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THE ROLE OF IRAN'S FUTURE LIQUID NATURAL GAS SUPPLY IN THE EU'S ENERGY SECURITY

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Introduction

Energy security has traditionally been focused on oil supply. However, since the end of the Cold War natural gas has gradually become the 'fuel of choice'. It offers flexibility, abundant reserves, thermal efficiencies, and is environmentally friendly compared to other fossil fuels. The fuel has also seen technological advances, and has been increasingly used in power generation. Hence, an additional term has entered the global energy literature, the so-called security of gas supply.[1]

Natural gas is forecast to be the fastest-growing fossil fuel in the global energy mix between 2010 and 2030,[2] with nearly a 50 per cent increase by the end of the next decade.[3] The energy mix in the world will change between 2010 and 2030, mainly towards renewable energies, followed by natural gas.[4] Today's share of fossil fuels in the global mix, at 82 per cent, is the same as it was 25 years ago, but the strong rise of renewables will reduce this to around 75 per cent by 2035.[5] The global demand for gas will increase by up to 50 per cent by the end of the next decade and its share in the energy mix will rise from 21 per cent in 2010 to 25 per cent in 2030.[6] It is expected that global liquid natural gas (LNG) trading will double by 2020[7] and demand for it will grow globally with the rise in prices.[8]

The EU as a whole will be the world's top gas importer by 2030, bringing in 80 per cent of the gas it needs after 2020.[9] The rate of EU LNG imports

will rise up to 90 per cent by 2020 in comparison with 2010, and this percentage will increase further by 2030. Diversification of gas and LNG suppliers has also been highlighted in EU statements.

Iran holds close to 18 per cent of global gas reserves.[10] This article will analyse the role of Iran's potential in LNG supply for the future energy security of the EU. It will also look at some of the interactions between various players that an increased role for Iran might bring.

LNG: global demand

A number of authorities have forecast that gas consumption and demand will grow faster worldwide than for other hydrocarbons.[11] In its latest report, the Global Energy Assessment (GEA) Writing Team suggested gas will be the major bridge or transitional technology to renewables.[12] Natural gas consumption in the EU grew from 18 per cent in 1990 to 24 per cent in 2009, based on the BP Statistical Review of World Energy of June 2011, and this region will be the foremost importer worldwide until 2030 and as already stated is likely to import around 80 per cent of its gas needs.[13] Thus, energy security within the EU means 'security of gas supply'.[14]

Natural gas can be transported either by pipeline or, turned into a liquid in the form of LNG, shipped by tankers and re-gasified at the destination, known as 'the floating pipeline'.[15] LNG trading has more globalized suppliers than gas transported by pipeline, and has become more popular in recent years because of its flexibility over distances, the shorter duration of contracts, and reduction in costs in the LNG value chain due to technological advances.[16] Furthermore, new energy relations will emerge by direct contact between LNG producers and consumers without transit players; it is also more profitable compared to pipelines over long distances.[17] According to statistics issued by the James A. Baker III Institute for Public Policy at Rice University in the US, entitled 'the Baker Institute World Gas Trade Model/BIWGTM', the main LNG consumers in the period from 2018 to 2038 will be the US and the EU, followed by Mexico, Japan and China. In another view, LNG trading, compared to piped gas flows, will increase to above 46 per cent by 2035.[18] As a result, the major common points of recent reports can be summarized as follows:

- natural gas demand will grow at a faster rate than for other fossil fuels in the future;

- competition will increase among major importers as the use of natural gas rises;
- the EU will be the foremost natural gas importer worldwide by 2030;
- LNG trading will increase faster than gas traded via pipelines.

In other words, the European market for gas is in an 'expansionist mode'.[19] In order to meet this consumption growth from the EU and other consumers, the world's gas producers will need to increase supplies by around 65 per cent over the next two decades.[20] Various experts have argued in favour of differing approaches to the situation. Mert Bilgin of Bahçeşehir University has written that an increased LNG supply in the future could further protect the EU's energy security.[21] He examined different gas corridors towards the EU and concluded that the EU should prioritize the Republic of Azerbaijan's gas, followed by Iraq and Iran, because of the greater level of political disputes within the Persian Gulf as opposed to around the Caspian Sea. Hartley and Medlock acknowledged that Russian pipeline and gas from the Persian Gulf would be critical in the future, particularly for Asia and Europe.[22] Lochner and Bothe argued that because of the Europe's LNG demands, particularly from 2020, the main gas holders within the Persian Gulf and North Africa will be much more important. Luciani points out that the Persian Gulf's gas reserves are the least expensive and most abundant.[23] Peimani and Bahgat[24] both similarly believe that the field size and the amount of natural gas in the region, particularly in shared fields between Iran and Qatar, lead to the lowest production costs. Paul Rogers observes that the price of natural gas will be particularly significant in the future.[25] Richard Young, moreover, believes that the EU has been slow in competition with its global rivals to draw more gas.[26] Therefore, he advised that the EU should concentrate further on the 'Persian Gulf–Caspian Energy Ellipse', with its less-stable countries. Kemp and Harkavy, who coined the phrase, said that the Ellipse, with Iran at its centre, has become "one of the most significant geo-strategic realities of our time".[27] The 2006 EU Green Paper emphasized that the construction of new pipelines and also LNG routes and infrastructure will be essential to ensure access to gas-rich regions.

Terminology of energy security

The notion of energy security may sometime differ depending on one's perspective.[28] From the importers' perspective, energy security may

include security of supply without any shortage at reasonable and even competitive prices without any further deterioration in the state of the environment. For exporters, however, energy security may include security of demand at competitive prices that will guarantee significant profits for the exporter with no excessive cost to the environment.[29] What is more, from examining the various definitions of energy security, four major standard indicators can be derived: acceptability (environmental and social aspects), availability (geological elements), affordability (economic criteria) and accessibility (geopolitical dimensions).[30] The Institute for Energy Security Unit of the Joint Research Centre (JRC) for the European Commission in 2010 and the Asia Pacific Energy Research Centre (APERC) have taken into account these indicators.[31] A number of energy experts, such as Gawdat Bahgat, and Jessica Jewell in 'the IEA (International Energy Agency) Model of Short-term Energy Security', have also used these indicators in their theories.

EU energy matters

Apart from the European Energy Charter in December 1994 which called for the diversification of exporters, a key element of the EU energy supply strategy has been to shift to a greater use of natural gas. This has been the case since the publication of the Green Paper on Security of Supply in 2000.[32] Energy security has been on the EU political agenda since at least 2005 with the adoption of a further Green Paper on 8 March 2006.[33] Following this, the 2007 Lisbon Treaty went on to provide a legal basis for EU energy policy. Moreover, aspects of energy security and its indicators have been laid down in the EU Energy Strategy for 2020.[34]

The EU holds less than 1.3 per cent of proven global gas reserves; nonetheless, EU gas production in 2010 was 5.5 per cent of the global share, while its consumption has been 15.5 per cent of world demand.[35] Moreover, the share of natural gas in Europe's total primary energy source demand grew from 18 per cent in 1990 to 24 per cent in 2009 and is expected to rise to 30 per cent by 2030.

The EU-28 is a net gas importer, excluding Denmark and the Netherlands.[36] So, natural gas will be the 'Achilles' heel' of EU energy security, according to Herbert Ungerer.[37] What is more, the EU will be a 'Gulliver in chains', as the world's largest gas importer by 2030,[38] with the gas import dependency of the region rising from 64 per cent in 2009 to over 80 per cent by 2030.[39] The EU imports around 85 per cent of its gas through pipelines and LNG,

mainly from Russia, Norway and Algeria, and receives some smaller LNG volumes from Oman, Libya and Trinidad and Tobago.[40],[41] However, there are a variety of challenges facing gas imports made by pipeline; these include transit risks, Russian domination of the regional gas market, delays in the construction of new gas pipelines and the lack of a fully coherent European energy foreign policy.[42]

Günther Oettinger, former European Commissioner for Energy in the European Commission and currently Vice President of the Barroso II Commission, has envisaged that the volume of LNG imported will grow by up to 24 per cent by 2020, a 60 per cent increase compared to 2010,[43] and CEDIGAZ in its report supported this forecast.[44] This percentage is likely to rise by 40 per cent by around 2030. Consequently, a high number of new LNG import terminals have been proposed for the EU (which has 31 LNG terminals, in existence, under construction or under consideration) in recent years in response to the increase in the EU's (and global) LNG demand. Some 24 of these facilities, or nearly 80 per cent of them, are situated in Spain, the UK, France and Italy, ranking fourth, seventh, eighth and tenth respectively in the league of global importers.[45] In addition, LNG ports offer greater resilience than pipelines as the former can receive from different suppliers, while the latter generally import only from fixed exporters.[46]

Since the 2000 Green Paper on Security of Supply, the diversification of LNG suppliers has been seen as essential for improving the Union's security of gas supply and easing the supply risks discussed above. It is notable that the European Commission in an unpublished study in preparation for the Green Paper emphasized that "competition with Japan, China, India, etc. over oil and gas from the Persian Gulf and Russia will become tougher in future".[47]

Energy geopolitics of Iran

The Islamic Republic of Iran is situated at the centre of the 'Energy Ellipse'.[48] Its enviable geopolitical position and geostrategic importance based on its hydrocarbon reserves make it the only practical bridge and cheap energy corridor between the Persian Gulf in the south and Central Asia/the Caspian Sea in the north.[49] According to the *Oil and Gas Journal* 2013, Iran holds the world's second biggest natural gas reserves, with 17.7 per cent of the known global reserves.[50] Nonetheless, a recent study by BP in 2013 has ranked Iran's reserves of

natural gas at number one in the world with 17.9 per cent of the global reserves. Major natural gas fields include South Pars, North Pars (adjacent to South Pars), Kish, Kangan, Tabnak, Forouz, Lavan, Golshan and Ferdowsi. However, 62 per cent of these deposits remain unexploited and underdeveloped, and are also used mostly to meet domestic demand.

Sixty-one per cent of the Middle East's gas deposits are situated in the South Pars field. This is a single giant field shared between Qatar and Iran, known as the 'North Field' in Qatar. This is located 62 miles off-shore in the Persian Gulf, as the world's largest non-associated natural gas field (non-associated fields are developed with the primary object of producing natural gas; associated fields produce gas as a by-product of crude oil production). Iran's gas reserves are predominantly located off-shore and are non-associated, almost 61 per cent, followed by on-shore associated and on-shore non-associated, each with 19 per cent, as well as 1 per cent for off-shore associated.

Figure 1 Iran's gas fields location. Source: Pesare amol, https://commons.wikimedia.org/wiki/File:Iran_Gas_Fields_Location-PesareAmol.png

Table 1 Iran's South Pars phases

Phase	Gas capacity (bcf/d)	Participating companies	Start-up
Completed phases			
1	1	PetroPars, Petronas	2004
2;3	2	Total, Petronas, Gazprom	2002
4;5	2	ENI, PetroPars, NaftIran	2004
6;7;8	3.9	Statoil, PetroPars	2009
9; 10	2	PetroPars	2011
12	3	POGC, NIOC, PDVSA	2014
Future, ongoing phases			
11	2	PetroPars	2020^{+}
13	2	Mapna,Sadra,PedroPidar	2020^{+}
14	2	IDRO, IEOCC, NIDC	2017
15;16	2	POGC, ISOICO	2015
17;18	2	PetroPars, OIEC, IOEC	2016
19	2	PetroPars, IOEC	2018
20;21	2	OIEC	2017
22;23;24	2	Petro Sina Arian, Sadra	2016
25–28	Recent discovery		

Sources: EIA (2014), countries/Iran; NIOC; Pars Oil & Gas Company.

The South Pars fled comprises over 26 per cent of Iran's total proven gas deposits, followed by the Kish gas field.[51] Under Article 229 of the 'Fifth Development Program 2010–2015', 10 per cent of Iran's annual oil income has been devoted to the development of the South Pars field, which started production in early 2002, and the 24 phases should be in operation by the end of the programme. According to Table 1, five of the first eight blocks in the South Pars are designated for domestic markets and three for oil field reinjection. Any more exports primarily depend on blocks 9 and 10. The first 12 phases of the South Pars field, apart from phase 11, were inaugurated between 2002 and 2014, and the phases of this huge complex will probably increase to 28. Notable is the fact that the development of the South Pars field has shifted the focus of Iran's energy policy from oil to a balance between oil and gas exports.

Luft and Korin believe that "without LNG there would be no way for Iran to sell its gas to some far-distant importers in the east like China, and to … EU countries in order to increase its share in the global gas market in the future".[52] Iran's LNG aspirations to build a liquefaction facility date back to the 1970s. A number of LNG projects have been proposed as well; however, only one LNG project still remains in place, the Iran LNG in phase 12, though sanctions continue to delay the development

Table 2 Iran's LNG projects

Project	Volume (mtpa)	Gas feed from	Shareholder(s)	Status	Markets
Iran LNG	10.6 (2 trains)	South Pars, phase 12	NIOC (40%; Persian Funds (51%)	Under Development (2015+)	Asia (China, India), EU
Persian LNG	16.2 (2 trains)	South Pars: phases 13;14	NIOC (50%); Shell (25%);		
Sinopec (25%)	Proposed (2017+)	Asia (China, India, Thailand), EU			
Pars LNG	10 (2 trains)	South Pars, phase 11	NIOC (50%); Total (40%); Petronas (10%)	Proposed (2017+)	Asia (China, India, Thailand), EU
Golshan and Ferdowsi	10.6 (2 trains)	Golshan and Ferdowsi field	Malaysian Petrofield (100%)	Speculative	EU, Malaysia
North Pars	20	North Pars field	Chinese CNOOC&SITOK	Speculative	China
Qeshm LNG	3.5	Kish field	Australian LNG Ltd.	Speculative	India, East Africa
Lavan LNG	4	_	European Companies	Speculative	EU

Sources: World's LNG Plants (2015), via: www.globallnginfo.com; National Iranian Gas Export Company.

of these projects. The other LNG projects in the South Pars field, including Pars LNG (the South Pars phase 11) and Persian LNG (the South Pars phases 13 and 14), as shown in Table 2, have been on hold as a result of financing difficulties and political disputes.

Since May 2010, The National Iranian Gas Export Company (NIGEC) has been primarily responsible on behalf of the Ministry of Petroleum for carrying out LNG investments and projects, as well as marketing and sales for Iran's gas in the global markets. Howard Rogers explains that "Many international oil companies have long hoped to be able to access the on-shore and off-shore oil and gas development opportunities in Iran, particularly LNG development on the South Pars field, [seeing it] as an attractive opportunity".[53]

Iran's gas production has increased by over 550 per cent since 1990, according to the Energy Information Administration (EIA), and even

increased strongly in 2009 and 2010,[54] ranking Iran as the fourth global and also the Middle East's largest gas producer.[55] This increase was mostly because of the enlarged production from the sixth, seventh and eighth and also inauguration of the ninth and tenth phases of the South Pars field. The South Pars field accounts for about 35 per cent of Iran's total gas production, with sizeable generation coming from the Kangan and Tabnak fields. In addition, associated gas production originates mainly from Khuzestan, Ilam and Kermanshah provinces, and offshore oil fields, while approximately 30 per cent of associated gas production was flared.[56] Gas production from these sources has risen strongly since 2002, and there are a number of regional and supra-regional plans under consideration and under construction. These include pipelines and LNG production facilities that are set to be online for a further sharp rise in gas production, and the start of large-scale gas exports. Iran exports its piped gas to Turkey, Armenia and the Republic of Azerbaijan, while receiving pipeline imports from the latter in addition to Turkmenistan. Nonetheless, Tehran's imports and exports of gas were roughly balanced in recent years.[57] There are a number of new export proposals, including the Iran-UAE contract, the Iran-Pakistan-India (IPI) pipeline, as well as proposed projects such as the Iran-Oman cooperation plan and the Iran-Iraq-Syria-Lebanon-Europe project, (the so-called Islamic pipeline). Iranian production of gas is expected to increase over the next few years due to continuing discoveries in Persian Gulf reserves, particularly the South Pars.[58]

On the basis of 'Iran's 20-Year Outlook Document' issued by Iran's Supreme Leader in 2003 (1382.09.11 in the Solar Calendar), followed by 'Iran's Energy Outlook on the Horizon of 1404/2025' and 'Iran's 20-year Energy Grand Strategy Document', as Iran's energy roadmap, Iran should become the world's third largest gas supplier, raising its current 1 per cent share to eight to ten per cent of the global market by 2025. Iran's 'Fifth Five-Year Development Plan (2010–2015)' is part of the '20-Year Outlook Plan (2005–2025)', which is the country's main blueprint for long-term sustainable growth. On the basis of these documents, as the map showing Iran's current and coming pipelines and LNG projects illustrates, Europe will be a substantial destination for Tehran's LNG. The EU is a strategic partner for Iran and was Tehran's largest trading partner prior to the recent imposed sanctions in 2012, accounting for a third of all Iranian exports, 90 per cent of which were energy related. Hence, Iran stood as the EU's sixth largest energy supplier.[59]

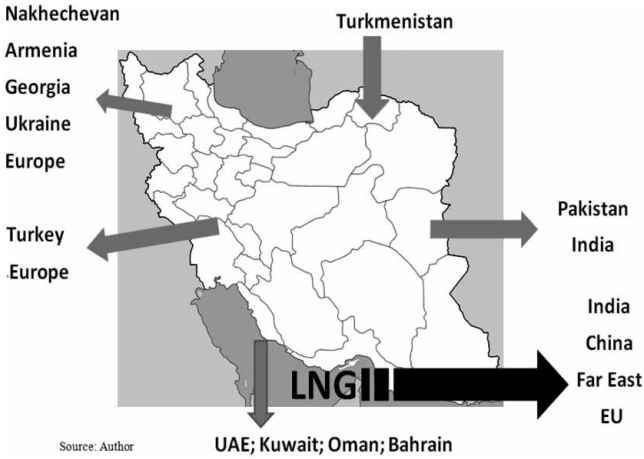

Figure 2 Iran's actual and potential gas projects. Source: Author.

Nonetheless, Iran's goal to become a major global gas and LNG exporter in such a globalized energy market has been restricted and hindered by two main impediments: foreign sanctions, and high domestic consumption which results from heavy public subsidies and low domestic prices.[60] Consequently, some of these plans are already behind schedule or have been held up because of political and technological concerns. Peimani and Bahgat[61] insist that the current political disputes with the West – mainly the US – primarily regarding Iran's nuclear issues, as the biggest foreign policy challenge facing Iran since 1979, should firstly be solved and then most of the Iranian and the EU's problems, such as Tehran's energy plans, could be resolved more easily.

The recent negotiations on a nuclear deal between Iran and the EU/E3+3 (China, France, Germany, the Russian Federation, the UK, US and the EU) have been a strongly positive step forwards in this regard. The comprehensive deal on this programme, officially titled the Joint Comprehensive Plan of Action (JCPOA), which was reached on 30 June 2015, promises to bring to an end the 13-year standoff over Iran's nuclear development. If fully implemented, the JCPOA will ultimately result in lifting of all UN Security Council, unilateral and multilateral sanctions targeting Tehran's nuclear programme, especially those with regard to energy industries. In return, Iran will curb its nuclear activities and provide further access to the International Atomic Energy Agency (IAEA).

In addition, Iran's Parliament (Majlis) on 5 January 2010 ratified the subsidy reform plan which aimed to bring prices to the real market level by the end of the fifth development plan, 2010–2015. As a result, high domestic gas consumption in Iran has started to ease since 2010.[62] Iran's LNG export potential could only be realized by 2020 if the problems of large domestic consumption, massive gas reinjection requirements and lack of access to foreign investments for developing of its gas reserves and industries could be resolved. The giant South Pars field, for instance, needs a $50 bn spending programme to be developed.[63] Following several years of declining European investment in Iran, China, Russia, Malaysia and some other investors signed a number of deals to develop Iran's portion of the South Pars field.[64] Tehran cannot fully utilize its massive gas resources without foreign investment and technology. The Iranian gas sector is, moreover, in need of modernization, alternative sources of energy and more energy efficiency in order to fulfil domestic energy demand without endangering export capacity. This being said, it is not surprising that Russia and Qatar, to some extent, view Iran as a formidable competitor for gas exports to the EU.

Iran and the EU's LNG relationship: the four indicators of energy security

The European Commission defined energy security in the 2000 Green Paper as follows:

> Energy supply security must be geared to ensuring … the proper functioning of the economy, the uninterrupted physical availability … at a price which is affordable … while respecting environmental concerns … security of supply must seek to reduce the risks of energy dependence.

These characteristics are similar to those proposed by the European Commission's JRC in 2010: acceptability, availability, affordability and accessibility. The Official Journal of the EU on 6 March 2012 with reference to the 'European Economic and Social Committee' meeting on 14 June proposed that "any energy pact within the Union should enshrine the strategic and vital nature of energy, including accessibility, affordability, reliability and regularity, so such a European social energy could respond to public concerns". As a result, any secure LNG supply to the EU should be based on these criteria.

The JRC found that environmental and social concerns are the two key elements for the acceptability of any energy resource.[65] According to

the JRC, climate change via the level of greenhouse gas emissions is the biggest challenge in terms of sustainability[66] with emissions expected to continue to grow by 26 per cent between 2011 and 2030.[67] Natural gas, as a colourless and odourless material, continues to be favoured as an environmentally attractive fuel compared with other hydrocarbon fuels without any production of sulphur dioxide; it also generates considerably less carbon dioxide (CO_2), toxic gases and carbon intensity per unit of energy, 40–50 per cent less than coal and 25–30 per cent less than oil.[68]

The second aspect of acceptability or sustainability is the social dimension, meaning everyone within a community, even the poor, can afford access to energy at the best price. Consequently, in terms of acceptability and the percentage of methane of LNG among the various suppliers, Russian gas is foremost, followed by Egypt and Trinidad and Tobago, with the percentage of LNG cleanliness in other suppliers, such as Iran, at a relatively similar level.[69]

Iran also scores well on the JRC's criterion of availability.[70] The best gas reserves are those on-shore with easy access, and shallow off-shore ones but also close to the coastline with sufficient liquefaction facilities. Iran possesses perhaps the highest reserves of gas worldwide (see above),[71] while two-thirds of Iran's non-associated shallow fields are situated very close to the coastline of the Persian Gulf. The size and depth of the gas fields are other factors in both the availability and affordability indicators. On this basis, Iran, together with Qatar, holds the widest shallow gas fields in the world, with almost 26 per cent of the global deposits just in one narrow area.

Iran also scores well on the costs of production. The lowest production costs belong to large non-associated on-shore gas fields, while production from smaller off-shore fields in deep waters is the most expensive.[72,73] The fields belonging to Iran and Qatar are primarily those in the former category.[74] Supply cost is the second part of the affordability indicator, and is divided into liquefaction, transportation and re-gasification.[75] The main cost is in the liquefaction process with 47 per cent of the LNG supply chain cost, followed by 38 per cent for shipping and 15 per cent for re-gasification.[76] The IEA compared this cost in 37 minor and major gas holders and found that Iran, in addition to Qatar, benefits from the cheapest liquefaction costs worldwide.[77] The proximity of the Persian Gulf to the EU states, unlike the West African, South American and Asia-Pacific suppliers, also leads to Iran being able to offer more competitive shipping prices.

Accessibility is the fourth indicator of energy security. A primary index for this is the International Country Risk Guide (ICRG), which is published by the PRS Group Inc. monthly in New York. The ICRG rating is composed of 22 variables and 100 indicators in three subcategories of risk: political, financial and economic. The composite scores, ranging from zero to 100, are then broken into categories from Very Low Risk (80 to 100 points) to Very High Risk (zero to 49.5 points). Countries without any armed oppositions and where governments do not treat their citizens violently are deemed Very Low Risk. States where there is violent conflict are considered Very High Risk, while the middle score is assigned to countries where kidnapping and terrorist actions are likely to happen.[78] According to the PRS Group's monthly assessments of 7 September 2012 and June 2013, Iran is situated in the middle of this ranking, with moderate risk investment; therefore Tehran should further try to improve its political conditions.

According to some predictions by a number of major energy bodies, such as IGU, BP, IEA and the James A. Baker III Institute for Public Policy at Rice University, Qatar and Iran will be the top Middle East gas producers between 2010 and 2040 and could play an important role in connecting regional gas markets with each other to emerge on the global gas trading system.[79] While Qatar and Algeria have been the main LNG suppliers to Europe, nevertheless, the continental imports in the future will, mainly, originate from the Persian Gulf and North/West Africa.[80]

Conclusion

The EU has increasingly treated energy security as a priority since the 2000 and 2006 Green Papers. The latter of these concluded that "Europe has entered into a new energy era with increasing dependence on natural gas imports from unstable regions, mostly the ellipse between the Mediterranean Sea to the Hindu Kush mountain range". Global gas demand will increase by around 50 per cent by 2030. More than 50 per cent of all inter-regional gas trading will be conducted by LNG carriers. The EU must import around 80 per cent of the gas and LNG it will need during the next decade.

The EU has become dissatisfied with its huge dependence on Russian gas and cannot tolerate dependence on special gas suppliers. This means that the EU is not interested in supporting the status quo in its gas and LNG policies. For this reason, diversification of gas and LNG suppliers is at the

top of the EU energy agenda. Based on the EU's current energy policy, it has decided to increase its LNG imports in the future and the number of existing facilities, together with those under construction and under consideration. In addition, some LNG projects are in progress among gas suppliers, e.g. Iran, and the EU will be one of the most important destinations for these actual and potential exporters in the future.

Iran likewise is currently dissatisfied with its share in the global gas markets, having at present very few customers and destinations. It means that Iran is similarly not interested in supporting the status quo in its gas and LNG policies. For this reason, diversification of LNG suppliers is at the top of Tehran's energy outlook and grand strategy documents for the period towards 1404/2025. On this basis, the seven LNG facilities under construction and under consideration should be operational in the near future with a view to starting exports. In addition, the EU, like other global LNG importers, has decided to increase its imports in the years to come.

In conclusion, the pursuit of diversified LNG routes as well as increased investments in the main gas exporters' LNG facilities could play a significant role in minimizing energy supply risks for the EU in the medium to long term. All the conditions are in place for Iran to assume an important role in the supplying of LNG to the EU in the near future.

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