

Legal Approach to Energy Security of Iran: With Special References to Crude Oil and Gas

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Despite the current developments in creation of state security, the question of affording energy security is of paramount importance worldwide. Hence, all countries try to adopt myriads of laws and regulations aimed at energy security. Energy security relates to the degree of economic welfare attached to the rise or fall in either the price or availability of energy. The Islamic Republic of Iran, on the one hand is located in a strategic center of producing and exporting energy (oil and gas) known as “ellipse of energy.” On the other hand, it is situated in the transit way of energy to large consuming markets such as South and East of Asia and Europe. Thus, Iran is currently considered as an effective player in providing energy security in the world. In this article, the authors seek to analyze the strategic policies and priorities stipulated in the oil and gas-related regulations of Iran in terms of energy security.

Keywords

Energy Security, Oil, Gas, Iran, Iranian Laws and Regulations

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1. Introduction

Security connotes the state of being free from danger or threat of a state or an organization against criminal activity such as terrorism, theft, espionage or military attack and/or procedures followed or measures taken to ensure such a state. In this sense, security is a familiar concept in all human societies from a small primitive tribe to the great empires. For this reason, policy-makers of each government constitute a “secure military situation” as the first priority to implement it in the form of national security agenda.¹

Up until the late 1990s, the primary element of security was regarded as military defense.² However, threats to the security are getting more exhaustive and complex. Furthermore, new variables are introduced to define security and its elements. For instance, environmental degradation is considered as one of the most critical factors in annihilating human security. It was unknown to all just a few decades ago. Moreover, the focus of military security has been questioned and defined in various dimensions from a political, military, economic, social and environmental perspective.³ In general, security can be classified into two dimensions which are deeply interlaced with each other. The first is internal security whose main components are: (1) Individual security; (2) Family and society security; and (3) National security, its dimensions and other matters.⁴ The second is international security such as: (1) Economic security; (2) Political and military security; (3) Social security; (4) Psychological security; and (5) Environmental security and other issues.⁵

In particular, today, the energy security, especially regarding oil and gas is a highly central security issue in contemporary societies.⁶ Energy, and in particular oil and gas, are seen as the strategic tools for countries, because few countries will find

¹ B. BUZAN, PEOPLE, STATES AND FEAR 23 (Mojtaba Attarzadeh ed., 2018). <available only in Iranian>

² *Id.*

³ B. BUZAN ET AL, A NEW FRAMEWORK FOR SECURITY ANALYSIS 78 (Tehran Strategic Studies Institute ed., 2015). <available only in Iranian>

⁴ M. DRENT ET AL, THE RELATIONSHIP BETWEEN EXTERNAL AND INTERNAL SECURITY 7 (D. Zandee et al. eds., 2014), available at <https://www.clingendael.org/sites/default/files/pdfs/The%20relationship%20between%20external%20and%20internal%20security.pdf>. See also P. Katoch, *Internal Security: Need for Comprehensive Matrix*, SCHOLAR WARRIOR 18 (2016), available at https://www.claws.in/images/journals_doc/960908944_PrakashKatoch.pdf; M. Stone, *Security According to Buzan: A Comprehensive Security Analysis*, 1 USA Security Discussion Papers 2-4 (2009), available at <http://citeseerx.ist.psu.edu/viewdoc/citations;jsessionid=5D2011862012306B62F319D2D6F3CD23?doi=10.1.1.615.5880> (all last visited on May 20, 2019).

⁵ D. Baldwin, The concept of security, 23 REV. INT'L STUD. 23 (1997).

⁶ E. Durnigbo, *Oil, Turmoil, and A Texas Export for Energy Security*, 37 T. MARSHALL L. REV. 231 (2011-12).

alternative supplies for oil and gas in a short term. Hence, countries are endeavoring to use oil and gas energy in a sustainable, continuous, reliable and secure manner to meet their needs.⁷

“The Global Outlook for Energy 2018,” one of the key documents reflecting the latest developments in global oil and gas markets in the coming years and decades ahead reported that the world’s energy demand by current policies without considering sustainable development ones would boost from 13,972 million tons of oil equivalent (Mtoe) in 2017 to 19,328 million tons in 2040, representing 40 percent growth.⁸ Also, the demand for gas will be increased about 56 percent, having the fastest growth, followed by oil and coal with 27 percent and 1.5 percent, respectively until the end of 2040.⁹ Therefore, even though oil now has the highest share in the energy basket of the world, Gas will replace it until the end of 2040.¹⁰ It is thus most important to secure a guaranteed supply that is efficient and to devoid of market manipulation.¹¹

Considering the above statistics, if the supply channel of oil and gas (transportation and transshipment) is disrupted, the economic mobility of the both producing and consuming countries will be stopped. As a result, oil and gas, as a geopolitical variable, has a special position in the global security. Thus, each country is seeking its energy security in any way possible. To this end, they have codified some laws and regulations, such as the Comprehensive Energy Act, the National Instrument for Energy Strategy, the Oil and Gas Law, the Energy Security Strategic Document and the like.¹²

Energy security laws have been developed mainly by such energy consuming countries as the US, China, Germany, Spain, Norway, Canada, Australia and Russia. Considering that Iran is one of the major oil and gas exporting countries, what would

⁷ A. Schellinger, *Energy is Energy: Segregation of Renewable and Fossil Fuels Impedes Energy Security Goals*, 55 S. TEX. L. REV. 471-80 (2014).

⁸ L. COZZI ET AL, *WORLD ENERGY OUTLOOK 2018*, 38-41 (2018), available at <https://webstore.iea.org/world-energy-outlook-2018> (last visited on May 20, 2019).

⁹ *Id.* at 138-220.

¹⁰ *Id.* at 41.

¹¹ D. Spence & R. Prentice, *The Transformation of American Energy Markets and Petroleum of Market Power*, 53 B.C.L. REV. 134 (2012).

¹² Germany Energy Act 1998, arts. 28-30. See J. Pielow & H. Koopmann, *Energy Law in Germany*, in *ENERGY LAW IN EUROPE* 105 (M. Roggenkamp et al. eds., 2001). For details on major countries’s energy security policy, see I. Del Guayo, *Security, Continuity, and Regularity of Energy Supply: The Case of Spain*, in *ENERGY SECURITY, MANAGING RISK IN A DYNAMIC LEGAL AND REGULATORY ENVIRONMENT* 356-7 (B. Barton et al. eds., 2004); G. Luft, *United States: A Shackled Superpower*, in *ENERGY SECURITY CHALLENGES FOR THE 21ST CENTURY* 148-53 (G. Luft & A. Korin eds., 2009); Dan Shi, *China’s Energy Policy and its Development*, in *ENERGY SECURITY, VISIONS FROM ASIA AND EUROPE* 139-40 (A. Marquina ed., 2008).

be the main and strategic priorities of Iran in terms of energy security from a legal perspective in the energy sector, especially oil and gas? This research will try to answer the question from a viewpoint of international and domestic law. This paper is divided into two sections: (1) the concept of energy security and its dimensions and issues; and (2) the examination of Iranian domestic laws and regulations, including Iran's Strategic Energy Document, Comprehensive Energy Law, Petroleum Act, the Law on Duties and Powers of the Ministry of Petroleum, the General Policies of the Resistance Economy and other current laws and regulations.

2. Concept and Dimensions of Energy Security

A. What is Energy Security?

In politics and international relations, 'energy security' may be defined "continuous and reliable supply of energy with reasonable prices, while trying to reduce the political, military, economic, environmental and psychological threats governing energy markets."¹³ Conversely, it is opined that the aforementioned definition is politically in favor of consuming-countries.¹⁴ In addition, countries in different locations would have their own definition for their energy security independently and individually, according to their own interests.¹⁵

Today, more than a quarter of the world's population, especially in the sub-Saharan Africa and South Asia, suffer from a severe energy shortage; they do not have the access to even electricity.¹⁶ In India alone, 600 million people, who are nearly half the population of this country, are deprived of electricity.¹⁷ Moreover, roughly 10 percent of the world's population is still traditionally using wood and animal waste

¹³ B. Barton et al, *Energy Security in the Twenty-First Century*, in Barton et al., *id.*

¹⁴ Jianhua Yu & Yichen Dai, *Energy Politics and Security Concepts*, 6 ASIA J. MID. E. ISLAMIC STUD. 98-9 (2012). See also M. ALSAAD, ENERGY SECURITY IN INTERNATIONAL RELATIONS: INDIANS ENERGY SECURITY 58-9 (M. Alsaad ed., 2014); A. BELYL, ENERGY SECURITY IN INTERNATIONAL RELATIONS THEORIES 45-6, 85 & 102 (2012), available at <https://www.hse.ru/data/339/636/1233/ReaderforLecturesOnEnergySecurity.doc> (last visited on May 20, 2019).

¹⁵ S. Langlois-Bertrand, *The Contemporary Concept of Energy Security*, RES. GATE (2010), available at https://www.researchgate.net/publication/269874739_The_contemporary_concept_of_energy_security (last visited on May 20, 2019).

¹⁶ S. Pachauri & A. Brew-Hammond, *Energy Access for Development*, in GLOBAL ENERGY ASSESSMENT: TOWARD A SUSTAINABLE FUTURE 1412 (J. Sathaye ed., 2012).

¹⁷ V. Kumar et al, *India's Energy Profile: Status and Challenges*, ISTIP POL'Y BULL. CSIR-NISTADS 3, available at https://www.researchgate.net/publication/269874739_The_contemporary_concept_of_energy_security (last visited on May 20, 2019).

as their fuel needs for cooking and heat.¹⁸

It is clear that for these poor people, energy security is completely different from those living in developed societies. In their view, ‘security’ is first and foremost for acquiring energy to meet their basic needs such as clean water, cooking, lighting and public transportation. In more developed regions of the world, with more complex needs, energy security is more related to the concept of security of supply, its availability, and applying policies in order to deal with disruptions of energy supply. Thus, energy security for different countries has different meanings, based on geographic conditions, geopolitical capabilities, international relations, political systems and ultimately their economic situation.¹⁹

Energy security is sometimes defined as “the uninterrupted physical availability of energy products on the market, at a price which is affordable for all consumers.”²⁰ In addition, it may be generalized as a supply chain-security issue. Disruptions of the supply chain between the feedstock, whether an oil well or an agricultural operation, and the consumer, would lead to price shocks with real and immediate effects on the public. Macroeconomic studies prove that energy-price shocks have severe adverse effects on inflation, unemployment, and real economic output that are coupled with an intractable need to inject money into the economy.²¹ A more comprehensive definition covers the availability of adequate, reliable, and affordable energy.²² This definition is typical of the economics literature, which emphasizes energy supply over other elements of energy security.

Therefore, in defining energy security, various variables are involved. Actually, the definitions given are neither complete, comprehensive, nor unanimously agreed upon. Consequently, it is not plausible to define ‘energy security’ in a single, complete, comprehensive manner that meets the interests of all members of the international community. This is because international law must safeguard and guarantee the interests of all members of the international community, not just a specific group of consuming countries.

Although there are similarities in the definitions provided by different governments, even these countries disagree with the most fundamental issues of energy security. Energy security shall not be a problem for a particular country or region, but a global issue. As a result, from an international legal perspective, this concept can be

¹⁸ *Supra* note 6, at 234.

¹⁹ L. Guruswamy, *Energy, Environment & Sustainable Development*, 8 CHAP. L. REV. 77-8 (2005).

²⁰ *Supra* note 7, at 523.

²¹ *Id.*

²² M. King & J. Gullede, *The Climate Change and Energy Security Nexus*, 37 FLETCHER F. WORLD AFF. 28 (2013).

analyzed from two perspectives: the energy-producing countries and the energy-consuming countries.

1. The perspective of energy-producing countries

From the perspective of the oil and gas producing and exporting countries, which are mainly developing countries, energy security is getting more important when the fluctuations in demand for oil and gas and the resulting vulnerability are decreased and somehow the security of demand with suitable price as well as the transportation of their exports are not disturbed.²³ As consuming countries are looking for low prices (affordable), energy-producing countries will obviously seek fair or high prices.²⁴

2. The perspective of energy-consuming countries

Although, in the developed world, energy security is usually defined as the availability of sufficient supplies at affordable price, every country would interpret it differently.²⁵ Consuming countries in Europe are sensitive to energy prices, especially oil and gas, because these prices have a direct and immediate impact on their production costs and the welfare of households. The prices they pay are those that their economies can tolerate, keeping them away from entering recession. The increase in oil and gas prices has been one of the key factors in reducing economic growth in industrialized countries.²⁶

B. Dimensions of Energy Security

Energy security are influenced by different factors such as armed conflict, terrorism, piracy, economic and environmental crisis.

1. Armed conflict

Political and military threats such as economic sanctions, domestic and international armed conflicts, military occupations, terrorism, piracy and armed robberies would create serious barriers to energy security. For example, in 2003, the war and military occupation in oil exporting countries such as Iraq and Nigeria caused an increase in

²³ K. Proni, *Energy and security: regional and global Dimensions*, SIPRI YEARBOOK 2007: ARMAMENTS, DISARMAMENT AND INTERNATIONAL SECURITY 229 (2007).

²⁴ B. SOVACOO ET AL, *THE ROUTLEDGE HANDBOOK OF ENERGY SECURITY* 24 (B. Sovacool ed., 2010). See also M. Barkindo, *World oil market developments: Challenges and Opportunities*, the official website of OPEC (Nov. 20, 2006), available at https://www.opec.org/opec_web/en/969.htm (last visited on Apr. 21, 2019).

²⁵ W. Shih, *Energy Security, GATT/WTO, and Regional Agreements*, 49 NAT'L RESOURCES J. 433-6 (2009).

²⁶ *Supra* note 13, at 457.

the price of oil and, to some extent, led to energy insecurity in many countries having huge oil and gas reserves. Armed conflicts of Iran resulted in increasing the costs mainly because the installations of oil production and operation and terminals will be under attack.²⁷ Meanwhile, Nigeria in 2002 decided to increase its oil production to 4 million barrels per day as foreign investment increased. As the armed conflict occurred in the Niger Delta prevented, however, Shell's production in the country, which had been over 800,000 barrels a day, was over in November 2009. In addition, many of oil infrastructures in this region were severely damaged because of the civil war.²⁸

Niger Delta is not the only region in the world where oil-related armed conflicts are rising. Uganda's National Liberation Front's National Forces (UNLFNF) attacked an oil field in eastern Ethiopia in April 2007, run by the Chinese companies, and 74 people were killed, of which 9 were Chinese workers. After this attack, the Chinese company pulled out its workers from the field and announced that they would not be back until the government guarantees their security.²⁹ Chinese oil companies were also attacked in the Darfur region of Sudan, where there was a conflict between insurgents and central government forces. The Darfur region was an oil field developed by Chinese and other international companies.³⁰

In October 2007, members of Justice and Equality Movement group attacked the Sudan Regional, Kordofan, run by the GNPOC Oil Company. On December 11, 2007, the forces of this movement attacked the Rhao oilfield, operated by the Chinese company, Great Wall and killed and wounded many government soldiers. Undoubtedly, the oil lost in the aftermath of these armed conflicts was serious and had unfavorable impact on market prices.³¹

2. Terrorism

Another factor influencing energy insecurity is terrorism. Energy terrorism is vastly

²⁷ G. Luciani, *Armed Conflicts and Security of Oil and Gas Supplies*, the official website of CEPS (June 2011), available at aei.pitt.edu/32068/1/WD_352_SECURE_Luciani_on_Armed_Conflicts%5B1%5D.pdf (last visited on Apr. 21, 2019). See also B. Dadvar, *Economic Costs of Conflict: Designated Studies in the Middle East* 13 (2015).

²⁸ A. Jaffe et al., *The Status of World Oil Reserves: Conventional and Unconventional Resources in the Future Supply Mix* 22 (James Baker Institute for Public Policy ed., 2011).

²⁹ J.-P. Cabestan, *China and Ethiopia: Authoritarian affinities and economic cooperation*, 4 *China Perspectives* 53 (2012). See also L. Smith, *Political Violence and Democratic Uncertainty in Ethiopia*, US Institute of Peace (Aug. 10, 2007), available at <https://www.usip.org/sites/default/files/sr192.pdf> (last visited on Apr. 21, 2019).

³⁰ E. Watkins, *China Calls for Oil Worker Safety in Sudan, Ethiopia*, *OIL GAS J.* 1 (Dec. 13, 2007), available at <https://www.ogj.com/articles/print/volume-105/issue-47/general-interest/china-calls-for-oil-worker-safety-in-sudan-ethiopia.html> (last visited on Apr. 21, 2019).

³¹ *Id.*

spreading to armed attacks against energy infrastructures, production, storage, transmission facilities, etc. According to the UN Security Council's Counter-Terrorism Committee Executive Directorate report, nearly two-thirds of the terrorist attacks on critical petroleum infrastructures around the world are oil and gas ones.³² Terrorists threaten the state or owners of oil facilities that if they donate no funds or money, they will carry out sabotage or terrorist attacks against them.³³ Terrorist organizations collude with criminals in order to destruct oil and gas pipelines and they abuse the fact that security forces of the governments are afraid of fighting with them.³⁴ More specifically, frequent and multiple attacks against a pipeline system or electricity grid can certainly result in substantial business and supply disruptions.³⁵

Protecting key infrastructures against terrorist attacks is undoubtedly one of the greatest priorities in protecting the security of countries. In many countries, protecting oil and gas infrastructure, such as refineries, oil tankers and pipelines is highly critical policy.³⁶ Since the repair of these pipelines is relatively easy, however, the deployment of security forces to protect them is sometimes not economically feasible.³⁷

3. Piracy

Another issue threatening energy security is piracy. Almost all the oil and gas are traded through international straits, such as Bab-ol-mandab, the Strait of Hormuz in the Persian Gulf, the Malaga Straits between Indonesia and Malaysia and the Somali coast. In particular, a quarter of the world's energy trade is transported by cargo vessels that cross the Malaga Straits each year.³⁸ Approximately, three million barrels of oil are transported per day through Bab-ol-mandab. Here, piracy and terrorist activities are increasing.³⁹ In 2007, piracy attacks dramatically increased on tankers

³² CTED, PHYSICAL PROTECTION OF CRITICAL INFRASTRUCTURE AGAINST TERRORIST ATTACKS 4-5 (Mar. 12, 2017), available at <https://www.un.org/sc/ctc/wp-content/uploads/2017/03/CTED-Trends-Report-March-2017-Final.pdf> (last visited on Apr. 21, 2019). See also D. Šinka, & S. Krajcar, *Assessing Terrorist Threats for Energy Infrastructure by Combining Historical Data and Expert Judgments*, 17 NAT'L SECURITY FUTURE 157-9 (2016).

³³ *Id.*

³⁴ A. Koknar, *The Epidemic of Energy Terrorism*, in ENERGY SECURITY CHALLENGES FOR THE 21ST CENTURY 19, in Luft & Korin, *supra* note 12.

³⁵ P. Burgherr et al., *Accidents in the Energy Sector and Energy Infrastructure Attacks in the Context of Energy Security*, 6 EUR. J. RISK REG. 283 (2015).

³⁶ *Supra* note 34, at 19.

³⁷ *Id.* at 22.

³⁸ *Supra* note 22, at 31.

³⁹ D. Nincic, *Troubled Waters: Energy Security as Maritime Security*, in Luft & Korin, *supra* note 12, at 37.

and other ships carrying fuels.⁴⁰ Attacks on these ships rose to around 30 percent globally, which does not fit the size of the tanker fleet worldwide. During the year 2018, the waters around the Indonesian archipelago and Nigeria have been ranked among the most pirate-prone country in the world. Nigeria and Indonesia have the highest rank with 22 and 9 attacks.⁴¹ Piracy attacks are not only confined to Indonesia, but also to other locations such as Somali coasts, Ghana, Benin, Bangladesh and Venezuela.⁴² For instance, on November 15, 2008, Somali pirates boldly attempted to steal the giant *Syrius Starr* tanker vessel of Saudi Arabia. This tanker had 2 million barrels of crude oil. The tanker was released almost two months later, without any damage to its servants by paying USD 3 million.⁴³

4. Sanctions

Large companies need security of their investment in advanced technology to contribute to secure global supply of energy. Due to political and economic sanctions, however, this free flow of funds and technology would have been adversely affected. As a result, these sanctions will endanger security of supply in the medium and long term. A few years ago, in major oil producing countries such as Sudan, Libya and Iraq, sanctions prevented investment by international oil companies.⁴⁴ In addition, between 2010 and 2012, the EU and the US boycotted the purchase of Petroleum from Iran and banned the international oil companies to invest and develop its petroleum sector.⁴⁵

After the intolerable negotiation between Iran, the P5+1, and the EU, the Joint Comprehensive Plan of Action (“JCPOA”), known commonly as the Iran Nuclear Deal, was concluded in Vienna on July 14, 2015.⁴⁶ Nevertheless, the US withdrew from JCPOA in May 2018 and unjustly re-imposed all the sanctions that had been

⁴⁰ G. Noakes, *A View on Piracy and Armed Robbery in 2016*, Oceans beyond Piracy Website (Mar. 30, 2016), available at http://oceansbeyondpiracy.org/sites/default/files/State_of_Maritime_Piracy_2015.pdf (last visited on Mar. 2, 2019).

⁴¹ E. Frécon, *Pirates with black magic' attack shipping in Indonesian waters*, CONVERSATION, Apr. 27, 2018, available at <http://theconversation.com/pirates-with-black-magic-attack-shipping-in-indonesian-waters-94106>. See also IMB, *Piracy and Armed Robbery against Ships Report for the period 1 January-31 March 2019*, 5 (Apr. 1, 2019), available at https://www.iccccs.org/reports/2019Q1_IMB_PiracyReport.pdf (last visited on Apr. 21, 2019).

⁴² *Id.*

⁴³ *Id.* at 5-6. See also *supra* note 39, at 37-8.

⁴⁴ M. Ross, *Blood Barrels: Why Oil Wealth Fuels Conflict*, FOREIGN AFF. 1 (May/June 2008), available at <http://www.sscnet.ucla.edu/polisci/faculty/ross/BloodBarrelsFA.pdf> (last visited on May 22, 2019).

⁴⁵ T. Van de Graaf, *The “Oil Weapon” Reversed? Sanctions against Iran and U.S.-EU Structural Power*, 20 MID. EAST POL’Y 145 (2013).

⁴⁶ S. Seyrafi & A.-H. Ranjbarian, *The US’ Withdrawal from the Iran Nuclear Agreement: A Legal Analysis with Special Reference to the Denuclearization of the Korean Peninsula*, 11 J. EAST ASIA & INT’L L. 270-3 (2018).

lifted due to JCPOA, as the latest political instability in energy market.⁴⁷ In line with Iran, The US also imposed sanctions on Venezuela's state-owned oil company, *Petróleos de Venezuela SA* ("PDVSA") in a dramatic move, designed to empower the opposition and cripple the government of President Nicolás Maduro by preventing the proceeds of the US crude sales returning to Caracas.⁴⁸

5. Economic conditions

Energy security is influenced by economic conditions. They are the creation of conditions for improving labor and production conditions, prices of energy carriers, securing energy trade, freeing and creating competitive energy market, providing security for domestic and foreign investment in the oil and gas industries, and economic and sustainable growth of energy in producing and consuming countries.⁴⁹ In general, consumers, whether corporations or governments need to forecast the energy price for their funding.⁵⁰ The price shock resulting from supply of energy and other economic and commercial disruptions, which may be the result of war, internal turbulence, bad weather or sanctions, leads to economic anomalies, since the consumers in the above circumstances cannot adapt themselves to supply fluctuations.⁵¹ Furthermore, supporting securely and sustainably the foreign investment in the energy sector is targeted by the consuming countries in a way that it will not be affected by adverse regulatory changes, breach of contract, destruction, strike and expropriation.⁵²

Energy producers are also looking for price stability or its rise. They are also value the revenue flow. Income shocks, such as the oil prices shock in 1998 and its fall to

⁴⁷ M. Landler, *Trump Abandons Iran Nuclear Deal He Long Scorned*, N.Y. TIMES, May 8, 2018, available at <https://www.nytimes.com/2018/05/08/world/middleeast/trump-iran-nuclear-deal.html> (last visited on May 22, 2019).

⁴⁸ I. Talley & M. Bender, *U.S. Imposes Sanctions on Venezuela's Oil Industry*, WALL ST. J., Jan. 28, 2019, available at <https://www.wsj.com/articles/u-s-to-place-sanctions-on-venezuela-state-owned-petroleos-de-venezuela-11548708213> (last visited on May 22, 2019).

⁴⁹ J. KOVAČOVSKÁ, ENERGY SECURITY IN EUROPEAN CONDITIONS 26-30 (2010).

⁵⁰ D. HART ET AL, THE FUEL CELL INDUSTRY REVIEW 2017, 7 (Oct. 18, 2017), available at <http://www.fuelcellindustryreview.com/archive/TheFuelCellIndustryReview2017.pdf>. See also Marc Adams et al., *Controlling the consumer-funded costs of energy policies: The Levy Control Framework. Session 2016-17*, 6-36 (Oct. 18, 2016), available at <https://www.nao.org.uk/wp-content/uploads/2016/10/Controlling-the-consumer-funded-costs-of-energy-policies-The-Levy-Control-Framework-1.pdf> (all last visited on Mar. 22, 2019).

⁵¹ L. Kilian, *Oil Price Shocks: Causes and Consequences*, 6 ANN. REV. RESOURCES ECON. 134 (2014); WEF, *The Global Risks Report 2018*, 6-36 (Mar. 29, 2018), available at http://www3.weforum.org/docs/WEF_GRR18_Report.pdf (last visited on Mar. 25, 2019).

⁵² MIGA, *World Investment and Political Risk 2013: World Investment Trends and Corporate Perspectives 20-3* (Oct. 18, 2014), available at <https://www.miga.org/sites/default/files/archive/Documents/WIPR13.pdf> (last visited on Mar. 20, 2019).

USD 10 a barrel had a devastating effect on national budgets of these countries. The shocking decline in oil prices in 1998 has exacerbated domestic political turmoil. Moreover, it has put pressure on the regimes of some of the OPEC countries such as Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Indonesia, Libya, UAE, Algeria, and Nigeria. With government-budgets based on the proceeds from the sale of crude oil, the budget structure in most energy-producing countries was seriously damaged.⁵³

6. Environmental considerations

The unceasing use of energy has negative impact on ecosystems rising a series of human health problems. The excessive use of fossil fuels has resulted in the serious pollution of the seas, expansion of the desert areas as well as global warming due to greenhouse gas emissions.⁵⁴ For instance, the US statutory environmental law policy has followed an evolutionary path. In the 1970s, “command and control” statutes were enacted to prohibit market actors from doing specific acts.⁵⁵ In 2010, in Europe, Germany declared climate change as its top priority and decided to reduce greenhouse gas emissions by at least 55 percent by 2030 and up to 95 percent in 2050 compared to 1990 levels.⁵⁶ Germany intends to eliminate coal and substitute nuclear energy in the production of power. Although nuclear power does not produce carbon dioxide, Germany has heavily invested in the renewable energy sector to be a pioneer in the world in using solar energy. Unless Germany uses coal and nuclear energy, it will have to become more dependent on gas imports from Russia, a country that is not regretful for using energy as a geopolitical weapon for future generations. While a number of countries specially such as Norway, Denmark, Sweden, Switzerland, New Zealand, France, Spain, the Netherland and Germany⁵⁷ are preparing to save their energy security from environmental concerns, while others have the opposite

⁵³ L. Oyelami, Effects of Oil Price Movement on Nigerian Macroeconomic Variables: Evidence from Linear near and Nonlinear ARDL Modelling, 22 IRAN. ECON. REV. 908-11 (2018).

⁵⁴ G. Luft & A. Korin, *Energy Security: In the Eyes of the Beholder*, in Luft & Korin, *supra* note 12, at 13-1.

⁵⁵ *Supra* note 7, at 476.

⁵⁶ Germany Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Climate Action Plan 2050, Principles and Goals of the German Government's Climate Policy, 7 (Nov. 4, 2016), available at https://www.bmu.de/fileadmin/Daten_BMU/Pool/Broschueren/klimaschutzplan_2050_en_bf.pdf (last visited on Mar. 10, 2019).

⁵⁷ R. Bocca, Top 10 countries best prepared for the future of energy, World Economic Forum (Dec. 11, 2013), available at <https://www.weforum.org/agenda/2013/12/top-10-countries-best-prepared-for-the-future-of-energy>. See also R. Smith, These are the countries best prepared for the global energy transition, World Economic Forum (Mar. 16, 2018), available at <http://www.sonnenseite.com/en/politics/these-are-the-countries-best-prepared-for-the-global-energy-transition.html> (all last visited on Mar. 10, 2019).

position, ignoring environmental considerations in relation to energy security.⁵⁸

The energy security and the protection of the environment must be a dual relationship. Energy security and environmental considerations can be compatible; both should strike a balance between the short-term economic benefits of energy security and long-term environmental considerations. Policymakers in every country are thus required to consider and assess the environmental hazards of an energy-related project. There is also a global perspective on the environment dimension of energy security. The latest effort in this regard is the Paris Agreement in 2015. The Agreement includes a long-term cooperation on environmental issues, reducing greenhouse gas emissions, compliance with environmental regulations on climate change, and similar provisions. It is obvious that many of these goals are closely related to energy.⁵⁹ In short, every country should pay attention to these dimensions in adopting its energy security policies under domestic and international law. As a result of examining various dimensions, the most important issues of energy security are divided as follows:

- Security of energy supply;
- Security of energy demand;
- No irregular price fluctuation of energy carriers;
- Political and economic security of foreign investment;
- Optimal energy consumption and production;
- Environmental protection and prevention of pollution and environmental damage;
- Absence of political risks, such as sanctions on oil imports and exports;
- Combating piracy and preventing the cessation of the flow of energy transit; and
- Preventing war and terrorism and consequently maintaining the physical security of the installations and staff of the energy industry.

3. Legal Foundations of Energy Security in Iran

In the energy arena, Iran is the center of the “strategic energy oval” (both oil and gas), which has huge oil and gas reserves in both the north and the south of the country.⁶⁰ Iran has 9.3 percent of the world’s oil reserves (157.2 million barrels of oil) and has 17.2 percent of the world’s gas reserves (33.2 trillion cubic meters), rendering it in the

⁵⁸ *Supra* note 54, at 13-6.

⁵⁹ *Supra* note 49, at 11.

⁶⁰ H. Hashi & H. Nosrati, *Energy Security and Geo-Energy Position of Iran*, 6 *GEOPOLITICS Q.* 112 (2010).

second place globally.⁶¹ According to the fifth Five-year Development Plan Act (2012), the government is obliged to draft a comprehensive energy law. Article 125 (2) of the fifth Five-Year Development Plan Act states:

[...] [T]he government is obliged to provide “National Energy Strategy of Iran” based on “The Country’s 20-Year Perspective” and the general policies of the country in the energy sector, as notified by the Supreme Leader of Iran. Moreover, The government with the full support of experts, no later than six months after the adoption of the Five-Year Development Plan Law, shall draw up the “National Instrument of Energy Strategy” as an upstream energy document for a period of twenty-five years, and have it ratified it by the Parliament [...]

Note-The ministries of Petroleum and Power are required, in cooperation with other relevant executive bodies, to submit an “Executive program of Comprehensive Energy Plan of the Country” within twelve months after the ratification of the National Energy Strategy Document of the country and have it approved by the Council of Ministers.

Article 125(2) has also been verified and reinstated in Article 45 of the sixth Five-year Development Plan Act (2017). Article 45 provides:

The ministries of Petroleum and Energy, in cooperation with other relevant executive bodies, are required to prepare the “Comprehensive Energy Plan of the Country” by the end of the first year of the implementation of this Act. This plan shall be prepared in the framework of the relevant laws, and in accordance with the National Energy Strategy document of the country adopted by the Supreme Council of Energy of the country. The said plan shall be approved by the Council of Ministers.

The basic issues of energy security in Iran may be found in a scattered way in laws related to the energy sector, such as the Iranian Petroleum Act (1987) and its amendment in 2011, the Law on Duties and Powers of the Ministry of Petroleum (2012), the Five-Year Development Plans (the fifth and sixth rounds), and the General Policies of the Resistance Economy (2013). These laws and regulations have been adopted to design and enforce the main and strategic objectives of Iran’s energy security under domestic and international law.

⁶¹ See BP Statistical Review of World Energy 2018, at 12-26 (June 13, 2018), available at <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2018-full-report.pdf> (last visited on May 20, 2019).

A. Stability or Increase of Price and Energy Demand (Economic Security)

Iran's main strategic goal in providing its energy security is to gain more share in providing global energy demand.⁶² This means maximizing access to the international energy market⁶³ as Iran has the one-dimensional economy providing most of its budget from oil and gas sale. Therefore, security of demand and stability of energy prices in the global energy market are important indicators of energy security in Iran.⁶⁴

Article 10 of the Law on Duties and Powers of the Ministry of Petroleum and Article 8 of the General Policies of Resistance Economy have put in place the policymaking and management of fuel demand in order to optimize fuel consumption. This is achieved in the framework of the Law on Modification of the Energy Consumption Model adopted in 2010 to consider the security of energy demand both nationally and internationally.

B. The Absence of Energy Sanctions (Political and Economic Security)

One of the most important political factors affecting Iran's energy security is the sanctions of the US and the EU. In 2012, the EU banned the purchase of oil from Iran. Due to the sanctions, Iran's oil production, which was about 3.5 million barrels per day, reduced to 2.5 million barrels per day, threatening Iran's energy security of demand.⁶⁵

It is self-evident that the adverse effect of international sanctions, unjust as they have been, on the sale of Iranian oil and gas would cause economic hardships, not least because of the dependence of government budget on oil revenue. Without going into the specifics, one may assume that such sanctions, particularly when intensified and comprehensive, might discourage substantial foreign investment in the Iranian oil and gas sector. This in turn could limit production. In the long term, particularly, it would adversely affect the maximization of the exploitation capacity of oil and gas from the relevant fields and cause increased costs and expenses in maintaining the production capacity. The settled industry practice clearly requires persistent and continuous investment in the active oil and gas fields in order to maintain and

⁶² P. SAHA ET AL., ENERGY SECURITY AND SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC 129 (O. Plasencia & P. Stalker eds., 2008). See also E. Nasab et al., *An Analysis of Energy Consumption in Transportation and Industrial Sectors: A Multiplicative LMDI Approach with Application to Iran*, 16 IRAN. ECON. REV. 2 (2012).

⁶³ A. MALEKI, ENERGY SECURITY 10 (2011). <available only in Iranian>

⁶⁴ G. NASRI, OIL AND NATIONAL SECURITY OF THE ISLAMIC REPUBLIC OF IRAN 214 (2001). <available only in Iranian>

⁶⁵ K. Katzman, *Iran Sanctions*, CRS Report RS20871, at 53 (Apr. 22, 2019), available at file:///C:/Users/user/AppData/Local/Microsoft/Windows/INetCache/IE/7VJQZEFJ/RS20871.pdf (last visited on May 20, 2019).

enhance production. In addition, any lack of, or disruption in, investment, be it for international sanctions or other reasons, may affect the achievement of the desired goal.⁶⁶

Any decrease in production output and consequently the export of oil, because of sanctions, might also cost that country its share in international market since other suppliers might be tempted to move in and fill in the gap in supply caused by decreased export into the international market. Although international sanctions and the following reduction of Iran's share of the oil market could weaken Iran's position within the OPEC, there is no concrete evidence to indicate that this has been the case in reality. All the potential risks and consequences have prompted the adoption of the General Policies of the Resistance Economy. According to Articles 22 and 13 of General Policies, the government is obliged to closely monitor any perceived sanction plans and develop ways and means to tackle them by, *e.g.*, focusing on selecting strategic customers, diversifying sales methods and practices as well as increasingly the private sector involvement in the sale of oil.

C. Iran's Oil and Gas Facilities (Physical Security)

Another issue is the physical security of Iran's oil and gas facilities, infrastructures and terminals onshore and offshore. The most critical factor that threatens this security is the military attacks to these facilities. Iran experienced such attacks during the eight years' armed conflict with Iraq, because, for that period, Iraq attacked many Iranian oil refineries and platforms. When the tanker wars broke out in the Persian Gulf in 1988, particularly, the US attacked two Iranian oil platforms by warships and aircrafts and completely destroyed them.⁶⁷ Such military attacks on infrastructures will stop the production and trade of oil and gas and, as a result, security of demand will be threatened.⁶⁸

D. Security of Energy Transit (Military Security)

Article 3(6)(a) of the Law on Duties and Powers of the Ministry of Petroleum 2011, as well as Article 9 of the Petroleum Act 2011 oblige the Ministry to provide physical protection and preservation of resources, installations, facilities, pipelines, electricity

⁶⁶ *Id.* at 43-52. See also F. Kokabisaghi, *Assessment of the Effects of Economic Sanctions on Iranians' Right to Health by Using Human Rights Impact Assessment Tool: A Systematic Review*, 7 INT'L J. HEALTH POL'Y MGMT. 376 (2018).

⁶⁷ D. Linnan, *Iran Air Flight 655 and Beyond: Free Passage, Mistaken Self-Defense, and State Responsibility*, 16 YALE J. INT'L L. 250 (1991).

⁶⁸ H. MEHDIYAN & J. TORKASHVAND, ENERGY AND NATIONAL SECURITY OF IRAN 175-6 (2010). <available only in Iranian>

and telecommunications networks, buildings, properties and documents belonging to it and its subsidiaries. The Security Organization of the Ministry of Petroleum, in association with other security, military, police and defense institutions, fulfills this important task.

The transit ways of energy from Iran to its customers are mostly the sea routes, passing through the Strait of Hormuz, the Indian Ocean, the Gulf of Aden, the Somali coast and the Strait of Malaga. Today, the piracy threatens international maritime order as well as Iran's energy trade. Oil tankers of the National Iranian Oil Company have been repeatedly attacked by pirates and released only upon payment of heavy ransoms. Consequently, Iran sent its naval army to these areas to protect its own merchant ships.⁶⁹

E. Environmental Security

Article 50 of the Constitution of the Islamic Republic of Iran explicitly stipulates the preservation of the environment. It lays down that in Iran, the protection of the environment is considered as a public duty for today's and subsequent generations' social life. Therefore, economic and other activities that cause environmental pollution or irrecoverable degradation are prohibited. The oil and gas industries would involve activities that contaminate the environment. Accordingly, Article 14(8) of the Fourth Development Plan Law and Article 129(2) of the fifth Development Plan Law provide:

... [i]n activities of exploration, development, extraction and production of oil and gas by subsidiaries of the Ministry of Petroleum and other qualified companies, the Ministry of Petroleum, by adopting the criteria of Protective Production, shall issue an operation license without any property right to the oil and gas produced, and according to the approved plan, supervise the exploration, development and production operations of the aforementioned companies. This supervision shall be carried out in terms of the production rate and protection of reservoir and also the health, safety and environmental standards.

8 (1) of the sixth Five-year Development Plan Act (2017) also provides:

The government is required to take the following measures to protect the environment: 1. Monitoring Strategic Environmental Assessment (SEA) in

⁶⁹ J. MOMTAZ ET AL., *PIRACY FROM THE PERSPECTIVE OF INTERNATIONAL LAW* 180 (Iranian Society for the UN Study ed., 2010). <available only in Iranian>

developmental policies and programs and Environmental Impact Assessment (EIA) of major plans of all executive bodies and private and cooperative sectors, non-governmental public bodies in the territory, including free and industrial zones based on indicators and criteria of environmental sustainability [...]

Article 3(4)(a) of the Law on the Duties and Powers of the Ministry of Petroleum 2011 obliges the Ministry of Petroleum to codify the procedures and executive guidelines for protecting, maintaining, promoting and upgrading the level of health, safety, environment and passive defense in the oil industry. This shall be realized in coordination with executive agencies and related institutions. The Ministry of Petroleum is responsible for overseeing their implementation. Consequently, preserving and protecting the environment is considered as one of the main energy priorities of Iran. Therefore, it must strike a balance between its energy needs, and environmental preservation and protection.

4. Conclusion

Energy security is a significant strategic issue for every country. To assure the energy supply at a price that is balanced and sustainable to preserve the interests of both oil producers and consumers, each government pursues a wide variety of initiatives and deploys various tools, ranging from diplomatic initiatives, military campaigns to economic transactions, such as asset acquisitions or interests in energy companies. More specifically, many governments incorporate into a viable energy security policy:

First, the policy must provide for investment in energy infrastructure, to include production, processing, transportation, and storage. Second, energy efficiency should be encouraged to mitigate demand growth. Third, the policy should provide for multiple energy sources and increase the number of market participants to boost the reliability of supply. Fourth, the laws, regulations, and policies that govern and affect the energy market must be open to study and inspection by current and potential market participants.⁷⁰

Energy has always been a key locomotive of the industry, large or small, in contemporary society. It is a prerequisite for the production of most of goods and services. Therefore, the energy sector and its infrastructures are the critical platform

⁷⁰ *Supra* note 6, at 238.

for the national and global economy.⁷¹

This research has investigated the concept of energy security as well as its main issues and factors, as reflected in the domestic laws and regulations of Iran. By reviewing these, we have concluded that Iran did not have a well-defined and optimal energy security strategy in the past. Therefore, it seems necessary to develop a comprehensive National Energy Document in the form of energy security plan that can define energy issues and link national security to them.

Not a few countries have been already active in this regard. They have been drawing up, enacting and implementing the laws under the headings such as the Comprehensive Law of Energy, Energy Security Law, National Energy Strategy Document, the Clean and Renewable Energy Act and other relevant laws and regulations. As discussed, in Iran, main issues of energy security have been mentioned in some dispersed laws and regulations related to energy.

The formation of energy law and research centers on this issue would guarantee coherent scientific activities and then the adoption and implementation of comprehensive energy laws and regulations. It is worth noting that Iran's energy industry, especially oil and gas, is trying to achieve important goals such as capacity building for more oil and gas production, in order to maintain its position and share in the OPEC as well as international energy market. In order to achieve this goal, the following strategies should be adopted:

1. Enhancing cooperation with energy companies of the consuming countries to get technology;
2. Attracting foreign investment;
3. Optimizing production and consumption of energy to improve efficiency;
4. Pursuing different policies toward political players in the Middle East in order to establish a healthy interaction; or
5. Making active cooperation between them, as well as between consumers and producers of energy in the world.

Furthermore, foreign policy should be enforced to eliminate possible military and economic threats against energy security. In this course, Iran's regional and international role will be more influential. Indeed, exploring the possibility of a joint organization or institute, which can take into account the interests of both the producers and consumers and draw up a common energy security policy, would be an ideal goal for all the major players in energy market. This common policy must be

⁷¹ *Supra* note 35, at 271.

sustainable and consolidates all the relevant factors even under conflict. Finally, the research and education of energy law will help to fulfill its goals.

