$14 billion and 3 agreements worth \$6 billion, and Venezuela for 3 MOUs worth \$1.45 billion and 4 agreements worth \$320 million

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gas to Baghdad for five years and the gas swap deal with Republic of Azerbaijan.

\$76bn Projects in 3 Years

One reason for the Ministry of Petroleum to have managed to leave a successful legacy behind, despite US sanctions against Iran's petroleum industry is that it completed all incomplete projects and implemented new projects that empowered it to export more oil while enhancing oil and gas production. Over the past three years, 182 projects worth \$76 billion have become operational. They include 132 incomplete projects worth \$28.5 billion that were completed while construction has begun on 50 new projects worth \$47.5 billion. Due to these projects, Iran has seen its oil output grow by 63%, its gas production increase by 6%, its crude oil and gas condensate processing capacity jump 13% and its petrochemical production shoot up 16%. Completion and operation of the first phase development of the Sepehr and Jofair oil

fields, completion and operation of 60 wells in the South Azadegan oil field, completion and operation of 8 enhanced recovery projects, increasing crude oil recovery from the Cheshmeh-Khosh, Dalpari and East Paydar fields through Iranian-Russian partnership, operating \$3.2 bn project for early production from the Sohrab field entirely added 170 tb/d to Iran's oil output. Integrated development of the Azadegan oil field, development of the Sohrab field, the northern wing of the Masjed Soleyman field, the Sumar, Saman and Delavaran oil fields, the second phase of the Azar oil field, 12 agreements for reopening low-yielding and capped wells worth \$13.845 billion were among achievements of the 13th administration, which would add a total of 648 tb/d of oil to Iran's oil output.

Gas Output Hike

Iran holds the world's second-largest gas reserves. Its current gas production capacity stands at 1 bcm/d. Thanks to such production capacity and massive reserves, it has held talks

for gas export. However, due to high gas consumption in Iran, the Ministry of Petroleum has undertaken projects to enhance gas production. Over the past three years, installing gas compressor stations at the Homa, Varavi, and Tabnak gas fields, increasing gas production from 13 fields owned by Iranian Central Oil Fields Company (ICOFC), and completing and operating development of the three gas fields of Toos, Dey and Aghar have been carried out for \$4 billion, resulting in a 204 mcm/d gas output hike. Iran has brought its gas production capacity in the giant offshore South Pars gas field to over 700 mcm/d. But pressure fall-off is likely in South Pars in coming years. To counter this challenge, the Ministry of Petroleum signed agreements for maintaining and increasing gas production from South Pars. To that end, agreements for pressure compression at South Pars, the development of the Farzad B gas field, and the first

development phase of the Kish gas field were signed for \$22.8 billion. In addition to helping maintain gas production from South Pars, the field would see its output increase by 56 mcm/d.

SP Output Up

It is noteworthy that over the past three years, by investing \$5.3 billion, gas production has increased 34 mcm/d at South Pars which supplies more than 70% of Iran's gas production. Projects have been also implemented to increase the oil and gas condensate refining capacity and upgrade the quality of refined petroleum products. Under the 13th administration, Euro-5 grade gas oil production has increased by more than 20 ml/d while gasoline output has grown by 18 ml/d. The second development phase of the Abadan refinery with a capacity of 210 tb/d and valued at \$2.1 billion, the gasoil refining unit of the Isfahan refinery at 16 ml/d worth \$800 million, the gasoil hydrotreating unit of the Tabriz refinery worth \$100 million and completion of the South Adish gas condensate refinery with a capacity of 60 tb/d valued at \$500 million are among other projects. In the meantime, more than 1,000 km of pipeline for transmitting petroleum products came online with a transmission capacity of 665 tb/d. \$1.2

billion was invested in this project.

As far as the petrochemical sector is concerned, 50 petrochemical projects were active when the 13th administration took office, but now, 127 petrochemical projects are up and running in the country: 22 projects in Mahshahr, 24 projects in Assaluyeh, 53 projects in other areas, 13 projects in Kangan, Dayer, and Siraf, 4 projects in Makran and 11 projects in the Parsian energy-intensive zone. Over this period, 17 projects worth \$3.5 billion have come online and work has begun on 14 other projects. Some of these projects are infrastructure projects aimed at feedstock supply, utilities, storage, and export of petrochemicals. The following nine projects have been completed and are close to coming online: Arta Energy, Aryan Methanol Petrochemical, Hengam Petrochemical, 4th air unit of Damavand Petrochemical Plant, 2 air units of Rayan Polymer Pooya Petrochemical, C4 tower sweetening and the zero liquid discharge (ZLD) unit of the Persian Gulf Bidboland gas refinery, the 400 KW Isfar electricity substation, Nakhil Asmari Petrochemical, Petronad Asia Petrochemical and the xylene units reconstruction of BuAli Sina Petrochemical. A total of \$1.2 billion has been invested in these 9 projects that would significantly increase petrochemical production and export.

while enhancing oil and gas production. Over the past three years, 182 projects worth \$76 billion have become operational

Euro-5 grade gas oil production has increased by more than 20 ml/d while gasoline output has grown by 18 ml/d



Iran Oil Output Capacity Thriving

■ The Financial Times (FT) recently reported that Iran's oil exports had reached 6-year highs, yielding \$35 billion in revenue for the country. This report came exactly after tensions reached their highest-ever levels between Iran and the Zionist Regime. Iranian customs data confirm the FT report. The chief of Iran's Customs Administration, Mohammad Rezvanifar, said in April that oil exports had earned the country \$35.87 billion in annual revenue, from last calendar year to March. The International Monetary Fund (IMF) has reported that Iran exported 1.4 mb/d of oil in 2023, up 15% year-on-year. It was also said that the oil sector of Iran's economy experienced a two-digit growth rate under the 13th administration. The growth rates were reported at 10.1%, 10%, and 15% respectively in 2021, 2022 and 2023. This data comes while Iran has been subject to unprecedented sanctions while regional tensions have caused numerous challenges. All these restrictions have driven Iranian oil prices down to below global levels, mainly as a result of sanctions and their associated costs. However, Iranian oil exports have set an acceptable record.

Elaheh Baqeri

A review of the history of sanctions targeting Iran's petroleum industry shows that this asset has long been the subject of threats. Iran's petroleum sector was first slapped with sanctions by Britain in reaction to the 1951 nationalization of the petroleum industry in Iran. In 2012, a US-led group of countries imposed tough sanctions against Iran's oil sector in a bid to constrain Tehran's nuclear program. The toughest-ever sanctions against Iran's petroleum sector might have been those imposed in 2018 by then-US president Donald Trump following his unilateral withdrawal from the 2015 historic nuclear deal signed between Iran and six world powers. That was followed by more sanctions aimed at curbing Iran's oil exports, the main source of revenue for the country. In the wake of these sanctions, Iran saw its oil exports drop sharply. But when Joe Biden succeeded Trump, Iran saw its oil exports grow anew. As real-time energy cargo tracking Vortexa data shows, Iran was exporting 1.56 mb/d of oil during the first quarter of 2024, mainly to China. It was the highest level since 2018. Reuters recently quoted Brussels-headquartered data and analytics group Kpler as saying that Iran increased its tanker capacity to 253 tankers in 2023. The number of supertankers with the capacity to carry 2 million

barrels of oil has doubled since 2021. Kpler said in its report that China was the only destination for Iran's oil exports. The Biden Administration has expressed concerns that serious enforcement of sanctions would affect Washington-Beijing fragile ties. China is supplying one-tenth of its oil needs from Iran. Some energy experts believe that China would not agree to scale back on its oil imports from Iran because it is reluctant to become dependent on Russian and Saudi oil. China is now the largest buyer of Iranian oil, while OPEC's third-largest producer Iran is producing roughly 3 mb/d of oil, or 3% of the world's total. Despite sanctions, Iran has managed to push ahead with its exports. Global demand for Iranian oil, as well as Iran's oil production capacity, could not be ignored.

Achievements

Among government organs, the Ministry of Petroleum has completed numerous half-complete projects. It also embarked on new projects to boost oil production and contain inflation. Minister of Petroleum Javad Owji, addressing a ceremony last March for signing agreements for the development of 6 oil fields for \$13 billion, said: "Although the calendar year 1402 [which ended on March 20] was challenging for the petroleum industry, thanks to God, Iranian oil exports were never halted as new markets were found and today Iran is earning more than \$35 billion from oil

exports. Iran can now export oil to any place it wants." The minister said that oil production and exports hit acceptable records last calendar year with good investments made in this industry. A key issue with economic growth pertains to investments. Owji also said that nearly 130 incomplete projects, worth \$28.5 billion, were completed in the petroleum industry. He said that 50 new projects had begun in the upstream and downstream oil industry, mainly for value creation and production growth. CEO of National Iranian Oil Company (NIOC) Mohsen Khojasteh-Mehr also said that roughly 2.5 billion barrels of oil equivalent were added to Iran's crude oil and natural gas reserves while several new oil fields were discovered. Some of the completed and new projects are as follows: Sixty wells were commissioned in the South Azadegan field, which allowed for an extra output of 50 tb/d from the field which Iran shares with Iraq. South Azadegan lies 80 km from Ahvaz and lies among the West Karoun cluster of fields. There are 203 wells and two gathering centers in the North Azadegan and South Azadegan fields as well as a central processing unit. The Sepehr and Jofair fields also came online last calendar year to add 50 tb/d to the national oil production capacity. The agreement for the development of these two fields was valued at \$2.8 billion, \$330 million of which has already been spent. Once fully operational, oil production is to reach 110

tb/d. As it was said during the operation, 12 wells have been completed in these oil fields. These wells struck oil at the Fahlyan layer and a depth of beyond 4,600 meters. Agreements were signed for the development of 6 oil fields to increase oil output by 400 tb/d for \$13 billion. That represented the largest agreements in the petroleum industry in one decade. These agreements included the development and operation of the Sumar, Sasan, and Delavaran fields, the second phase development of the Azadegan oil field, and the second phase development of the Masjed Soleiman oil field. Minister Owji has said that all these projects would reach early oil production in the current calendar year.

Oil Industry Outlook

Minister Owji recently referred to 23 macro projects worth \$4.6 billion in the upstream and downstream sectors, which had to be completed. He said that the late President Ebrahim Raeesi had insisted on the completion of these projects. "In addition to the macro projects it has underway, the Ministry of Petroleum has followed up on other projects for operation," the minister said.

Pipelines Due Operational

He said that increased production and export of

oil, higher gas output, and petroleum products supply, avoiding crude sales, economic resilience, and petrochemical refinery construction had to be followed up on. These macro projects would come on-stream, including the construction of 460 km of pipeline for carrying petroleum products. Until recently, oil tankers were carrying refined petroleum products.

But with 1,000 km of pipeline due to be constructed by next March, 5,000-6,000 tankers would stop plying roads. Owji said that the late president had been scheduled to inaugurate 222 km of petroleum product pipeline during a visit to the northwestern city of Tabriz. During an Economic Council meeting, presided over by Acting President Mohammad Mokhber, the broad lines of a plan for using foreign financial facilities and increased production by NIOC were adopted. Iran has been faced with threats and restrictions for nearly half a century. It has experienced a wide range of sanctions. Every day a new decision is made for the political and economic isolation of Iran. However, despite sanctions, Iran has never stepped back; rather it has advanced further. Despite the slow pace of progress and tough road lying ahead, all industries are experiencing growth. The petroleum industry has been the leading sector in production and export growth.





By mid-2010-2020, America was the world's biggest oil importer. America turned into a net oil exporter currently supplying some 4.5 mb/d to the international oil markets

International Oil Markets: New Realities

It is true that the global oil markets seemingly have witnessed softening consumption and supply exceeding demand, but important factors need to be addressed. Most of the excess supply of oil comes from the US shale. By mid-2010-2020, America was the world's biggest oil importer. America turned into a net oil exporter currently supplying some 4.5 mb/d to the international oil markets. That is one reason why America is now less interested in the Middle East oil-producing countries. However, it has to be noted that most of the crude oil from the United States is very light crude oil. Shale oil is an extra light crude oil that can't be refined by most of the US refineries. There aren't many refineries in the world that can refine and process America's shale oil. Some refineries manage to cocktail and blend such oil and refine it. As such shale oil has virtually impacted the refining structure of the global oil markets. To put it differently, US shale has distorted downstream fundamentals. In the meantime, the United States has found itself in a position to force its shale oil into the world market. When it comes to the international oil stock exchange markets, it's all about Brent and WTI. As such the same methodology is applied in the pricing. This is a factor that has a meaningful impact on price-softening in the oil markets. It is important to note that prices of all commodities such as copper, zinc,

aluminum, and/or wheat, sugar, or coffee have risen considerably when compared to oil. This is specifically true when it comes to the current atmosphere of elections in the United States. Every president in the country wants to lower energy prices during the last months of the election. American voters choose a presidential candidate who provides them with low gasoline prices at the pump stations. They're often less concerned about all other realities. A fair market share war is going on under the skin of the international oil market. Therefore, Shale oil has had a considerable impact on the world oil markets. This is one of the factors in the Middle Eastern economies' interest and vision to form their stock exchange markets in the Middle East. For some hundred years, oil has been produced in the Middle East, Africa, and Latin America; but its price is decided in the consumption centers in Europe and the US. It is necessary to note that Iran was the first country in the Middle East that brought up the issue of the constitution of OPEC members some years ago. Shale oil (and shale gas), provided the US with a sense of security and self-reliance. American think tanks began to consider the country invincible. The notion that America was self-reliant in oil and energy after more than seventy years, led Washington to distance itself from Latin America and the Middle East. That is the point where China entered the resource-rich countries and played a more active role in the energy and mineral

sectors of various countries in the Middle East and Africa, as well as Latin America. This was a game changer and led to new geopolitical dynamics in various parts of the world. The emergence of the BRICS was an oil and energy-driven movement. Although important and major, other factors were at play.

Macroeconomics of Iran Oil Policy

Oil and gas have been the engine of growth for the Iranian economy for decades. However, an inward-looking approach towards the oil and energy sector has been a key factor in Iran's development policies. The issue of the resilient economy was first introduced and practiced in the oil sector. Aside from oil production and exports, Iran's oil and gas sector is a huge market for the country's industrial sector. Huge investment requirements and opportunities provided ample investment impetus that paired together led to an important take-off for the economy. In the meantime, continued US use of sanctions as a means to punish other countries has fortified and sped the deterioration of countries to distance themselves from Washington policies. The United States has currently sanctioned more than a quarter of the world's oil reserves and production. America is engaged in a Forever Sanctions War with the rest of the world. No country is immune. The most powerful tool of the US in imposing sanctions on other countries is the dominance of the US

dollar. Many countries keep their reserves in the form of US bonds and securities in the Federal Reserve of America. Federal Reserve sets the interest rate and uses it as the collateral for other countries' financial support. The United States is currently printing \$1 Trillion every three months. The government has to print dollars to pay the interest on the debts. This is a situation of total bankruptcy for the US government. A country that is technically blown apart is now setting financial and monetary discipline for other countries. This has no limits and may even spread to countries that are currently considered friends. The US dollar is weaponized against other countries and economies. In that context, BRICS is determined to divert and/or diversify from the US dollar to other substitutes in the form of national currencies or possibly a new currency altogether.

OPEC Alliance

Iran is one of the founding members of OPEC. Since its inception back in September 1960, Iran has maintained its active and powerful presence in the organization. Sanctions posed temporary pauses for a more prevalent role in OPEC during the last couple of years. However, in the OPEC context and the international oil market, power stems from the well. The countries with higher production, exert more influence in the Organization. Having said that, the recent surge in Iran's oil output has resurfaced the country's power over the

organization. No doubt the boost in Iranian oil output, reassures its influence over the international oil markets and OPEC Plus. It is of importance for Iran to be able to maintain its capacity built up on a stable and consistent basis. Iran has to assure the market and the Organization of its ability to maintain a right and reliable place. OPEC is a big fish organization and diplomacy playground. Small producers are gradually being marginalized. Iran is a member whose words move the market and is expected to continue playing the role. However, building capacity and adding barrels sustainably is the key to power in OPEC. It is extremely important to note that the global oil and energy landscape is changing rapidly. Producers outside OPEC and the OPEC alliance known as OPEC+ are producing hefty volumes of oil. The United States, Canada, Mexico, and Guyana are producing at record-high levels. OPEC plus cut output and producers outside the alliance are benefiting. To put it in simple terms they are eating the traditional oil producer's market share. The powerful return of Iran to the market is both a blessing and challenge for the OPEC alliance, for Iran, and of course for the international oil market. International oil and gas markets are increasingly fragmented along the South-North divide. South and BRICS produce and consume its oil and gas. North produces and consumes its own. The OPEC and the alliance are different today and require different policy objectives, approaches, and roadmaps.

However, building capacity and adding barrels sustainably is the key to power in OPEC. It is extremely important to note that the global oil and energy landscape is changing rapidly

Surprise Record Oil Exports

Shuaib Bahman

As soon as the US pulled out of Iran's 2015 nuclear deal with six powers in 2018 and re-imposed sanctions on Iran's petroleum industry, expectations were high that the Islamic Republic would face challenges not only in oil export but also production due to the impossibility of bringing in foreign investment and technology. Nonetheless, the situation changed thanks to some initiatives by the 13th administration. The Iranian Ministry of Petroleum relied on local companies to boost oil production. In the meantime, adopting appropriate policy in the energy sector, led to new opportunities for oil export. Many international fora

expressed surprise at the efficacy of these new measures.

Iran's oil production had dropped to 1.99 mb/d in 2020. OPEC's third-largest oil reserves' owner was experiencing the worst condition ever in oil production in more than two decades. As the 13th administration took office in 2021, Iran's petroleum industry experienced significant developments. In that year, Iran immediately added 400 tb/d to its oil output.

An overall estimate of crude oil production under the 13th administration shows that over the past three years, Iran has seen its production grow more than 60% only by engaging domestic companies. That is at the beginning of the mandate of the 13th administration, oil production and export

did not stand at any satisfactory levels, and realizing 60% output growth sounded highly difficult.

Minister of Petroleum Javad Owji has said that 132 incomplete projects worth \$28.5 billion were completed by last March, while construction began on 50 more projects worth \$47.5 billion. In the current calendar year, 79 projects worth \$16 billion are expected to be completed while construction will begin on 50 projects worth \$25 billion. Every single one of these projects would affect Iran's oil production and export.

International Views

The significant growth in Iran's oil production and export is important against the backdrop of sanctions. International bodies have not ignored this key development. International Monetary Fund (IMF) data indicate that Iran exported 1.4 mb/d of oil in 2023, up 500 tb/d year-on-year. They showed that the oil sector of Iran's economy experienced two-digit growth to reach 10.1% in 2021, 10% in 2022 and 15% in 2023. These data indicated that Iran's 2023 oil production was up 500 tb/d year-on-year to reach 3.1 mb/d. The IMF has forecast Iran's

2024 oil output to reach 3.2 mb/d.

Iran has also made big achievements in oil exports. IMF data put Iran's 2023 oil exports at 1.4 mb/d, up 500 tb/d from the year before. The figure is expected to reach 1.5 mb/d in 2024.

Data released by the International Energy Agency (IEA) also show that Iran produced roughly 3.3 mb/d of oil in April 2024, up from 3.25 mb/d recorded in March. This report estimated Iran's sustainable production capacity at 3.8 mb/d. The key point is that the IEA's estimate of Iran's oil production has been higher than OPEC's assessment. In its latest monthly report, OPEC cited secondary sources as saying Iran's oil production stood at 3.212 mb//d last April, up 14 tb/d month-on-month. The Financial Times also reported Iran was exporting more oil than at any time for the past six years, giving its economy a \$35bn-a-year boost even as Western countries discuss stepping up sanctions against the country. Iran sold an average of 1.56 mb/d during the first three months of the year, almost all of it to China and its highest level since the third quarter of 2018, according to data company Vortexa.

Outlook

Several years after the US withdrawal from the 2015 nuclear deal and oil sanctions remaining effective against Iran, data provided by international bodies show that these sanctions have had merely short-term impacts on Iran's oil production and exports without having any long-term impacts on the growth and development of this industry. The 13th administration's reliance on domestic potential and adoption of smart diplomacy in the energy sector is also of significance. It should be kept in mind that in parallel with oil production and export, other key events occurred in the petroleum industry under the 13th administration, including self-sufficiency in developing onshore and offshore oil and gas fields, maritime structures, constructing petrochemical refineries, capturing flare gas, drilling horizontal and vertical wells with the help of local actors and manufacturers. Undoubtedly, all these achievements are important, as they come against the backdrop of US oil sanctions against the Islamic Republic. That is why Iran's activities in oil production and export have raised the eyebrows of international bodies over the past three years.

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E&P Firms Offer \$21bn Investment Potential

The trend of oil and gas industry development in Iran has pushed the country towards engaging the private sector. To that end, E&P companies have taken shape in Iran's oil industry business in recent years. (E&P) is a specific sector within the oil and gas industry linked to the early stage of energy production, which generally involves searching for and extracting oil and gas. An E&P company finds and extracts the raw materials used in the energy business. Typically they do not refine or produce energy but merely find and extract raw materials to be shipped to other oil companies within the production process. Mohammad Javad Shams, the head of the Iranian E&P Companies Association (IEPCA), told Iran Petroleum: "We believe that associations and groups are instrumental in development activities. Such entities link people

with the executive body. That is why various associations have played a key role in Iran in recent years." "On the other hand, oil is our economic mainstay, and further revenue generation from this industry would revamp the economy. In my view, the more investment is handled by the private sector, the higher the output would be. Article 44 of the Constitution also calls for the privatization of affairs," he said, adding: "To that effect, in the wake of the formation of E&P companies in the petroleum industry, the development of oil and gas fields was assigned to the private sector as of 2017." Shams said these companies were earlier working unofficially under the authority of the Iranian E&P Companies Forum, but later on, the Iranian E&P Companies Association was registered with the Iran Chamber of Commerce, Industry and Mine (ICMM) so that this

Association can be involved in the Iranian petroleum industry based on a systematic framework set by ICCMM. He added: "Furthermore, in light of the expansion of E&P companies' work, IEPCA has been constantly active in accountability to various government sectors and clients." IEPCA was registered in September 2022, several months after the election was held for its founding board. By that time, 17 E&P companies were active in Iran, but following the National Iranian Oil Company (NIOC) assessment, 19 companies have been cleared and are currently IEPCA members. We have been concentrating on resolving key issues and improving the business environment for IEPCA members, including upgrading IPC contracts, overcoming challenges of developing 28 fields and developing tools for financing, and we have reached some agreements with NIOC. Meantime, some issues associated with the 7th

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Thirteen fields, defined under 9 development projects are being operated by IEPCA members



National Development Plan and the role of E&P companies in terms of oil output increase have been followed up on more seriously so that by facilitation of rules and regulations we would clear the way for realizing the objectives of these companies. Asked about the number of projects operated by IEPCA members, Shams said: "Thirteen fields, defined under 9 development projects are being operated by IEPCA members. They are Aban and West Paydar, Sepehr and Jofair, Cheshmeh Khosh, East Paydar, Sohrab, SP11, South Pars Oil Layer, Yaran, Shadegan, and Kupal. They have foreign partners in three projects. Seven fields, defined under 4 projects, are also on track to be awarded. They are Azadegan, Azar, Sumar, Saman and Delavaran, and Pazanan and Gordan. The 20 fields altogether require \$22 billion in investment. These projects would supply 1 mb/d of oil, not to mention other projects."

1 mb/d Eyed

Shams said oil production from the said projects would plateau at 1 mb/d. The real output would depend on the process of development and related investment. However, he added, it has to be noted that 2 projects have come online and their first targeted production figure (FTP) has been

endorsed by NIOC. Three other projects are also waiting for FTP approval. IEPCA has been facilitating the process of awarding fields and developing new methods of financing to accelerate development. "They are mainly signed for 20 years. Brownfields have been awarded to the private sector, which are struck for 10 years. Accumulated output from these projects would reach 5 billion barrels over 20 years," he said.

List Updated

Shams said every year or every two years, the Ministry of Petroleum, jointly with the NIOC Directorate of Development and Engineering, invites new companies to join the association. Their technical and financial capacities are assessed and if they are cleared they would be authorized to work as E&P. Last calendar year, there was a call for new candidates. Regarding modalities, he said: "For some projects, IEPCA members are cooperating with foreign companies in developing Aban and West Paydar as well as Cheshmeh Khosh, Dalpari, and East Paydar. Both are on stream now. Recently, Shadegan was awarded for development jointly by an Iranian and a Russian company." "We are improving the business environment by accelerating the awarding

of fields, improving the terms of contracts, and facilitating financing to provide better terms for the projects," he said.

NIOC Pursues Plan Output

Asked if IEPCA had submitted any specific proposals to authorities for improving the business environment in the petroleum industry, Shams said: "Numerous issues have been discussed with NIOC and various stakeholders such as the "Planning and Budgeting Organization" and the parliament, including about guaranteeing projects. We have also sought to review macro policies in the country to facilitate these rules and regulations. Financing, the economic structure of contracts, and some regulations lie beyond the scope of authority of the Ministry of Petroleum and NIOC. It was decided that some of these problems be resolved by formulating new rules."

NIOC has set the oil output target for the 7th National Economic Development Plan at 5.6 mb/d, the bulk of which would be handled by E&P companies. They are estimated to be responsible for a 1.7 mb/d contribution to the envisaged output hike. NIOC has introduced new oil and gas fields as opportunities for investment to reach that target.

All companies have established their R&D divisions to upgrade know-how. IEPCA has also a research committee that has received the research needs of these companies to make necessary arrangements. Given the urgency of national development, E&P companies would have to shoulder a heavy responsibility to help increase capacity while prospering. To that end, necessary infrastructure has to be provided for such growth to facilitate integrated and balanced development. Therefore, IEPCA can serve as the facilitator of development and client, i.e. the Ministry of Petroleum and NIOC as well as its members. Qualified manpower is currently active in the Iranian petroleum industry and there is good engineering capacity in the country. Under the strain of sanctions, most equipment has been manufactured domestically.

IEPCA Moving Ahead

Shams said: "Certainly, working on the international scene would be more competitive and more effective, but we never set any conditions for our activities and we will go ahead with our projects." "IEPCA companies are trying to step into the Iraqi market. Recently a meeting has been held with Iraq's oil minister to review this problem," he added.

Financing, the economic structure of contracts, and some regulations lie beyond the scope of authority of the Ministry of Petroleum and NIOC

Russian Investment Boosts Iran Oil Output

Minister of Petroleum Javad Owji, the Iranian chair of the Russian-Iranian Business Council, said in a meeting with the Russian chair of the body that proper decisions had been made regarding Russian investment in new Iranian oil fields as discussed over the past

three years. Concluding his visit to Moscow, Minister Owji said that after holding talks with Russia's Deputy Prime Minister Alexander Novak, Russian presidential aide Igor Yevgenyevich Levitin, and Russian Minister of Energy Sergey Yevgenyevich Tsivilyov, the agenda

defined for better ties between the two nations had been fully reviewed. Noting that talks had been held with Russian companies for investment in new Iranian oil fields, the Iranian minister said: "Currently seven oil fields in Iran are being developed via investment

by different Russian companies and 220 tb/d of Iran's current oil output comes from the fields where Russian companies have invested." Owji said that talks had been held with Russian officials about exporting petroleum and petrochemical products and

transfer of technology, adding: "Iranian specialists are currently supplying Russian companies' needs in the upstream and downstream oil sector. In return, Russian companies would meet part of the Iranian oil and gas industry's needs."

Firm Decision on West Karoun Development

Abuzar Sharifi, the CEO of Petroleum Engineering and Development Company (PEDEC), said the Ministry of Petroleum was firmly determined since taking office to develop the West Karoun cluster of oil fields that Iran shares with neighboring Iraq. Addressing a ceremony to start drilling 24 wells in the Yadavaran oil field, he said Yadavaran was one of the four oil fields located in West Karoun. He said that under the 13th administration, construction work and the start of production from the Sohrab oil field in the northernmost part of West Karoun had been carried out. Sohrab is currently producing 25 tb/d of oil. "The second field in this area is Yaran. Eight downhole pumps have been installed in this field for enhanced recovery," said Sharifi. He touched on the signing of an agreement for the integrated development of the Azadegan field in West Karoun under the 13th administration, saying: "Development of the Azadegan field was on hold for years, but under the 13th administration, 67 new wells have been drilled in this area. That is an unrivaled record in the petroleum industry." "Furthermore, other measures like building about 300 km of pipeline and 50 km of export pipes was done to enhance recovery from this joint oil field," said Sharifi.

Bahregan Flare Turned Off After 6 Decades

Masoud Beiranvand, acting head of the Bahregan Oil Production Center, said the oil facilities' flare located between Deilam and Genaveh ports had been turned off after 60 years. He said: "Owing to efforts made by specialists and peers at the Bahregan center we managed to turn off the flare of this offshore oil area after 60 years. Simultaneously, operations started to prevent flaring on the Soroush and Norouz oil platforms." "With a project currently under study, the Bahregansar oil platform flare would be turned off in coming years. There are favorable arrangements with the environment," said Beiranvand. Referring to regular monthly pigging into the offshore and onshore pipelines, he said: "We can say that corrosion and rupture in the oil pipelines as a result of contamination has fallen to zero and there is no oil leak from offshore pipelines." "All these projects have been performed due to the procurement of sophisticated equipment and the presence of skillful experts at Iranian Offshore Oil Company (IOOC)," he said. He added that IOOC was established to handle oil and gas production in the Persian Gulf region.

Gasoline Production to Fully Meet Euro-Grade

CEO of National Iranian Oil Refining and Distribution Company (NIORDC) Jalil Salari has said currently 75% of Iran's gasoline production meets euro-4 and euro-5 standards. "With the operation of new development units of the Tehran and Shiraz oil refineries and completion of the second section of Phase 2 of the Abadan refinery, our gasoline production will be 100 percent euro-grade," he said. "The development units of the Tehran refinery have become partly operational in the past decade. In the meantime, new projects have been drawn up, including gasoline production. The pace of progress of projects has picked up speed in the past four months and gasoline production has been growing significantly we hope that this project will partly come to fruition in the current calendar year," he added. Salari said fuel oil projects would be time-consuming, adding: "In this sector, all companies started their work. Its technical know-how has been nationalized, and contracts have been signed." "Some refining units have started their work to upgrade fuel oil quality. Given the difference in the fuel oil capacity of units, they would gradually come online," he said.

Three-Year Gas Transmission at 804 bcm

CEO of Iranian Gas Transmission Company (IGTC) Gholam Abbas Hosseini said more than 804 bcm of gas had been conveyed during the three years in office of the 13th administration. He said that the sweet gas had been supplied to households, industries, businesses, power plants, and export terminals. He said that even gas compressor stations had become operational, namely Kheirgoo 8, Arsanjan 8, Dorahan 10, Isfahan 10, Nourabad 10, Aradan, and Khor Mowj 6, adding that 25 compressor units and 1,585 km of high-pressure gas pipes had come online. "IGTC is currently tasked with maintaining and steering 93 gas compressor stations and 39,730 km of high-pressure gas lines," Hosseini said. He said that about 760 km of high-pressure gas pipelines lay in Sistan and Baluchestan Province. Touching on major programs for sustainable gas supply, he said: "Full insulation of Farashband 2 and 10, IGAT-2 overhaul at Farashband, Nourabad and Petaveh, overhaul of IGAT-3, IGAT-4 and IGAT-6 based on smart pigging reports, overhaul of the Sarakhs-Neka pipeline, and overhaul of the 48-inch export pipeline are among measures aimed at enhancing the stability and resilience of the network for sustainable gas transmission."

NIOC Inks \$21.5 bn Deals

The CEO of National Iranian Oil Company (NIOC), Mohsen Khojasteh-Mehr has announced that agreements worth a total of \$21.5 billion have been signed under the 13th administration. "Some of these agreements reached production in the shortest possible time. Development of the Sohrab field or Phase 11 of the South Pars gas field are cases in point," he said. "Eighty percent of the value of these agreements, i.e. \$17.5 billion, pertains to joint oil and gas fields' development. It shows the precise orientation of the 13th administration in the petroleum industry development," said the NIOC chief. Khojasteh-Mehr said oil production has increased from 2.1 mb/d in 2021 to 3.6 mb/d now, up 70% thanks to the 13th

administration. Touching on the gas production hike under the 13th administration, he added: "The maximum gas production from the South Pars gas field was recorded in winter 2024 at 705 mcm/d, another sign of production hike in the petroleum industry." "Among key measures by the 13th administration in developing joint oil and gas fields are completion of the refinery of SP14, development of SP11, start of operation on the Yaran and Sohrab oil fields, signing agreement for the development of the Azadegan oil field to enhance production from 190 tb/d to 550 tb/d, signing agreement for the second phase development of the Azar field and signing agreement for the South Pars Oil Layer development,"

he said. Khojasteh-Mehr said every effort would be made to sign valuable agreements in the petroleum industry in the current calendar year. He said that the agreement for drilling 24 wells in the Yadavaran field had been signed during the recent oil show, but has now become taken effect. "The quick implementation of these agreements and startup of oil and gas fields is indicative of the readiness of big Iranian companies," he said. "Both domestic and international organizations confirm Iranian oil exports hike," he added. The NIOC boss also said crude oil and gas condensate exports earned Iran \$36 billion in revenue last calendar year. He added that refined petroleum products also yielded \$7 billion.



Artificial Lift Pumps Revive Wells

CEO of Persia Oil and Gas Industry Development Company (POGIDC) Jafar Hejazi said building and installing artificial lift pumps in low-yielding wells would compensate for output fall-off. "This technology would enable us to revive about one-third of wells that currently lack necessary pressure for production," he said. Noting that Iran should not sell itself short in terms of technical know-how and workforce, adding: "There are obstacles in the way of maximal use of such potential. To overcome them, some positive measures have been carried out through the Association of E&P Companies under the aegis of cooperation on the part of the Ministry of Petroleum and National Iranian Oil Company (NIOC)." He said that oil output should reach 5.5-6 mb/d under the 7th National Economic Development Plan. "Such output hike would materialize through further interaction and arrangement between the government and E&P companies," he added. Hejazi said the agreement for one of the largest oil field projects in the Asmari section of the Kupal field took effect with an investment of \$3.9 billion. This project is underway in partnership with a Russian company. "The surface facilities at the Kupal oil field are five decades old and they need renovation. New installations are to be set up and new wells are to be drilled. With gas injection, production would go from 55 tb/d to 85 tb/d," he said. Hejazi said that the development of the Yaran oil field was another project to be handled by POGIDC.

Gas Distribution Up 4% in 1,000 Days

The head of the National Gas Network Steering Center, Saeed Aqili, has said that gas distribution during the 1,000 days in office of the 13th administration reached 815 bcm, up 4% compared with the corresponding period under the 12th administration. "The main stewardship task involves measures for various sections of the chain, including wells and gas platforms, conveyance to refineries, gas processing, transmission, and delivery to the gas distribution network," he said. He said that the stewardship center was established three years ago when Iran was facing a severe gas imbalance. "Gas consumption was overtaking gas production. Therefore, the National Iranian Gas Company (NIGC)'s primary policy was to keep such conditions in check and focus on consumption management to create an opportunity for increased production." "The imbalance volume was held in check last calendar year and reduced from 24 bcm to 21 bcm," said Aqili. "The policy implemented last calendar year was a higher storage volume, under which 3.03 bcm of gas was stored in the Shourijeh and Sarajeh underground gas storage facilities, the highest gas storage record in 10 years," he added. He said that new gas pipelines in the east and northeast had helped upgrade the gas network in the country, adding: "75% of the country's gas is produced in the south, but more than 80% is consumed in the center and north, particularly northeast, and the provinces of Isfahan, Tehran, and Khorasan Razavi. In the household sector, Mazandaran Province is a leading consumer. The two provinces of East Azarbaijan and West Azarbaijan lie at the end of the household-commercial sector.

SP Pressure Compression a Must

Chairman of TAPCO Sajjad Valadi said pressure compression at the massive South Pars gas field would be a must. "Pressure compression at South Pars is a mandatory project and a matter of honor for the country in terms of energy supply security," he said, adding that the Qatari side has signed deals with three major contractors for that purpose. Iran and Qatar are jointly developing South Pars. He added that an agreement had been signed between four companies for a \$20 billion investment in gas compression in South Pars during Oil Show 2024. He said it was the largest project in the history of Iran's petroleum industry. Valadi said TAPCO and OTC would jointly manufacture compressors and turbines for the project. "Furthermore, Pars Kayhan as EPC, and Iranian Offshore Engineering and Construction Company (IOEC) as the manufacturer of offshore platforms weighing 10,000 tonnes would team up together for this project," he said. "With a strong group comprising private, state-owned, and semi-state-owned companies, we can operate this project alongside the Ministry of Petroleum within a clear timeframe," he added. "The South Pars compression project would come online in 10 years and in several phases. In Phase 1, the platforms should be located quickly while at the same time, compressors and turbines should be manufactured to be installed together," said Valadi. "TAPCO has agreed to handle the manufacturing of five hydrogen compressors for turning off the Nouri Petrochemical Plant's flares.

Tehran Refinery Gasoline Unit Due

CEO of Tehran Oil Refinery Mohsen Iranzad has announced the planned commissioning of the first phase of gasoline production at this facility up to the end of the current calendar year. He said the new gasoline production unit was 77% completed and was expected to come fully online in one year. He said that the Arak petrochemical plant's shares had been purchased last calendar year for the Tehran oil refinery to become a petrochemical refinery. He expressed hope that the Supreme Leader's instructions for putting an end to crude sales would materialize in coming years. Iranzad said that the quality upgrade project of the Tehran oil refinery had been modeled on the Isfahan refinery. He thanked Isfahan refinery management for sharing details with the Tehran refinery. "Following the receipt of the model, an EPC tender bid was held for this project. In the first phase, 18 contractors were identified and ranked while the technical certificates of 6 final contractors were examined," he added. "We also received permission for the waiver of tender bid formalities. It would be finalized at the Board meeting next week so that the contractor would be chosen in one month," said Iranzad. "In the continuous catalytic regeneration (CCR) project, the project's challenges were entirely identified and this project is now 77% complete," he added. He said that required permits had been acquired for upgrading the quality of fuel oil, adding: "We're also having good cooperation with regulatory bodies and we hope that work would start in the coming weeks.

Iran-Russia Gas MOU to Lift Iran Share

Minister of Petroleum Javad Owji said Iran-Russia cooperation following a memorandum of understanding for Russia's gas supply to Iran would enhance Iran's share of global gas trading. He added that it would also empower Iran to become a regional gas hub. "Iran and Russia hold more than 60% of gas reserves in the world. Iran's recoverable gas reserves are more than 34 tcm, the second in the world. Russia, holding 40 tcm, stands first," he added. Highlighting Iran's influential role among gas exporters and producers, the minister said during his visits to Russia and his meetings with Russian President Vladimir Putin, the late Iranian president Ebrahim Raeesi had constantly emphasized the existing capacity for cooperation in Russian gas transmission to Iran. "The first and influential step in cooperation with Russia was the development of oil fields

using the capacity of Russian companies. Now for developing seven oil fields in Iran, the 13th administration has signed deals with them. Under these deals, 230-250 tb/d of Iran's total 3.6 mb/d oil production has been due to the agreements signed with Russian companies," said Owji. He said that constructive talks had been held with Russian officials for gas transmission. "Apart from the partnership in developing oil fields and manufacturing equipment like downhole pumps, meetings had been held at expert levels between National Iranian Gas Company (NIGC) and Gazprom Russian for gas transmission to Iran, which finally led to the memorandum on June 26," he added. He expressed hope that the memorandum would become an agreement in the shortest possible time. "Implementation of this agreement would bring about a significant jump for Iran in

global gas trading while it would raise the Islamic Republic's gas trading share," he added. Owji said Iran's gas industry infrastructure included 40,000 km of gas pipelines, more than 400,000 km of urban and rural distribution network, and 92 gas compressor stations. "Given Iran's geography, we may witness Iranian gas transit. In addition to Russia, neighboring countries would benefit from this agreement." "I can say that the bilateral cooperation would mean an industrial revolution for Iran, which is the latest achievement of energy diplomacy" initiated by Raeesi, said the minister. "Within the framework of this agreement, gas technology would be transferred to Iranian companies," he said. Owji also said that the number of knowledge-based companies cooperating with the Ministry of Petroleum had increased from 150 to 700 under the 13th administration. He said the Ministry of Petroleum claimed the top spot in terms of using the potential of knowledge-based companies and first-time manufacturing.



Gas Swap Upgrade Proves Iran Standing

The 13th administration has taken a variety of measures aimed at upgrading Iran's energy potential and enhancing the regional and international standing of the country. These measures have been in keeping with the economic and diplomatic efforts of the current administration to boost Iran's influence in the global energy markets and improve the national economy. Therefore, they are of significance from various aspects. One of the key measures taken in the energy sector has been to enhance the gas swap capacity. To that end, reviving previous agreements and signing new ones with countries like Turkmenistan, Azerbaijan, Armenia, Iraq, Turkey, and Pakistan would be important.

Gas Advantages

Iran is endowed with two major and unique advantages in the global gas market. Its first advantage is its access to massive gas reserves that have turned the country into a major holder of proven natural gas reserves in the world. Therefore, Iran's natural gas production has followed an upward trend since 2011, and US sanctions have failed to stop or reverse gas production growth in Iran. From 2012 to 2022, Iran's natural gas production has grown at an annual average rate of 5.2%, which has been 2.5 times the global average rate during the same period. Iran's second

advantage pertains to its geographical position. Lying in the heart of West Asia, Iran has created significant opportunities for gas swap and transit. This strategic position has given rise to numerous advantages for Iran, one of which is access to diverse markets. Iran lies close to gas-rich Turkmenistan and major energy consumers like Turkey and Europe. Therefore, it can link gas producers and consumers.

Meantime, Iran's geographical position facilitates reducing gas transport costs. In light of access to sources of production and consumer markets, Iran can use shorter and more economical pipelines, which would cut transit costs and enhance profitability.

On the other hand, owing to access to the high seas via the Persian Gulf and the Gulf of Oman, Iran may easily reach global energy markets. Such geographical position would clear the way for exporting liquefied natural gas (LNG) to farther areas like East Asia and Europe. Therefore, Iran can have more extensive cooperation with Turkmenistan, Azerbaijan, and Qatar in gas swaps. Such cooperation would help create joint gas transit networks and enhance energy security in the region,

particularly because Iran's position would allow for diversifying gas transit routes. While contributing to lowering geopolitical risks and bolstering energy security, Iran has the potential to create various routes for gas transit to Europe, Asia, and the Persian Gulf littoral states. Therefore, Iran's geographical position has some characteristics sure to help boost local and regional energy security. By setting up regional gas transmission networks, Iran may contribute to a sustainable energy supply for itself and its neighbors. Iran's geographical position has also turned it into a regional energy hub. Iran may now become a major commercial center for gas swaps and exports. Owing to this strategic position, Iran can boost its bargaining power in international talks and benefit from its geographical position as leverage in commercial and political talks.

Swap Opportunities

Despite rich energy resources, gas production growth, and the exclusive possibility of providing the shortest oil and gas transit routes, Iran has failed to use such advantages due to Western pressure and inefficient diplomacy in the energy sector. That was to the extent that Iran's geopolitical influence in the energy sector had been harmed. Therefore, one of the key strategies focused upon under the 13th administration was for the Ministry of Petroleum to use the energy diplomacy potential for better use of Iran's geographical position for gas swap

operations. That project had already been experienced but stopped for various reasons.

This approach was important because improving gas ties for importing gas from northern neighbors and maximizing gas exports to neighboring countries would earn the country significant revenue while preparing the ground for the key role of gas trading to materialize in redesigning energy trading. Meantime, with gas imports from northern neighbors, the gas needs of northern areas of Iran would be supplied from the same region. That would cut gas transit costs and make gas supply to industries targeted.

Gas Impact

Generally speaking, Iran's increased gas swap under the 13th administration has left significant impacts on the country at the local, regional, and international levels, thereby enhancing the role of Tehran as an influential player in this sector. These impacts may be reviewed from various aspects:

Bolstering Iran's political and economic influence in the region: Increased gas swap with Iran would empower the country to bolster its clout with neighboring states. Central Asian and Caucasian nations are looking for sustainable energy resources and Iran may serve as a connection bridge between these countries and international markets.

Diversification of hard currency revenue: By boosting gas exports and swap levels, Iran can diversify its hard currency revenue and lessen its dependence on oil exports. That would be especially vital under conditions of international economic sanctions.

Meeting local demand: Increasing gas swaps may help supply local needs at lower costs. Given the demographic growth and concomitant higher energy consumption, the

development of gas resources can be of great help to sustainable energy supply to various sectors. Creating investment opportunities: Increasing gas swaps and expanding related infrastructure may give rise to new investment opportunities for local and foreign companies. Such investments may help create jobs and boost the economic growth rate.

Competitive Sector

Competition with gas exporters: By enhancing its gas swap potential, Iran can behave more competitively in regional and global markets, and win a bigger share of the market.

Bolstering economic resilience and blunting the impact of sanctions: Increased gas swap would be instrumental in Iran's economic resilience because by making others dependent on Iran's geography and resources, the impact of unilateral US sanctions would be undermined.

Upgrading regional cooperation: Increasing gas swaps can clear the way for upgrading regional cooperation and facilitate new energy deals. Such collaborations may include joint projects for the construction of pipelines, storage facilities, and gas transportation facilities. Also, increasing economic interactions in the field of gas may lead to the strengthening of diplomatic relations between Iran and other countries.

Cooperation in energy projects may clear the way for further diplomatic dialogue and agreements, which in turn can help reduce tensions and increase regional stability.

Boosting Iran's geopolitical standing: Iran can strengthen its geopolitical position by increasing the gas swap. Iran can act as a bridge between large gas producers and consumers in Asia and Europe and play an important role in ensuring global energy security. Last but not least; increasing the gas swap would have benefits not only for Iran but also for the entire region and even beyond.

Gas Development Dreams Come True Despite Sanctions

Elaheh Baqeri

Iran's petroleum industry has been under sanctions and associated restrictions for years. More precisely, immediately after the victory of the Islamic Revolution in 1979, major international companies stopped cooperating with Iran's industries. Even those who had chosen to rest faced numerous challenges in providing services and supplying commodities. Nonetheless, thanks to Iranian experts, the petroleum industry has reached a stage where we no longer consider cooperating with developed nations. We are now at a point to rival them in terms of engineering and technical services. Iran Gas Engineering and Development Company (IGEDC) has been assigned a mission to generate revenue by exporting specialized technical and engineering services in engineering, design, and manufacturing of gas equipment.

Mehdi Yousefi, IGEDC's director of technical and engineering services export, in an interview with "Iran Petroleum", has highlighted the necessity of exporting technical and engineering services.

"As you know, ever since oil was discovered in our country, just like in many oil-rich nations, there was no strong impetus for becoming a proprietor of technology or obtaining a permit for exporting oil and gas services," he said. "Petrostates turned to selling raw materials; and they used to even import basic products like gasoline. That is for oil, but it applies to gas, too. In our country, converting raw materials has not been

taken seriously which could have generated value for us. We had similar conditions in the technology sector. I mean, we could not be able to possess technology to export technical services or technology instead of raw materials."

Yousefi referred to South Korea, saying: "We know that Korea is not an oil-rich state, but it is making significant revenue from oil and gas by manufacturing and exporting equipment and developing technology and know-how, as well as through implementing oil and gas projects. But we are a leading oil-rich state and we had ignored this issue for one century."

Restrictions Give Impetus

Following the Islamic Revolution, many big powers sought to deprive Iran of the technology or equipment needed for its petroleum industry. However, it marked a turning point in awakening national willpower.

Yousefi, who also advises the CEO of IGEDC, touched on the path towards self-sufficiency, saying: "After restrictions were imposed upon all industries, particularly the petroleum industry, there was a will for breaking dependence on foreign countries to reach self-sufficiency. Therefore, we moved in this direction to reduce our dependence on other nations."

Noting that the sanctions were not limited to the past couple of years, rather having started since the early months following the Islamic Revolution, he said: "The sanctions imposed over recent years, might have been the most

crippling in the eyes of those who imposed them, but we were restricted following the Revolution as many experts of equipment and technical savvy refused to cooperate with us. I mean that sanctions began in different sectors after the Revolution. But we were determined to become self-sufficient in the late 1990s, I can say that we did not have foreign companies involved in at least construction work."

Boastful Progress

Yousefi, who has already served as a director at Pars Oil and Gas Company (POGC), is well familiar with the process of local sourcing for some projects. Referring to local manufacturing and engineering potential, he said: "At POGC, all refinery phases had been handled by Iranian companies, but in terms of equipment, we were still dependent on some countries and we had to import some of them, which was costly for us or even impossible due to sanctions. In all these cases, our impetus increased for undermining restrictions. The Supreme Leader's emphasis on scientific development, expansion of knowledge-based companies, and production in general also stimulated motivation for local companies to take steps towards domestic manufacturing of even sophisticated equipment. For instance, domestic companies are manufacturing pumps, compressors, pipe sheets, or turbines. I would like to go further and point to control systems that we used to import from overseas and we even depended on foreign companies for their launch, but today we have gas compressor stations with

fully Iranian control systems, which are close to coming online. To sum up, I have to say that IGEDC is sourcing fully Iranian pipes. About 92% of engineering, commodity, and construction at gas compressor stations is local. The percentage is at 76 in refinery construction. These figures are source of honor and pride for us, particularly when we compare ourselves with oil-rich nations like Saudi Arabia or Venezuela. In Venezuela for example, after US engineers left refineries, all their activities came to a halt. They could not do anything without foreigners. But over the past 20 years, we have not had even a single foreigner in our own operations and reparation and we have even manufactured our equipment domestically." Yousefi also said that a young and knowledge-based private sector has emerged in the country.

Mandatory Export

It is easy to conclude that we have reached an acceptable point in the manufacturing of equipment and provision of services and technical and engineering knowhow. That is why we have brought valuable projects to fruition. Asked if one day Iran would no longer have any project to operate, Yousefi said: "If one day we reach that point why should not, we export our services? At the National Iranian Gas Company (NIGC), we are faced with the question of why

we have supplied gas to the villages with even 10 inhabitants. I mean that there are a lot of projects that one may wonder what equipment manufacturers would have to do then. Or what would happen to so many qualified contractor companies after gas trunklines would be sufficient for the entire country.

Or what would our engineering companies that were handling our design work do? Logic necessitates that we market for them from now onwards.

We have to support private companies on the one hand and find a solution to generate hard currency revenue while our gas consumption is high and our exports are low. We can do so by exporting equipment or engineering services. More importantly, when we intend to have a share of the global energy market, we can get involved in the know-how and equipment sector. Therefore, we should move towards exporting technical and engineering services. Hopefully, there will be decisions requiring exporting technical and engineering services. Furthermore, some incentives have been completed and expanded in recent years. The only thing for these companies would be to take action under the aegis of political support from other government organs so that we can export to friendly and preferably neighboring nations despite sanctions. The next point is financing, for which banks have to facilitate the process of investment in projects." Yousefi said since the 13th administration took office in 2021, the NIGC Board adopted a decision requiring IGEDC to take action for exporting technical and engineering services. "Following this instruction,

negotiations were held with target nations. Technical and financial talks with one country are over and we are currently following up on its legal aspect. We are getting ready for finalization to start a \$300 million project. In parallel, we have had talks in neighboring countries on different issues. Based on the terms of the contract we were supposed to implement projects on the condition that we export commodities from

Iran. That would empower contractor companies to be active." Touching on challenges, he said: "There have been problems like sanctions. The banking system may not easily work abroad. However, we managed to convince several major banks in the country to join us. We are moving in this direction and we are hopeful to reach favorable results under the aegis of support from various bodies."

FOCUS

Economy Going Its Way

One key issue in recent years, particularly with the toughening of sanctions, has been the lack of foreign investors and this untapped opportunity in Iran. On the one hand, sanctions were targeting our banking transactions, while on the other, due to negative propaganda by powerful countries against Iran, investors were reluctant to come to Iran. Yousefi said: "As far as foreign investors are concerned, I should say that some countries with which we have talked about cooperation have no capital to start and they suggest that we provide the initial capital which we would recoup through revenue. One of the programs we have been following up on has been to require foreign investment to be accompanied by partnership and then we can make gains in construction. Regarding concerns about the lack of willingness by investors to cooperate with Iran, I should say that the main issue is that the colonialist work is unwilling to see our country do anything within its borders, rather than outside its borders. However, the economy is going its own way. It does not mean that we can work easily under such conditions, but it is not impossible either. Other countries would welcome an industry that is higher than normal standards and offered at affordable prices. In a bid to defeat negative propaganda, some measures like holding exhibitions have been taken so that foreign delegates would see the fallacy of negative propaganda against Iran. We have also energy interaction with neighboring nations and no country can cut them." Yousefi divided the history of the petroleum industry into four parts: "A significant chapter in this history pertains to exploration and the start of oil production. Another key part happened about 70 years ago when the petroleum industry was nationalized. The third period was related to domestic implementation of projects while the fourth period is taking steps towards exporting technical services, which was once a dream."



Petrobras Selects Oceaneering for Umbilicals

Oceaneering International Inc., reports that its manufactured products segment has secured two contracts with Petrobras through a competitive bidding process.

Oceaneering is contracted to supply up to 362 km, or approximately 225 miles, of steel tube and thermoplastic electro-hydraulic umbilicals and associated subsea distribution hardware for use in projects offshore Brazil.

Manufacturing of the products is scheduled to take place at Oceaneering's Niteroi, Brazil, facility with the final delivery expected in fourth-quarter 2027.

Senegal Starts Oil Production

Woodside Energy has started production from the deepwater Sangomar oil field, Senegal's first offshore oil project. The Phase 1 development features an FPSO with a production capacity of 100,000 bbl/d, storage for 1.3 MMbbl and subsea infrastructure designed to accommodate subsequent expansion phases. The Léopold Sédar Senghor FPSO, named after the country's first president of Senegal, is moored about 100 km offshore. To date, 21 of the 23 Phase 1 wells (11 producers, 10 water injectors and two gas injectors) have been drilled and completed.

Two UK North Sea Wind Farms Planned

The consenting process has started for the 2-GW Ayre and Bowdun wind farms in the central UK North Sea, both owned by Thistle Wind Partners. Ayre is a proposed floating wind farm off the coast of Orkney, northern Scotland, while Bowdun will be a fixed foundation wind farm offshore Aberdeen. ABPmer, a subsidiary of

Associated British Ports, will provide marine physical process assessments to support the consenting process for the marine consultancy and survey company RPS. It will model the wave, hydrodynamic and sediment transport environment of the offshore areas to help determine how this could impact the planned wind farms.

Gas Potential in South China Sea Play

CNOOC has made a potentially large discovery in deep water in the western South China Sea. The Lingshui 36-1 gas field is in an average water depth of about 1,500 m. The main gas-bearing play is the shallow-lying Quaternary Ledong Formation, with an average burial depth of 210 m. During testing, the well delivered more than 10 MMcm/d of open flow natural gas. CNOOC CEO and President Zhou Xinhui said, "The successful testing of Lingshui 36-1 further expands the resource base for the development of a trillion-cu. m gas region in the South China Sea."

VIEW



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NZEyes Exploration Offshore Restart

The Coalition Government in New Zealand is proposing to lift the ban on new petroleum exploration beyond onshore Taranaki, North Island, which the previous administration imposed in 2018. This is one of numerous planned amendments to the Crown Minerals Act to address New Zealand's energy security issues and restore investor confidence in the country's petroleum sector. Reportedly, the government wants to encourage E&P companies to resume exploration in the main offshore fields that supply most of the country's gas.

New Zealand



Energy Transition in Persian Gulf Littoral States

Fereydoun Barkeshli
Energy Market Analyst

The term “Energy Transition” refers to a global shift from oil and gas production and consumption to cleaner sources of energy like renewables. Transition is driven by the need to reduce GHG emissions and combat climate change. This move has gained momentum given the fact that oil and gas, are finite sources of energy, and given the rate of population growth and economic performance, they will not be adequate to meet the growing demand. However, the transition to a low-carbon energy system involves wide and complicated changes and adjustments over multiple sectors, including power generation, transportation, industry, and building construction. Key elements in the process of transition include the rapid deployment of renewable energy technologies such as solar, wind, or hydropower, as well as improved energy efficiency and all types of energy storage technologies. Energy transition also involves a structural shift in the way energy is produced, distributed, and consumed. As such fundamental changes include the decentralization of energy systems, the integration of smart grids and digitized technologies, and the

promotion of energy conservation and sustainable consumption practices. While the benefits of the energy transition are evident in new employment opportunities in relevant technologies and industries, it has been noted in most studies that the current rate of economic development and energy consumption cannot be sustained at the rate witnessed during the last century. Some challenges and barriers must be addressed carefully and overcome. These include the high upfront costs of renewable energy technologies and the need for new infrastructure and regulatory frameworks. Social and economic impacts on communities and communities that rely solely on traditional sources of energy have to be scrutinized and addressed.

Energy Transition in Perspective

Below, different challenges, considerations, and opportunities ahead are addressed. The world economy owes its rapid growth since the early 20th century to the oil industry. Oil and at a later date gas fueled the economic growth. During the last half a century, about one billion people have been ushered out of poverty in different parts of the world, mainly Asia owing to the abundant and cheap and easy to transport fuel that is oil. Industries are built and designed to use oil products, infrastructures, pipelines and storage facilities, oil terminals, oil tankers, and several other facilities and logistics are designed and built aimed at producing and consuming oil and gas. Indeed, oil companies and oil-producing and exporting countries have not traditionally been of the best reputation in the world at large. Oil businesses have often been associated with international cartels involved in unfriendly activities, sometimes revolts and even bloodshed.

This vision might have been partly true but nothing to ignore the role that oil played in the advancement of modern industrial civilization and the improvement of human society. Reading reports by international bodies that designed and promoted issues relating to Net Zero Emissions, GHG, and subsequent energy transition, one may notice that the relevant international organizations and their relevant bodies have cherry-picked the notion of energy transition and the expeditions towards the fossil fuel era. I do not want to undermine the climate change hazards in any way, but I would like to make sure that any exaggerated approach toward energy transition will lead to catastrophic situations for the world economy and injustice to countries that depend on oil and gas for their survival. It is a given fact that the negative impact of fossil fuels has deliberately outsized the truth about the significance of oil and gas throughout the coming decades. According to the International Energy Agency report published in summer 2023, there were an estimated 1.5 billion vehicles and cars on the road. In the same report and for the same period, there were an estimated 28 million cars on the road. That is something like 2.2 percent of cars are electric. On the same token, the number of charging stations in the United States of America is estimated at 23000, while there are some 145000 petrol stations in the country. Figures published by international bodies and climate lobbying always refer to percentages and not absolute numbers.

Renewable Energy Competitiveness

It is important to note that despite all the lobbying and generous subsidies by the Western governments, oil and gas remain the most competitive source of energy. As such international oil prices can also impact the policy response towards energy transition. Relatively low oil prices may lead to a temporary slowdown in efforts to transition toward renewable sources of energy. This is not a new phenomenon. Price competitiveness has always been a key element in investment decisions by the stakeholders. In fact, for the countries in the Persian Gulf, it is important to adjust and implement policies in the oil sector while designing their energy transition. Persian Gulf oil producers are principally of the opinion that gas in all its forms like LNG is a path through which the transition from oil to renewable sources of energy passes. Gas is not an obstacle. It is a bridge. Most OECD countries in contrast believe that gas is equally responsible for carbon dioxide emissions and must be treated as badly as oil. It is interesting to note that most of these countries use plenty of coal and do not take on coal.

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Political Economy of Energy Transition

Political considerations also shape divergent views on the energy transition. The United States is currently the largest producer of oil and gas in the world, but it is much less under scrutiny than the Persian Gulf oil and gas producers. It is important to note that the United Nations Framework Convention on Climate Change (UNFCCC) has played a decisive role in promoting the energy transition. For a long time since its inception, climate conventions were mostly held in the OECD member states. This was considered to mean that energy transition was the industrialized country's affairs. Indeed they develop policies and decide upon issues, and the rest of the world will have to follow. In COP 28, western representatives that arrived in full force to undermine oil-producing countries realized that oil producers are resilient and prepared for the future. There's no panic. Rather, there is harmony between traditional sources of energy and the arrival of new energies. In a sense, oil and renewables are complementary and not comparative. As such most Middle Eastern countries push to raise crude oil output and at the same time invest in renewables and raise electricity production. The trend is seen in countries like the Islamic Republic of Iran and the United Arab Emirates, where efforts are made on multiple fronts. Investment to add to output, increase renewable energy production, and at

the same time work on energy efficiency. Persian Gulf countries realize that the energy transition is not a short-term affair. The energy transition is a strategic and never-ending issue. The population of the world increases, economic growth continues and therefore, energy consumption keeps growing. Different sources of energy are not at war with each other. They complement one another and as such need investment and technological innovation. This message was conveyed to the industrial countries in COP28. I am sure that the Baku COP29 will convey a similar message when we meet at the end of the year in the Republic of Azerbaijan. The Middle East wants to establish a new energy transition order. What has United Nations Climate strategist designed was a call for a new energy transition disorder. In a new energy era, electricity and electrification is the keyword. Renewables mean, all electric. However, oil producers and oil and energy stakeholders are aware that in a responsible environment and without attempts to weaponize renewables and climate change against others is not a solution to remedy carbon emissions. It is true that hybrid systems and widespread electrification lead to less carbon footprint but increase the use of several other more carbon-producing minerals such as lithium, copper, cobalt, nickel, manganese, or graphite which are highly polluting and more

environmentally unfriendly than oil and gas. Most of these minerals are located in Africa and Latin America, and the race to capture those minerals is already underway in a big way. The faith that the Middle Eastern nations faced back in the 19th and 20th centuries now expects those nations.

Energy Equation

I wish to embark upon a critical view of the energy equation. The Persian Gulf littoral states produced and exported 1 trillion barrels of oil mainly to countries in the Atlantic between 1970 and 2022. The money earned from this production and exports went back to those countries in the form of purchases of all kinds of goods and services. In the meantime, OECD member countries earned even more than the oil exporters by way of imposing taxes. It is, therefore, fair to say that the Western countries earned more from the imports of oil than the exporting countries. In the energy transition scenario, it is assumed that energy means electricity. This is misleading. Power stations are often far from the consumption in the cities and factories that use the electricity. Some marginal portion of electricity is indeed produced on the roofs of houses and buildings. Large volumes of electricity need to travel long distances and require powerful transmitting wires. It is a fact that a relatively large proportion of the

electricity is gone in the process of transmission. The cost of electricity transmission via electric cables is much more expensive than the transmission of gas through pipelines that already exist. As such a great deal of hardship is on our path towards energy transition. A study made by the Oxford Institute for Energy Studies estimates that to achieve net-zero emissions by 2050, countries require an annual investment of \$3.5 trillion. This is equivalent to 1.5 percent of global GDP. Here, the issue of fair and just distribution of energy comes up. The countries that can afford such a volume of investment may not be those who need it most or necessarily the ones with the highest pollution rates. Countries in the Middle Eastern region are aware of the risks and opportunities that energy transition has in store for them but most rewarding once there is a coordinated and collective response. National Oil Companies, the NOCs of the region are collectively the most powerful and omnipotent energy providers in the world. Every country in the Persian Gulf region has its unique expertise that can jointly deliver positive and constructive methodologies to accommodate the energy transition. Iran has been a pioneer in energy transition and renewable technologies. Iran's Renewable Energy Organization was established during the early 1970s. The Manjil wind project also referred to as the Manjil Rudbar project went

into operation in 2015 with a capacity of 92 megawatts. It consists of four phases that are completed and in operation. It is the largest wind farm in the Middle East. Besides, Iran is currently a leading manufacturer of solar panels. The installed capacity of Iran's solar panel electricity is estimated at 664 Megawatts by 2023 figures. As for Saudi Arabia, the estimated capacity of wind and solar panels is less. However, the Kingdom has done well in hydropower and hydrogen at the pilot plants level. The same is true with the United Arab Emirates, Qatar and Oman.

Shared Expertise

Coordinated and organized efforts made by the Persian Gulf littoral states will surely benefit all. The countries can share expertise and technologies, as well as share investment costs. Western governments have been trying hard to weaponize the climate issue against the oil and gas-producing nations. As such, the oil producers should be watchful to prevent the weaponization of the energy transition. Oil-producing countries may consider designing a renewable energy group that can benefit their nations and further strengthen the ties between all the countries of the region. There is a likelihood of shaping a new renewable energy organization in the region, similar to OPEC.



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Oil, Condensate Refining Capacity to Surge

Iran's crude oil and gas condensate refining capacity has reached 2.25 mb/d, which is planned to reach 3.5 mb/d by March 2035. National Iranian Oil Refining and Distribution Company (NIORDC) has drawn up 13 refining projects to bolster national refining capacity, which would require \$50 billion in investment. Although it welcomes foreign investment in crude oil and gas condensate processing, the Ministry of Petroleum has not been waiting for foreign investors to implement refinery development projects and has assigned the projects to local contractors.

\$50bn Refining Projects

Iran's oil refining industry has been racing ahead despite sanctions being in place over recent years. There are currently 9 refineries in Iran, treating 2.25 mb/d of crude oil and gas condensate. Due to the significance of increasing crude oil refining capacity and supplying refined petroleum products, while limiting crude oil sales due to sanctions in place, the Ministry of Petroleum has instructed NIORDC to draw up refining and petrochemical refining projects. To that effect, 13 prioritized projects have been defined in this sector with a total capacity of 2.27 mb/d of crude oil and gas condensate. The investment for these projects is estimated at \$50 billion. Farhad Ahmadi, the CEO of National Iranian Oil Engineering and Construction Company (NIOEC), has highlighted the Ministry of Petroleum's policy of quitting crude oil sales, saying: "The national refining capacity is planned to increase 210 tb/d. Arrangements have been also made for adding another 150 tb/d to this capacity. The point is that such increases are all in line with value chain completion." "Such capacity enhancement has been facilitated by implementing production quality improvement projects," he told "Iran Petroleum".

Halting Crude Sales

The Ministry of Petroleum's main objective behind petrochemical refining projects is to prevent crude oil sales. Therefore, it has

turned to the value chain completion as petrochemical refining units are expected to earmark about 30% of their capacity for petrochemical production in addition to supplying petroleum products.

Petchem Output at 77 mt

Iran produced more than 77 million tonnes of petrochemical products last calendar year, which earned the country big revenue in hard currency despite sanctions. Contractors have been chosen for the Shahid Soleimani petrochemical refinery whose capacity is 300 tb/d. Shareholders of this project are as follows: Persian Gulf Petrochemical Industries Company (30%), Oil Industry Pension Fund's affiliate Ahdaf Investment Company (15%), Bank Mellī's National Development Group (15%), Bank Refah's affiliate Ayande Sazan Refah Pardis Company (15%), Bank Tejarat (7.5%), and Bank Mellat (7.5%). The remaining 10% capital share belongs to NIORDC. The facility is fed with heavy crude oil and needs \$9.5 billion in investment. Ahmadi said that construction of the petrochemical refinery would begin in the current calendar year. Gasoil would constitute 35% of the refinery's products which would also include gasoline (15%), propylene (11%), jet fuel (10%), ethylene (9%), fuel oil (8%), para-xylene (5%) and benzene (2%). The planned construction of the 300-tb/d Morvarid Makran refinery is the second step by Iran to boost its refining capacity. The refinery is planned to be built in Jask Port

off the Gulf of Oman. It is expected to come online by 2026. The Morvarid Makran refinery would be fed with heavy and extra-heavy crude oil. About 70% of its products would be gasoline, gasoil, liquefied petroleum gas, and chemicals. Among other refining projects in Iran is the Mehr Khalij Fars petrochemical refinery with the capacity to process 120 tb/d. Under construction next to the Persian Gulf Star Refinery, it is 60% completed now. It is expected to come online in two years. Moreover, the South Adish and Pishgaman petrochemical refineries are under construction with a total capacity of 120 tb/d in the Siraf area.

The construction of petrochemical refineries is aimed at integrating natural gas and crude oil into the value chain for fresh wealth generation.

Higher Petrol Output

In addition to planning for higher refining capacity, NIORDC is eyeing upgrading the quality of refineries. Currently, Iran is producing 112 ml/d of gasoline, 111 ml/d of gasoil, 65 ml/d of fuel oil, 6,500 tonnes a day of LPG as well as 8-9 mt/d of kerosene and aviation fuel. As plans are considered for upgrading the quality of oil products in the country, the plan to boost the fuel oil quality is starting in the current calendar year. Due to US sanctions, NIORDC has asked domestic manufacturers and knowledge-based companies to get engaged in sourcing equipment whose import is necessary for

upgrading the quality of refining facilities. CEO of NIORDC Jalil Salari has referred to the local development of technical knowhow for fuel oil quality upgrade, saying: "In this sector, we have benefited from the potential of knowledge-based companies and for the first time in the country, the technical knowhow for fuel oil quality upgrade was developed and is currently the top priority of development projects at nine refineries."

Needle Coke Output

It may be said that the fundamental design of the needle coke production project is completed and its production will start soon. According to planning, after upgrading production quality at 9 refineries and launching the Mehr Khalij Fars and Adish refineries by March 2027, Iran would see its gasoline and gasoil production capacity grow 20 ml/d and 16 ml/d, respectively. Salari said fuel oil output cut was being pursued under the 7th National Development Plan, adding: "Necessary financial resources have been forecast and construction has begun in some projects." Noting that \$9 billion was needed for these projects, he said: "To absorb resources more effectively we had better go ahead phase by phase. We would also use the capacity of foreign investors and incentives." The 7th National Development Plan requires gasoline and gasoil production to reach 129 ml/d and 130 ml/d respectively, said Salari. "The complementary units of Phase 2 of

development of the Abadan refinery would become operational by the end of spring, which would add up to 3 ml/d to the refinery's gasoil production."

Shiraz Refinery

He said that the Shiraz refinery would start producing Euro-4 gasoline by September. Given the plans envisaged to enhance crude oil refining capacity, the 13th administration seems determined more than ever to move towards supplying higher-value products. Energy expert Reza Mohammadi told "Iran Petroleum": "The policy pursued by the Ministry of Petroleum in recent years for enhancing the crude oil and gas condensate refining capacity and increasing petroleum products' output is proper in light of energy transition. However, it has to control the domestic consumption of petroleum products in a bid to export refined products." Referring to the Ministry of Petroleum's approach vis-à-vis petrochemical refinery construction, he said: "Many countries are moving in this direction. Iran is a large owner of hydrocarbon reserves, which is going in the right direction." "Since investment in fossil fuels does not grow significantly while banks have turned to investment in renewables, it would be right to build petrochemical refineries which are completed sooner than conventional refineries. Furthermore, due to the high rate of return on investment, financiers invest more easily in this sector."

To that effect, 13 prioritized projects have been defined in this sector with a total capacity of 2.27 mb/d of crude oil and gas condensate

Necessary financial resources have been forecast and construction has begun in some projects

Ilam, Beauty of Zagros

In the previous issue we introduced some of tourist attractions in Ilam Province. In the current issue, we continue to review more places.



Bahram Choubin Ravine

The Bahram Choubin ravine is a natural beauty in Ilam Province. It houses monuments which are unique. The ravine is wide and located in a strategic place in Kabir Kouh. Along with remnants of military towers attributed to Bahram Choubin (a Sassanid-era warlord), it is a recreational area for tourists. Some stories say Bahram was holed up there during revolt against Khosrow Parviz.



Kafarin Ravine

This ravine is located in Badreh city in Ilam Province. Widespread acorn trees and such animals as Iranian squirrels are among tourist attractions there. The River Zamzam is one kilometer into the ravine. Jaber pilgrimage site is another place for visitors.

Iran Petroleum

If you have any comments regarding the articles in this magazine, please feel free to contact us through e-mail. Your views are appreciated



Petroleum Ministry - Public Relations

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