



A new era for Iranian petrochemicals

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Iran: A land of opportunity?¹

Since the lifting of nuclear related sanctions against Iran in January 2016, Iran has attracted the attention of international companies looking to invest in a diversified market with strong economic fundamentals.² Sentiment in the market has been strengthened by a significantly improved investment climate driven by Iran's President Rouhani, who was re-elected to a second term in May 2017. Although some risks and challenges to entry

remain, such as sanctions relating to Iran's perceived military and human rights violations that were not lifted under the Joint Comprehensive Plan of Action (JCPA) and the reluctance of European banks to transact with Iran, with the world's second-largest natural gas reserves and sound economic fundamentals Iran is well positioned to become a major player in the global petrochemical space.

Economy and demographics



Second **largest economy** in the Middle East and North Africa, after Saudi Arabia



GDP: US\$412 billion (2016)



Production capacity expected to reach 180 million tons (mt) per year by 2025



Population: 80.8 million



Half the population is under the **age of 30**



High levels of education: 71 percent of 18–24 year olds are enrolled in tertiary education



Literacy rate: 88% (both genders)



Diversified economy: 18th largest **automaker in the world**, 14th largest steel producer, largest telecoms market in the Middle East

Iran's petrochemical industry



Second-largest **gas reserves** globally: 34 trillion cubic feet



4.8 percent of the global **petrochemical** market



Controlled by the **National Petrochemical Company (NPC)**



52 petrochemical **plants** with a **total production** capacity of about 60 mt and an output of 51 mt (2016)



30 new petrochemical **projects** to come online by March 2018



Production capacity expected to reach 180 mt per year by 2025



Petroleum exports: 80 percent of total Iranian exports (2016)



Key export products: methanol, urea, polyolefins, ammonia, monoethylene glycol (meg) and para-xylene



Key export partners: China, India, Turkey and Japan

¹ KPMG research: The World Factbook: Iran, CIA website; Overview: Iran, The World Bank website; Banking industry Iran, ILIA Corporation website; Important Facts About The Economy Of Iran, World Atlas website; Iran population, Worldometers website, accessed June 2017; UNESCO Institute for Statistics.

² Lifting of sanctions draws interest of BASF, Shell, Total, and others, C&EN Year in Review, 2016, <http://yearinreview.cenmag.org/focus-retuned-irans-chemical-industry/>

A post-sanctions economy



Pre sanctions

— During (2015–2016), Iran's petrochemical output increased by 8.8 percent to 50.5mt in 2016.

— During (2015–2016), refinery utilization was about 50 percent.

— Iran was one of the major suppliers to Europe before the sanctions were imposed. Due to the EU sanctions, the country shifted most of its chemical exports to Asian countries such as China, India, few African and South American countries.

— In 2015, Iran's polyethylene production capacity was about 4.9mt/y with a market share of 26 percent in the Middle East.

— In 2015, Iran ranked 2nd in Middle East region with ethylene production capacity of 6.5mt/y and a market share of 22 percent.



Post sanctions

— Between 2019–20, Iran's Petrochemical industry is expected to increase by 25.8 percent to 117.1mt in 2020.

— Refinery utilization is expected to increase to 86 percent by March 2018.

— Iran is currently in discussions with European companies such as Total, Shell and BASF to invest and explore opportunities in the Petrochemical industry. Numerous multi-billion dollar deals are being discussed.

— BY 2020, Iran's polyethylene production capacity is expected to reach 7.8mt/y with a market share of 32 percent in the Middle East.

— BY 2020, additional ethylene production capacity of 6.2mt/y is expected to come online and market share is expected to increase by 30 percent.

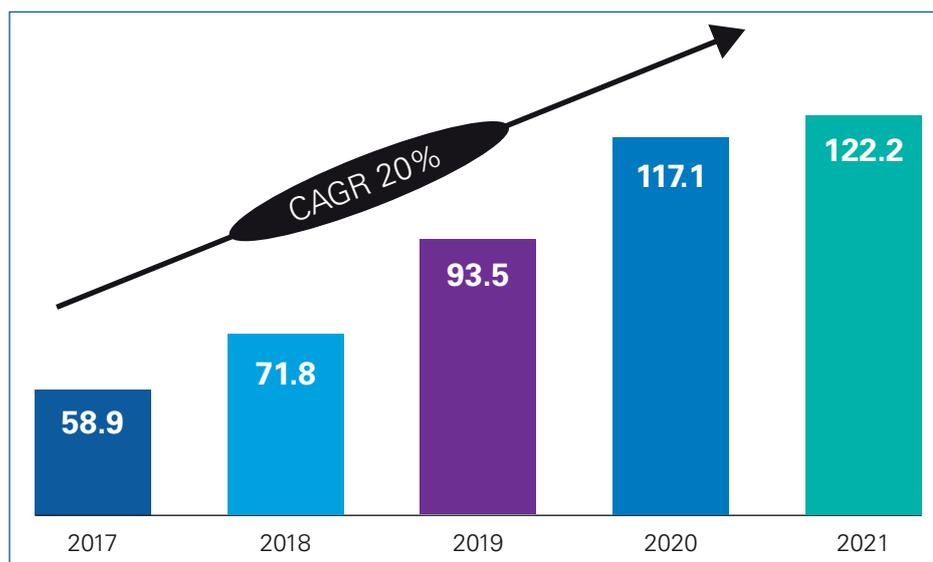
After the Iranian Revolution of 1979, the US and other countries imposed various sanctions against Iran to discourage Iran's progress in nuclear activities. In 2007, the US announced new sanctions against Iran, and the UN Security Council tightened economic and trade sanctions on Tehran. In 2011, the assets of about 240 Iranian entities and 40 individuals were frozen and visa bans were imposed. In 2012,

the US banned banks from completing oil transactions with Iran, and the EU announced more sanctions on banks and natural gas imports.

In January of 2016, this state of affairs was altered by the JCPOA, an agreement reached by Iran and major countries in the West that has lifted many economic sanctions and restrictive measures.

An emerging industry giant

Growth forecast for Iranian petrochemicals



Sources: Iran eyes US\$55bn investment in petchem industry, 14 January 2017, PressTV website, Investment environment of Iran and petrochemical opportunities, 22 April 2017, Iran petrochemical forum website; accessed June 2017.

Major players in Iran

IRGC

The Islamic Revolutionary Guard Corps (IRGC), a paramilitary group directly controlled by Supreme Leader Ali Khamenei, continues to be sanctioned by the US, UN and EU. Since its foundation, the group has become one of the country's most significant economic actors and has interests in virtually every sector of Iran's economy. Some analysts estimate that a quarter of the country's economy under its control.

NPC

National Petrochemical Co. (NPC) controls the development and operation of Iran's Petrochemical sector. NPC has three subsidiaries, seven holding companies, 25 private companies and one service company.

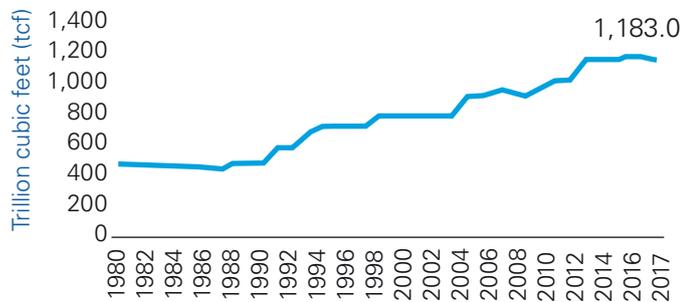
President Rouhani

President Rouhani is Iran's head of government, and has sought to implement a reformist economic agenda since his election in 2013. Recently re-elected to a 4-year term,³ Rouhani and his backers have helped to significantly improve the country's investment climate. Inflation has been cut from 40 percent in 2013 to less than 8 percent,⁴ and the government has adopted budgets that rely more heavily on revenue from privatization of state entities as opposed to oil and gas sales. The president has also sought to stimulate private investment and competition by curbing the economic influence of governmental groups like the IRGC.

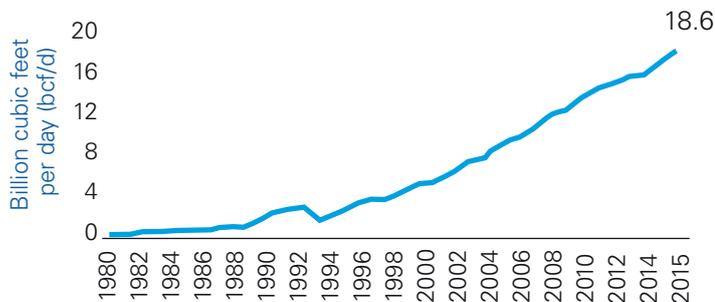
³ Iran's President Trounces Hard-Liner to Secure Second Term, US News and World Report, <https://www.usnews.com/news/world/articles/2017-05-20/iran-rouhani-leads-initial-count-over-70-percent-turnout>.

⁴ Iran's Rouhani to Seek Unity After Election Underscores Divides, Bloomberg, <https://www.bloomberg.com/politics/articles/2017-05-20/iran-s-rouhani-to-seek-unity-after-election-underscores-divides>.

Natural gas reserves (1980–2017)



Natural gas production (1980–2015)



Note: The following conversion rates have been used 1 cubic feet = 35.315 cubic meter

Sources: Natural gas, EIA website; Oil price website; Exporting Iranian Natural Gas to Europe in the Post-JCPOA Era: Determinants and Restraints, 17 May 2017, Al Sharq forum website; Cubic feet to cubic meters, Metric conversions; Iran opens new South Pars gas field phases worth US\$20 billion, 16 April 2017, The New Indian Express, accessed May 2017.

Iran has the second-largest natural gas reserves of any country and operates South Pars, the largest gas field in the world. The country aims to increase natural gas production from 1 billion cubic meters per day (bcm/d) by late 2017 to as much as 390 bcm by 2020.⁵ With a vast amount of shallow and easily accessible reserves, Iran also enjoys a high success rate of natural gas exploration,⁶ estimated to be at 79 percent as compared to the global average success rate of 30 to 35 percent.⁷

The Iranian government plans to attract foreign investments worth US\$40 billion, driven by the lifting of sanctions, changes in regulatory frameworks, and negotiations with countries that have expressed interest in exploring investment opportunities.

Iran currently has two special economic zones (SEZs) that support 34 petrochemical complexes. SEZs provide customs exemptions and tax benefits on export and import products; a guaranteed return on capital

and profits acquired; and a simplified process for issuing residence permits for foreign nationals.

The NPC expects to boost its petrochemical production from key expansion regions, mainly in the North Pars and Parsian region. Total investment for North Pars petrochemical expansion is about US\$11 billion. Investment for Parsian petrochemical ethane projects is about US\$900 million, with completion targeted for 2018.⁸

⁵ KPMG research: Natural gas, EIA website; Post-Sanction Iranian Natural Gas Production And Export Potential: Challenges And Opportunities, CEDIGAZ Insights No.19, November 2016; Iran's natural gas output to hit 1 bcm/d by 2020; Oil price website; Exporting Iranian Natural Gas to Europe in the Post-JCPOA Era: Determinants and Restraints, 17 May 2017, Al Sharq forum website; Cubic feet to cubic meters, Metric conversions; Iran opens new South Pars gas field phases worth \$20 billion, 16 April 2017, The New Indian Express, accessed May 2017.

⁶ Success rate is defined as the ratio of total number of wells drilled by the number of wells with significant gas potential.

⁷ Op. cit. KPMG research.

⁸ Ibid.

Entry of international players

Iran is now in discussions with a growing number of multinationals looking to invest in a market with strong economic fundamentals and natural resources. The country's petrochemicals industry in particular has attracted significant interest. In the past year, companies including Air Liquide, BASF, Linde, Shell, Total, and Mitsui & Co. are now exploring the possibilities of creating joint-venture companies in Iran. On 3 July 2017, Total signed an agreement in Tehran committing the company to lead a natural gas project in the Persian Gulf that could open Iran's huge petroleum reserves to international players. Under the terms of the deal, Total will invest US\$1 billion in the first phase of development of part of the South Pars gas field. It will form a partnership with the China National Petroleum Corporation (CNPC) and the Iranian company Petropars.⁹ The French firm's entry into Iran follows agreements between NPC and other European firms including BASF, which is understood to be considering a US\$4 billion petrochemical complex in the country.¹⁰

NPC recently announced a goal of producing petrochemicals worth US\$70 billion per year within 20 years.¹¹ To realize this plan, the state-owned firm is seeking foreign investment of between US\$7 billion and US\$10 billion over the next decade.¹²

Although the sector has large potential and offers exciting opportunities, some challenges to Iran's petrochemicals industry remain. These include the need for significant investment in infrastructure, a lack of clarity on whether the government plans to change its feedstock pricing formula, and the creation of a regulatory framework for investment in the sector. The IRGC is also heavily invested in the Iranian petrochemicals sector (one estimate is that its holdings in the industry are worth up to US\$10 billion) through Parsian Oil and Gas Company. Investing in the sector means companies will be heavily exposed to the government and potentially to sanctioned entities.



We hope to reach the 150 mt production capacity within 10 years. We need nearly US\$55 billion worth of investment in the petrochemical industry to implement new projects and expand output capacity. To complete unfinished petrochemical projects, we need US\$20 billion worth of investment.¹³ //

— Marziyeh Shahdaei,
Managing Director,
National Petrochemical
Company

Investment challenges remain

More generally, the Iranian economy still faces some lingering challenges that will keep cost of market entry high in the short term. Sticking points include:

Sanctions exposure: Despite the implementation of the JCPOA, Iran continues to be subject to sanctions by the US, UN and EU due to its alleged

military and human rights violations. Companies operating in Iran will need to ensure that their activities are compliant, and that they have done sufficient due diligence to identify the extent to which they may be exposed to sanctions through their local partners.

⁹ Total Signs Deal with Iran, Exposing It to Big Risks and Rewards, New York Times, 3 July 2017, <https://www.nytimes.com/2017/07/03/business/energy-environment/iran-total-france-gas-energy.html>

¹⁰ Ibid.

¹¹ BASF Eyes Iran for Big Complex, C&EN, 22 February 2016.

¹² Iran's chemical industry drew interest again, C&EN, 19 December 2016.

¹³ Iran Petchem Industry in Need of \$55b Investment in 10 Years, Polymer Industry Media International, 14 January 2017, <http://pimi.ir/iran-petchem-industry-in-need-of-55b-investment-in-10-years/>

Exposure to the IRGC: As mentioned, the IRGC continues to exercise significant control over Iran's economy. The group has assets in a variety of sectors, including petrochemicals, which it holds through opaque beneficial ownership structures that can be difficult to trace. Companies must ensure that the group does not exercise control over their local partners, either through beneficial ownership or direct management of the company.

Project financing: European banks remain hesitant to transact with Iran due to fears that they may be fined for unknowingly violating remaining international sanctions. Until this changes, companies will need to strike one-off deals with their banks to make transactions to Iranian entities, or

establish new banking relationships outside of Europe.

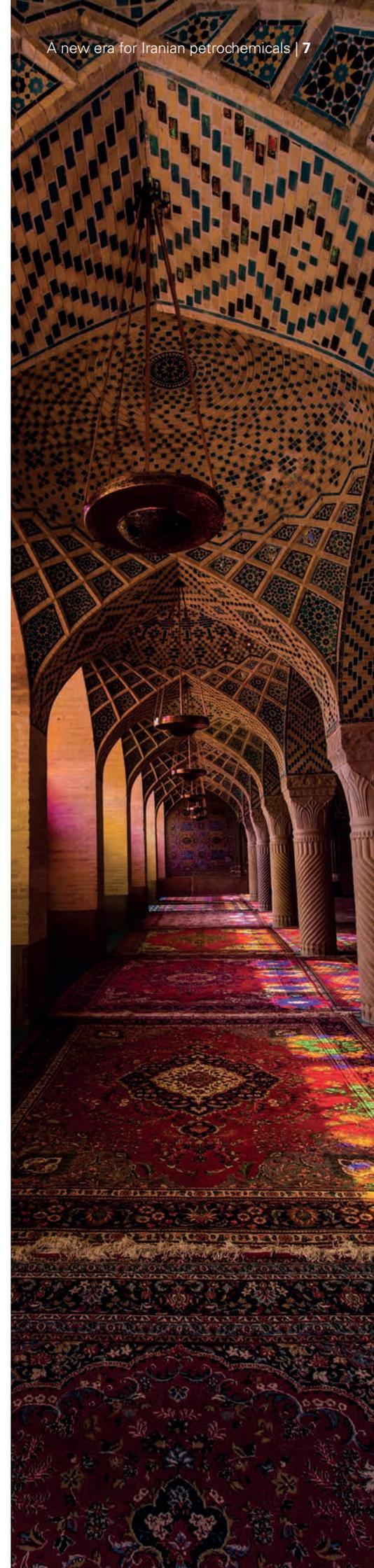
Lack of public record information: Iran has low requirements for public disclosure of corporate data, including shareholder structure and company accounts, making due diligence on business partners challenging and costly. Similarly, market intelligence on the Iranian economy is limited in the public record.

Political risk: Uncertainty on the current US administration's commitment to the JCPOA and opposition to the deal amongst conservative political factions in Iran will slow progress in the short term. Companies will need to build in contractual protections to account for a potential 'snap back' of nuclear related sanctions.

Conclusion

Iran is a petrochemical market that offers enormous opportunity for international investors. Companies will face some unique challenges to entry in the short term, though they can mitigate many of these risks through a number of strategies. Enhanced due diligence

on local partners that incorporates on-the-ground intelligence gathering, and increased market intelligence to understand the changing regulatory environment, are an essential precursor to investment in Iran.



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