ULUSLARARASI İLİŞKİLER
Akademik Dergi

Instructions for authors, permissions and subscription information:
E-mail: bilgi@uidergisi.com
Web: www.uidergisi.com

Global Energy Geopolitics and Iran

Bezen Balamir Coşkun

Dr., Loughborough University, Politics, International Relations European Studies

To cite this article: Balamir Coşkun, Bezen, "Global Energy Geopolitics and Iran", *Uluslararası İlişkiler*, Volume 5, No 20 (Winter 2009), p. 179-201.

Global Energy Geopolitics and Iran

Bezen Balamir COŞKUN*

ABSTRACT

Energy security has become a common concern for global actors both from demand and supply sides. Iran might turn into one of the energy superpowers together with Russia, if it benefits from actual trend characterized by rising demand. This article discusses the geopolitical issues arising from global actors' concerns and interests related to Iranian hydrocarbon resources and its nuclear program. Iran's stand in the global energy politics and its repercussions will be analyzed. The significance of Iran will be elaborated, within the context of the global and regional geopolitics of energy, to decide on the implications that might arise from its oil, natural gas and nuclear program.

Keywords: Energy Geopolitics, Iranian Oil and Gas, Iranian Nuclear Program.

Küresel Enerji Jeopolitiği ve İran

ÖZET

Enerji güvenliği hem arz hem de talep tarafında yer alan küresel aktörler açısından önem taşımaktadır. Günümüzün enerji jeopolitiğinde İran yükselen talepten faydalanabildiği bir durumda Rusya ile birlikte küresel enerjide süpergüç olma yolunda ilerleyecektir. Bu makale, İran'ın gaz ve petrol rezervleri sayesinde küresel enerji jeopolitiğinde artan önemini vurgulayarak, Rusya, Çin, Hindistan, Avrupa Birliği ve Türkiye gibi çeşitli aktörlerin enerji konusundaki kaygı ve çıkarlarını analiz etmektedir. Ayrıca makalede İran'ın nükleer enerji programı da dâhil olmak üzere enerji politikalarıyla bunların küresel ve bölgesel enerji politikaları üzerindeki etkileri tartışılmaktadır.

Anahtar Kelimeler: Enerji Jeopolitiği, İran Petrol ve Doğal Gazı, İran'ın Nükleer Programı.

* Dr., Loughborough University, Politics, International Relations European Studies, UK. E-mail: B.Coskun@lboro.ac.uk.

Introduction

Geographically located at the junction of the Middle East, Central Asia, and South Asia; Iran borders Armenia, Azerbaijan and Turkmenistan to the north, Afghanistan and Pakistan to the east and Turkey and Iraq to the west. In addition, it borders the Persian Gulf and the Caspian Sea, which together constitute the richest energy region of the world in terms of oil and natural gas resources. Energy-wise Iran has about 7%of the world's mineral resources and possesses 10%of the global proven oil reserves and 16%of the world's natural resources.[1] As a result of its central location in Eurasia and its rich oil and natural gas reserves, Iran is one of the pivotal countries of energy geopolitics.

Iran is among the top 10 world oil producers and takes its place among the biggest oil exporters. Currently its oil export revenues have already reached $50 billion. In spite of the US sanctions, Iran continues to export oil to Asian and European markets. The growing energy needs of China and India, accompanied by the Europeans' search to diversify their natural gas suppliers, have paved the way for a fierce competition for Iranian energy resources. Iran has been growing into an energy superpower due to growing external demand for its natural gas and oil. From this perspective, this article discusses Iran's potential as an energy superpower with regard to the current facts and trends in regional and global energy geopolitics.

Iranian Oil and Global Energy Geopolitics

Iran is amongst the world's top three holders of proven oil and natural gas reserves. It has 136 billion barrels of proven oil reserves as of 1 January 2007.[2] The overall life span of Iranian oil reserves is about 30 years at the 2005 consumption rate.[3] With its 40 producing fields and 4.148 thousands barrels per day (bbl/d) production capacity, Iran is among the top 10 world oil producers.

---

1 Abbas Maleki, "Energy Supply and Demand in Eurasia: Cooperation between EU and Iran", *The China and EuroAsia Forum Quarterly*, Vol. 5, No 4, 2007, p. 106.

2 Energy Information Administration, *Country Analysis Briefs: Iran*, October 2007, http://www.eia.doe.gov/emeu/cabs/Iran/pdf.pdf (Accessed on 10 September 2008).

3 A. R. Karbassi *et al*, "Sustainability of Energy Production and Use in Iran", *Energy Policy*, Vol. 35, 2007, p. 5174.

Table 1. Top 10 World Oil Producers (2006)
Source: EIA Country Energy Profiles, 2007

Country	Thousand bbl/d
Saudi Arabia	10.665
Russia	9.677
US	8.330
Iran	4.148
China	3.845
Mexico	3.707
Canada	3.288
United Arab Emirates	2.945
Venezuela	2.803
Norway	2.786

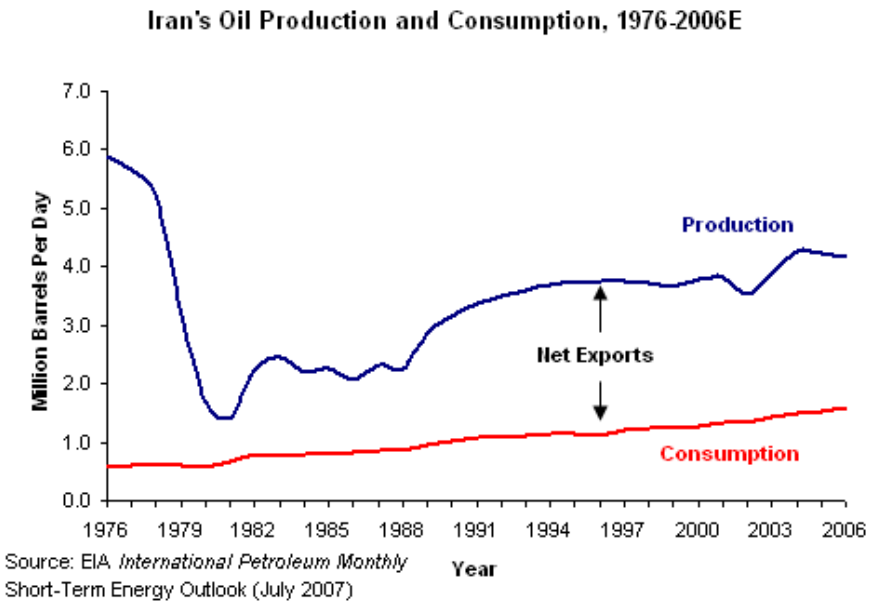
Given the volume of production, Iran is the Organization of Petroleum Exporting Countries' (OPEC) second-largest exporter after Saudi Arabia, and the fourth largest exporter of crude oil globally after Saudi Arabia, Russia and Norway. As pointed out in the US Energy Information Agency's report, Iran's net crude and product exports in 2006 averaged 2.5 million bbl/d and its oil export revenues amounted to $54billion. Its exports to Japan, China, India, South Korea, Italy and other OECD states make Iran one of the largest exporters of crude oil in the world.[4]

Table 2. Top Iranian Oil Exports (2006)

Country	Thousand bbl/d
Japan	448
China	335
India[5]	302
South Korea	204
Italy	191
Turkey	179
France	135
South Africa	127
Taiwan	117
Greece	117
Other	345
Total Exports	2.500

[4] Country Analysis Briefs: Iran.
[5] Indio's Imports only reported for April-August 2006 period. Source: IEA.

As far as oil consumption is concerned, Iran's oil consumption was 1.6 million bbl/d in 2006. Iranian domestic oil demand is mainly for gasoline and automotive gasoils. The demand for refined oil products, particularly for gasoline, is growing rapidly at about 6.5%per year. On the other hand, domestic demand for other oil products is declining due to the substitution of natural gas. As shown in Graph 1, in spite of the growing domestic demand, Iran remains a net petroleum products exporter due to large exports of residual fuel oil. Oil export revenues represent the majority of Iran's total export earnings. However, Iran's oil production is declining by 8%onshore and around 10%offshore. On the other hand, gasoline demand is expected to grow by 10%annually from 2006 to 2010.[6] In the face of the depletion of oil reserves, Iran is in search of foreign investment to develop both onshore and offshore oil reserves, particularly in the Caspian Sea. As the US sanctions threaten large sums of foreign investments in the Iranian oil sector, Iranian leaders have to find creative ways and means to encourage foreign investors.



6 Maleki, "Energy Supply and Demand in Eurasia", p. 107.

The Geopolitics of Iranian Oil

Geopolitics emphasises geographic factors as important determinants of government policies and one of the major determinants of the power position of states.[7] The issue of access to energy resources has always been an indispensable part of a state's geopolitical considerations. Within the context of the global energy geopolitics, since the early 1900s, Iran's vast energy potential has remained as the focal point of regional and global geopolitics.

As a result of its rich oil resources, by the early 1900s Iran had attracted Anglo-Russian 'Great Game' rivalry in the region. In the summer of 1941, Britain and the Soviet Union invaded Iran to prevent it from allying with the Axis powers, to secure a supply line to Russia and take control of Iran's petroleum infrastructure.[8] In 1951, with the election of the nationalist Dr. Mohammed Mossadegh as Prime Minister, the Anglo-Iranian Oil Company, which controlled the country's oil reserves, was nationalized. In response, Britain embargoed Iranian oil and, together with the United States, overthrew Mossadegh and established a US-friendly monarchy in 1953, which ruled Iran until the 1979 Iranian Revolution. After the 1979 Islamic Revolution, respective Iranian governments pursued policies hostile to the West in general and to the US in particular. The US responded to Iranian hostility by implementing a containment policy that aimed at isolating Iran and cutting its links with the international community. Thanks to its rich energy resources and despite the US efforts, Iran was not isolated as planned by the US. On the contrary, its position, as one of the largest oil exporters, has been strengthened.

Because of US sanctions against Iranian activities in the region, Iran cannot increase its exploration and production activities in and around the Caspian Sea. However, Iran is constantly in search of ways and routes in the Caspian to escape from US pressures, which are even tenser in the Persian Gulf. In this regard, Iran has been pursuing a series of deals, rewarding liquefied natural gas buyers with participation in development of its oil fields. Iran's High Economy Council, which is formed to decide over Iran's major economic plans, has approved exploration activities in the Caspian Sea. Within the context of the development of Caspian resources, Iran has engaged in talks with a Brazilian oil firm, Petrobras, which is known for its experience with deep-water, offshore projects. Petrobras will conduct exploration operations in the Caspian Sea in return for purchasing

---

7 Shiv Kumar Verma, "Energy Geopolitics and Iran-Pakistan-India Gas Pipeline", *Energy Policy,* Vol. 35, 2007, p. 3283.

8 Patrick Clawson and Michael Rubin, *Eternal Iran: Continuity and Chaos*, New York, Palgrave MacMillan, 2005, p. 58.

liquefied natural gas from Iran if the deal comes into being.[9] In a similar vein, in 2005 Iran signed a $40 billion deal with India to export liquefied natural gas. Iran and India reached a preliminary deal for Indian firms to take part in the development of the Yadavaran and Jufeyr oilfields. Under the agreement, Iran will supply India with 7.5 million tonnes of liquefied natural gas annually over a 25-year period from 2009.[10] It is believed that this deal would boost the Indian energy sector, which has faced stagnation over many years and is searching for exporters in order to secure future supplies.

Last, but not least, Iran started to develop its relations with China may be highly significant for the energy geopolitics of the region. The partnership between the two countries has deepened over the years. Iran's longstanding enmity with the West makes Iranian oil more than a strategic asset for China. Access to Iranian oil is getting more and more important for China as Iran provides access to oil reserves without competition from Western firms. Up to $7 billion of Iranian oil was exported to China in 2007. China's state-owned Sinopec Group has agreed to buy 160,000 bbl/d from Iran in 2008, roughly 6%of China's total crude demand, This supply deal comes days after the finalisation of a $2 billion pact to develop Iran's huge Yadavaran oilfield, after nearly three years of negotiations, part of Beijing's plan to help ensure a stable and secure supply of oil.[11] Iran, on the other hand, has been very keen on trading with China. For Iran, a close relationship with China, a permanent member of UN Security Council, is considered to be an attempt to balance the Western influence over international actions against Iran. Understandably, China's position regarding the suggested economic sanctions against Iran has been shaky as a result of its growing reliance on Iran for energy, even though it has gone along with UN Security Council's efforts to persuade Iran to be more transparent about its nuclear programme.

As stated by Iranian Oil Minister Gholam Hossein Nozari, "sanctions have left no impact on the production sector of this industry and our production capacity has grown from 4m to 4.15m barrels per day."[12] Despite the sanctions, Iran has managed to stay powerful in oil markets because of the growing energy demands of rapidly industrializing states like India and China and also due to its possession of huge natural gas reserves that have been used for attracting foreign investment in the field development business.

---

9 Maleki, "Energy Supply and Demand in Eurasia", p. 108.

10 "India and Iran in Gas Export Deal", *BBC News*, 7 January 2005, http://news.bbc.co.uk/1/hi/business/4155597.stm, (Accessed on 7 September 2008).

11 "Iranian Energy Deals Made or in Process", Global *Research*, 22 December 2007, http://www.globalresearch.ca/index.php?context=va&aid=7664, (Accessed on 7 September 2008).

12 Ibid.

Iranian Natural Gas and Energy Geopolitics

Iran holds the world's second largest reserves of natural gas after Russia with an estimated 974 trillion cubic feet (tcf) of proven natural gas reserves. However, almost 62%of Iranian natural gas reserves are located in non-associated fields, and have not been developed yet.[13] The estimated life-span of Iranian gas reserves is about 330 years.[14]

Natural gas accounts for half of Iran's total domestic energy consumption, while the remaining half is predominately based on oil consumption. Although Iran's natural gas production reached domestic consumption at 3.6 tcf in 2005, it is not possible to talk about a sustained balance. As shown in Table 3, production in 2007 remained behind consumption. Natural gas consumption is expected to grow by around 7%annually for the next decade.

Table 3. Total Natural Gas Figures of Iran, Source: EIA 2007

Natural Gas	Bcf	BcM
Production	3,563.00	101.00
Consumption	3,616.00	102.40
Net Exports/Imports (-)	-52.00	-1.47
Proved Reserves	974,000.00	27583.00

Parallel to the rapid growth in natural gas consumption, Iran's domestic natural gas pipelines have increased over recent years. Future pipelines, which will mainly form part of the ongoing Iran Gas Trunkline IGAT, might help Iran to feed domestic demand and become a net exporter. IGAT currently consists of five (1-5) large diameter gas pipelines from Kuzestan and Bushehr and will be developed by activation of 6 and 7 which are under construction as well as 8-10 which are planned. Besides domestic pipelines, Iran has a 745-mile pipeline to Turkey which can transport 1.4 Bcf/d. This pipeline is the first in the Caspian region to bypass Russia. Even though Iran currently sells natural gas to Turkey, it imports 800 Mcf/d gas from Turkmenistan via pipeline from the bordering Korpedze field to reach Kurtkui.[15] In spite of its huge gas reserves, Iran considers imports from Turkmenistan a worthwhile option partly because Iran could re-export it as electricity or other forms of energy to other countries. Gas from Turkmenistan could also satisfy domestic demand in its northeastern provinces. Currently, part of the gas imported from Turkmenistan is re-exported to Turkey

---

13 *Country Analysis Briefs: Iran.*

14 Karbassi *et al.* "Sustainability of Energy Production", p. 5174.

15 For natural gas trade between Turkmenistan and Iran, see, Mert Bilgin, "The Emerging Caspian Energy Regime and Turkey's New Role", *The Turkish Yearbook of International Relations*, No. 34, 2003, p. 19-20.

and the other part is used domestically. Furthermore, Iran's involvement in the Nabucco project, which aims at transporting Caspian and Middle Eastern gas to Europe, might develop relations with Turkmenistan, which is interested in by-passing the Caspian to reach European markets via Turkey.

The continued exploration and production of the offshore South Pars natural gas field in the Persian Gulf is a key part of Iran's energy sector development plan.[16] As cited by the Energy Information Administration Country Analysis Brief on Iran, Iran's natural gas exports will be minimal due to rising domestic demand even with future expansion and production from the massive South Pars project.[17]

The South Pars offshore fields are officially the largest natural gas reserves in the world. The growing importance of natural gas for both industrialized and industrializing countries make Iran a potential power with extensive capabilities in energy geopolitics. Iran's natural gas reserves and export potential is particularly important to satisfy the growing energy needs of the industrializing Asian states like China and India. The EU, in the mean time, might benefit from Iranian gas supplies to balance Russian dominance of European energy markets. Iran also means a lot to Turkey, not only in terms of common interests in further rapprochement, but also regarding Turkey's transit role between European markets and energy suppliers in the Caspian and the Middle East.[18] This is why the following sections will discuss the concerns and interests of these actors *vis-à-vis* Iranian energy policies.

Russia and Iran: Towards a Coordinated Energy Strategy?

Since they have almost half of the world natural gas reserves, Russian-Iranian relations lie at the heart of the energy geopolitics in Eurasia. The dynamics of recent energy geopolitics stretch well beyond the Eurasian space all the way to China and India in the east and to Europe in the west.

By signing a declaration with Kazakhstan and Turkmenistan on 12 May 2008 to upgrade and expand gas pipelines from Kazakhstan and Turkmenistan and by signing an agreement with Uzbekistan on 9 May 2008 to modernize the Turkmenistan-Uzbekistan-Kazakhstan-Russia pipeline, Russia secured the transportation of Turkmen gas to be bought up by Russia for a 25-year period. The

---

16 Mert Bilgin, "New Prospects in the Political Economy of Inner-Caspian Hydrocarbons and the Western Energy Corridor through Turkey", *Energy Policy*, Vol. 35, No. 12, December 2007, p. 6383.

17 *Country Analysis Briefs: Iran.*

18 Mert Bilgin, *Türkiye'nin Küresel Konumu*, İstanbul, IQ Kültür Sanat Yayıncılık, 2008, p. 331-338.

commitment of Turkmen gas to Russia has broader implications for energy geopolitics. First of all, the plans for the US-supported proposals for a trans-Caspian pipeline and the Nabucco pipeline had to be frozen for some time since the realization of these pipelines depended significantly on the availability of Turkmen and Kazakh gas.[19] This left Europe to search for other options for diversifying its gas imports, bringing Iran to the forefront. Iran appears as one of the most significant potential suppliers of the proposed Nabucco pipeline, which is intended to strengthen European energy supply security by reducing its absolute reliance on Russian gas, indeed some Central and Eastern European countries currently take almost 100%of their total gas imports from Russia.

It is probable that the Russian and Iranian search for a coordinated strategy over gas and oil exports may lead to them coordinating their energy policies for wider geopolitical purposes within the framework of their strategic cooperation. In this regard, it seems rational for Russia and Iran to cooperate and avoid competing with each other regardless of Iran's possible involvement in European markets. Particularly, Iran's rapprochement with Russia, its invitation to Russia's Gazprom to invest in Iran and Tehran's initiation of the Gas Exporting Countries Forum (GSCF), primarily involving Russia, Iran, Qatar and Algeria,[20] reflects Iran's strategic intention to cooperate with Russia. It is obvious that the GECF, almost as a gas OPEC, would control more than 70%of global gas reserves and about 40%of output, and therefore would dwarf the strategic concerns of the US and the EU. Even in an assumption suggesting no centralized regulation of gas prices, in the way that OPEC does for oil, Iran still sees extensive potential for a gas OPEC that would give it a strategic leverage in energy geopolitics.

Iran might become an important energy partner for Russia. The Iranian upstream oil and gas sector and Iran's energy ventures, such as pipeline projects, are very attractive for Russian oil companies seeking more investments abroad. Iran's geographical location is ideal as an export outlet for expanding Russian energy exports, particularly for developing the liquefied natural gas industry. However, through the pipeline that connects Turkmenistan to Iran and Turkey, which is the first pipeline in the Caspian region to bypass Russia, Iran has begun to compete for Russia's markets for natural gas. Similarly, in 1995 Armenia and Iran signed an agreement to establish the route of another pipeline between the two countries, the first phase of which was inaugurated on 18 March 2007. This 140 km. pipeline between Tabriz and the Armenian border transports 200 Mcf/d

---

19 M.K. Bhadrakumar, "Russia, Iran and Euroasian Energy Politics", *Japan Focus*, 23 December 2007, http://japanfocus.org/_M_K_Bhadrakumar-Russia__Iran_and_Eurasian_Energy_Politics, (Accessed on 10 September 2008).

20 "Gas Producers Dismiss Cartel Talk", *BBC News*, 9 April 2007, http://news.bbc.co.uk/1/hi/business/6538639.stm, (Accessed on 2 April 2008).

to Armenia in exchange for electricity. Originally, the pipeline was intended to reduce Yerevan's reliance on Russian gas.[21] Yet it is also part of a bigger project for the Iran-Armenia-Georgia-Ukraine-Europe gas pipeline, which aims to by-pass Russia. In this regard, by providing alternative sources for natural gas, Iran could compete for Russia's share of the natural gas market.[22]

For further cooperation between Iran and Russia, it is the most important consideration for the Kremlin that Iran's energy policy should not come into conflict with its vital interests. In this regard, Russia is pleased at the present orientation of Iranian energy exports toward the Asian market, which eases the competition from China for gaining access to Central Asian energy producers and reduces the potential for Iranian gas exports to Europe. As a consequence of this interest, Russia is keenly promoting the Iran-Pakistan-India (IPI) pipeline project[23] with Gazprom showing interest not only as a contractor but also as an investor.

Both Russia and Iran have become increasingly alarmed at the West's attempts to bypass them in the quest for oil. Moscow wanted to control the Baku-Tbilisi-Ceyhan (BTC) pipeline, but it did not happen. Consequently, in contrast to the US-supported East-West pipelines in the Caspian Sea region, including the Baku-Tbilisi-Ceyhan, the Baku-Supsa and the Baku-Tiblisi-Erzurum; Iran, together with Russia and China, are looking to other routes from the north, east and south. The proposed Kazakhstan-Turkmenistan-Iran pipeline is one of the options. Through the proposed pipeline, Iran is planning to import natural gas from Kazakhstan and Turkmenistan for domestic use and increase its export capacity, which is beneficial for the energy deficit actors like the EU, India and China in the long run.

European Energy Security and Iranian Gas

On the demand side of the energy equation, the EU is the world's second largest energy market after the US with over 450 million consumers. Thus, sustainable, competitive and secure energy is considered as one of the basic pillars of Euro-

---

21 "Iran, Armenia Open Gas Pipeline", *BBC News*, 19 March 2007, http://news.bbc.co.uk/1/hi/world/europe/6466869.stm, (Accessed on 1 April 2008).

22 Maleki, "Energy Supply and Demand in Eurasia", p. 109.

23 For the details of IPI projects, see, Shiv Kumar Verma, "Energy Geopolitics and Iran-Pakistan-India Gas Pipeline", *Energy Policy*, Vol. 35, 2007, p. 3280-3301; S. Pandian, "The Political Economy of Trans-Pakistan Gas Pipeline Project: Assessing the Political and Economic Risks for India", *Energy Policy*, Vol. 32, 2005, p. 659-670; Elizabeth Mills, "Chasing Pipeline Dreams", *The World Today*, Vol. 64, No. 7, 2008, p. 23-24.

pean energy security.[24] Even though the starting point of European energy security policy has to deal with demand management, diversity in energy supply sources has been the second driver of the European energy security strategy. Diversity means both diversity in energy suppliers and diversity in energy transport, distribution and import routes. On the supply side, as predicted in the 2006 Green Paper entitled *A European Strategy for Sustainable, Competitive and Secure Energy,* in the next 20 to 30 years, around 70%of the EU's energy requirements will be met externally.[25] The rising import dependency of the EU on external suppliers has highlighted the Union's vulnerability with regard to its energy supplies.

Russia currently provides Europe with 33%of its oil and 40%of its natural gas. When Russia stopped the flow of gas into the Ukraine and Belarus in January 2006 and January 2007 respectively, the need to ensure energy security was highlighted.[26] Since both the Ukraine and Belarus are transit states for many European countries, their disputes with Russia led to supply crises in Europe. These disputes over natural gas prices further highlighted the risk of dependence on a few energy suppliers. These incidents were a kind of wake-up call for the EU. As stated by Energy Commissioner Andris Piebalgs, "[defining] an energy security policy has been one of the key objectives, together with sustainability and competitiveness, which has driven the recent move towards a new European Energy Policy."[27] Consequently, energy security has emerged as one of the important security issues for the EU. The European Council reacted to the energy security issue by proposing a new Energy Plan for Europe (EPE) in April 2007, which will eventually lead to a Common Energy Policy (CEP). On 23 January 2008, the European Commission released a plan to cut CO_2 emissions by at least 20%by 2020 and to set a binding 20%target for the use of renewable energy sources.[28] To ensure the security and sustainability of energy supplies for the

---

[24] *A European Strategy for Sustainable, Competitive and Secure Energy,* European Commission Green Paper, Brussels, 8.3.2006 COM (2006) 105 final, http://ec.europa.eu/energy/green-paper-energy/doc/2006_03_08_gp_document_en.pdf, (Accessed on 13 October 2008).

[25] Ibid.

[26] Paul Belkin, *The European Union's Energy Security Challenges*, Congressional Research Service Report for Congress, 30 January 2008, http://www.fas.org/sgp/crs/row/RL33636.pdf, (Accessed on 15 September 2008).

[27] Andris Piebalgs, Energy Commissioner, *European Energy Security Policy,* Speech at the European Business Summit, Brussels, 21 February 2008, http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/08/96&format=HTML&aged=0&language=EN&guiLanguage=en, (Accessed on 8 April 2008).

[28] Jose Manuel Barosso, President of European Commission, *Building a Global Low-carbon Economy*, Press Release, Brussels, 23 January 2008, http://ec.europa.eu/commission_barroso/president/focus/energy-package-2008/index_en.htm, (Accessed on 13 October 2008).

Energy Plan for Europe, the EU plans to negotiate energy effectively as a united bloc, while diversifying supply and promoting competition.

The uncertainty of gas imports from Russia and the deficit between rising gas consumption and declining production in Europe (including that of Norway) have made the European states seek other supply options besides Russia. Consequently, the EU states are increasing their imports from Algeria, Libya and Egypt through existing and new pipelines.[29] Furthermore, Iran appears as another attractive option despite the US position. Thud, Iran is once more considering taking part in the Nabucco gas pipeline project, which calls for a 2050-mile pipeline connecting Iran and other Caspian states to the EU through Turkey and Austria. Construction is slated to start in 2010, and the entire project will cost an estimated €7.9 billion with a capacity to transport 31 bcm/y.[30]

The deal between Turkey and Iran raises hopes for the realization of the Nabucco Project. In July 2007, Turkey and Iran signed a Memorandum of Understanding to import natural gas from Iran's South Pars field. Turkey, with this agreement, accepted that the state-owned Turkish Petroleum Corporation would invest $3 billion for the construction of operating equipment. Furthermore, Turkish and Iranian enterprises are expected to develop joint ventures for the transport of the gas via a pipeline system that will extend to eastern Turkey.[31] The Turkish Energy Ministry launched the agreement in spite of objections from the US. If the project gets under way, the Turkish Petroleum Corporation will become liable to US sanctions under the 1999 Iran Sanctions Act that takes punitive measures against foreign investments over $20 million.[32]

The realization of the Nabucco project, however, is still problematic because of the uncertainty about supplies. The European Commission's Statement on Middle Eastern gas excluded Iran due to the objections expressed by the US, which suggested that the EU should consider North Iraqi Al Anfal gas resources instead.[33] However, Iran might become a supplier as the initiatives to launch an agreement date back to 1999. The European Commission and Iran formed a working group on energy in May 1999 and the two parties created another working group to deal with trade and investment issues. Also in 1999, the EU's Inter-

---

29 Mert Bilgin, "European Energy Grid and Gas Extensions in Euroasia and the Middle East", *Energy Policy*, (forthcoming).

30 *Nabucco Pipeline Project, Project Description,* http://www.nabucco-pipeline.com/project/project-description-pipeline-route/project-description.html, (Accessed on 13 October 2008).

31 Thomas Kreyenbűl, "Iran-Turkey Gas Deal Gives New Hope for EU Nabucco Pipeline", *World Politics Review*, 9 October 2007, http://www.worldpoliticsreview.com/articlePrint.aspx?ID=1220, (Accessed on 5 April 2008).

32 "Energy Supply and Demand in EuroAsia", p. 111.

33 Ibid.

state Oil and Gas Transport to Europe programme (INOGATE) established an umbrella agreement for an institutional framework to optimise the use of energy resources to reduce investment risks, increase returns and promote management practices that correspond with European standards on safety, the environment and trade. Iran was the only non-signatory of ECT to be invited to participate in INOGATE. As a consequence of their energy security interdependence with Iran, the EU member states have initiated energy investment and cooperation with Iran in spite of the US-imposed restraints on trade with Iran. As Simon Henderson, Director of the Gulf and Energy Policy Program at the Washington Institute for Near East Policy points out; Europe and Iran are becoming increasingly interdependent within the region through the trans-Turkey pipeline bringing Iranian gas directly to Europe.[34] Within this context, the EU has struggled to formulate a coherent policy that highlights Iran's objectionable behaviour while at the same time maintaining an open political and strategic dialogue that does not isolate Iran and further escalate the tensions between the West and the Islamic Republic.

Well aware of this strategic situation, Iran attempted to attract the EU as a strategic partner not just in the energy sector but also in other security issues. Addressing a session of the European Parliament in Brussels on 23 January 2008, Saeed Jalili, Iran's top nuclear negotiator and the Supreme National Security Council secretary, called for energy cooperation between Iran and the EU saying, "Iran's large energy reserves and the world's huge demands for energy make cooperation between Iran and the EU essential."[35] Furthermore, as is repeatedly underlined by Iranian experts and officials, Iran is an important player and sanctions against Iran clash with the EU energy security strategy.

Obviously, Iran's natural gas markets are not limited to Europe but include industrializing Asian countries like India, Pakistan, and China as potential long-term markets. The growing demand from Asia for natural gas is paving the way for an intense competition to secure Iranian gas resources. The real problem for the EU regarding Iran is not only whether Iran will sell gas to Europe but also whether Iran might be able to sell South Pars gas to India.[36]

---

[34] Simon Henderson, "Energy Security and Iran: Assessing the Transatlantic Divide", *EurActiv EU News, Policy Positions & EU Action Online*, 18 June 2007, http://www.euractiv.com/en/energy/energy-security-iran-assessing-transatlantic-divide/article-164681, (Accessed on 3 April 2008).

[35] "Iran Ready for Energy, Security Cooperation with EU", *Tehran Times*, 24 January 2008, http://www.tehrantimes.com/index_View.asp?code=161863, (Accessed on 6 April 2008).

[36] Bilgin, "European Energy Grid".

The Growing Economies of Asia and Iranian Gas

One of the most important factors that will decisively determine Iran's position as an energy superpower is the future direction of the Iran-Pakistan-India-China-Russia scenario which links Iran to the east, especially to India and China. Iran is a major energy source and a suitable regional market for China and India. Fuel consumption in China has increased tremendously over the past decade. Consequently, Chinese officials have signed a $100 billion contract to purchase crude oil and natural gas from Iran for a period of 25 years.[37]

Parallel to its growing economy, India's energy demand has been growing dramatically since its own supplies are running short. Currently, India imports 70%of its oil and gas. As a result, India has intensified its search for other energy resources but encountered competition from China. India's attempts to secure supplies from Bangladesh and Burma have failed. India had to turn to Iran. Similarly Pakistan confronts difficulties in meeting growing demand; hence, Pakistan is also keen to secure long-term energy supplies. Most of the experts do not expect an India-Pakistan agreement on energy due to border issues, political problems and terrorist attacks based on religious atrocities in Pakistan extensively related to Afghanistan.[38] Apart from the US' objections, there are clashing politico-strategic objectives among participating countries. India's economic interests in the gas pipeline project are not in congruence with the strategic objectives of Iran and Pakistan.[39] The divergent interests among Iran, Pakistan and India are likely to cause delays in the realization of the pipeline project.

India and Pakistan's energy demands, along with the Iranian leadership's gas export policy to prioritise Asian markets, have paved the way for the development of the IPI pipeline project. IPI appears as the most controversial pipeline proposal to transport Iranian natural gas south to the Indian subcontinent. It is a $7.5 billion scheme that runs from Iran's South Pars gas field across Pakistan and into India. If construction began immediately in 2009, it could be supplying by 2012. In July 2007, President Musharraf of Pakistan and Prime Minister Singh of India were invited by Iran to discuss the pipeline project but the final arrangement has not been announced.[40] China, originally proclaimed its interest in the IPI, but would later drop it as a result of technical difficulties on the one hand and the transport difficulties of passing through Pakistan on the other.

---

37 Maleki, "Energy Supply and Demand in EuroAsia", p. 107.

38 Especially, Verma, "Energy Geopolitics", p. 3298-3301; Pandian, "The Political Economy", p. 667-670.

39 Pandian, "The Political Economy", p. 664.

40 Mills, "Chasing Pipeline Dreams", p. 24.

Russia announced its interest and support for the IPI so as to jeopardize the US' geopolitical stance. Russia also considers IPI as an occasion to boost its energy investments in Iran. Moreover, IPI might help Russia to keep Iran away from European markets. In the meantime, the US strongly opposes IPI, which defies its policy to isolate Iran. As a result of US pressure, India has found itself caught between its growing strategic relationship with the US and its energy need.[41]

In this regard, the US supports another pipeline scheme that would run from Turkmenistan into Afghanistan across to Pakistan and finally into India (TAPI). If the parties immediately reach an agreement, the construction could start by 2010 with gas flowing five years later. Just like IPI, TAPI also faces serious security problems since the line has to cross the unstable regions of Kandahar in Afghanistan and Balochistan in Pakistan.

The Question of the Iranian Nuclear Programme

Iran, as a developing country, has a high level of domestic consumption and an incremental trend of energy intensity. The population has doubled during the last three decades and reached 67 million. As stated by Amir Hossein Ghorashi from the Atomic Energy Organization of Iran, the final energy consumption has increased to an annual rate of 5.9%due to cheap energy prices in the domestic market being boosted by the high rate of population increase. Accordingly, annual electricity production increased by nearly 8.3%for the period 1982–2004. While the size of population has increased by about 1.59 times during the same period, the final energy consumption is more than 3.5 times higher and the electricity production has grown 5.75 fold to meet the existing demand.[42] The high domestic consumption levels mean less oil and natural gas being allocated for export. Aware of the significance of the oil and natural gas exports, both for its economic development and its position as an energy superpower, the Iranian government initiated a sustainable energy policy that aims at satisfying domestic demand through alternative energy sources like renewable energy resources and nuclear power.

As far as Iran's nuclear programme is concerned, the government's insistence on its development regardless of international regulations has caused concerns about energy security as well as regional stability. Iran's nuclear development programme, whether be it for peaceful or military reasons, will keep on having significant repercussions on regional and global energy geopolitics.

---

41 Ibid.

42 Amir Hossien Ghorashi, "Prospects of Nuclear Power Plants for Sustainable Energy Development in Islamic Republic of Iran", *Energy Policy*, Vol. 35, 2007, p. 1644.

Iran's intention of acquiring nuclear power is not a recent phenomenon. During the mid 1970s, a major nuclear power programme was planned and construction of two nuclear power plants started at Bushehr. The nuclear power plant construction programme was suspended and construction activities were halted by the ayatollahs that seized power in 1979, at a fairly advanced stage of the civil work for the two units.[43] Only after the end of the Iran-Iraq war, in 1991, did Iran resumed the nuclear power project with a bilateral agreement with China for the supply of two 300 MW(e) PWR units of Chinese design, similar to the Qinshan power plant,[44] albeit claiming it to be for peaceful purposes. The agreement was confirmed in 1993 but never realized. In 1994, the Ministry of Atomic Energy of the Russian Federation (MINATOM) and the Atomic Energy Organization of Iran (AEOI) agreed on the construction of the Bushehr nuclear power plant unit 1 (BNPP-1) with a 1000 MW(e) PWR unit of the WWER-1000 type using mostly the infrastructure already in place. It was planned that the Bushehr Nuclear Power Plant would provide 1000 MW(e) to the national electrical grid and would provide about 4%of the total national electricity generation capacity. Besides the completion of BNPP-1, the work-plan of Unit Number 2 was being envisaged.[45] In September 2008, the Russian company that built the power plant at Bushehr reiterated its commitment to finish the project.[46] Iran has also turned to China, Pakistan and North Korea for nuclear technology and assistance claiming that the building of nuclear power plants would help it to diversify its energy portfolio.

After the election of the hard-line Tehran mayor Mahmoud Ahmadinejad as President in June 2005, Iran resumed nuclear research and development including enrichment. Since then, Iran has become one of the global concerns by pursuing its systematic and decisive moves towards uranium enrichment as a result of its key position in global energy politics. Even though Iranian officials repeatedly assert that their nuclear programme is peaceful, their efforts to develop enrichment capabilities without notifying the International Atomic Energy Agency (IAEA) and Iran's objections to IAEA inspections raised doubts about its intentions. Hence, the international community's concerns about Iran's enrichment programme would create a complete nuclear fuel cycle that could be used to develop nuclear weapons.

---

43 *Nuclear Weapons: Iran*, http://www.globalsecurity.org/wmd/world/iran/nuke.htm, (Accessed on 13 October 2008).

44 *IAEA Country Nuclear Power Profiles: Iran*, 2004, http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2004/CNPP_Webpage/countryprofiles/Iran/Iran2003.htm, (Accessed on 11 September 2008).

45 Ibid.

46 "Russia will Complete Iran Nuclear Plant", *AFP*, 2 September 2008, http://afp.google.com/article/ALeqM5hPktVZjPGdR70jJBLuTvB7K6QC2Q, (Accessed on 12 September 2008).

European and Russian diplomatic efforts to persuade Iran to agree to abstain from a nuclear fuel cycle, either by limiting its program or letting Russia 'host' the Iranian enrichment programme, have so far been unsuccessful. The UN Security Council adopted resolution 1696 on 31 July 2006. This makes it mandatory for Iran "to take the steps required by the International Atomic Agency Board of Governors…which are essential to build confidence in the exclusively peaceful purpose of its nuclear program..." [47] Despite the resolution, Iran made it clear that it had no intention of suspending uranium enrichment activities as was demanded by the UN.

Even though the deadline given to Iran expired at the end of August 2006, the international community failed to force Iran to make a choice because of the general indecisiveness about the application of economic sanctions against Iran. It was feared that the application of economic sanctions against Iran would provoke Iran to suspend oil exports and disrupt oil traffic in the Straits of Hormuz, through which pass 40%of the world's oil trade. In such a case, the price of oil might rise drastically and cause damage to Western and Asian economies.[48] Moreover, as mentioned above, Russia and China's investments in Iran's oil infrastructure split UN Security Council members. For this reason, according to Emily B. Landau, "… the issue of sanctions was merely hypothetical, it dissolved as soon as the prospect became more real, and Europeans, like the Russians and Chinese, had to calculate, the impact of sanctions on their own economic interest."[49]

It is important to note that it is not yet certain whether the Iranian nuclear programme is peaceful or not. In spite of the Iranian leadership's tensions with the IEAA and the US administration, no hard evidence has been found that Iran will proceed to the production of nuclear weapons. Another issue regarding the negative effects of a possible Iranian nuclear proliferation on the global energy geopolitics is its regional spillover effect. Regional states have two alternatives faced with Iran's nuclear plans: either they can participate in arms control efforts, or they can join the nuclear club. It is clear that, as a result of the failing international efforts to stop Iran, most of the regional states appear to be pursuing the second alternative. The increasing prevalence of nuclear technology paved the way for the concerns about regional tensions and highlighted the ab-

---

47 *UN Security Council Resolution 1696*, New York, 31 July 2006, http://www.cfr.org /content/publications/attachments/SC1696.pdf, (Accessed on 7 April 2008).

48 Amon Gutfeld, *Is Iran's 'Oil Weapon' A Doubled-Edged Sword?,* Tel Aviv, Institute for National Security Studies Insight No. 9, 2007, p. 1.

49 Emily B. Landau, *After the 31 August Deadline: The Fading International Resolve to Confront Iran*, Tel Aviv, Tel-Aviv Notes No. 31, 2006.

sence of a *security community* in the region. The appeal of nuclear technology represents a multifaceted challenge in the region.

According to the NPT, signatory states have the right to make use of nuclear technology and materials for the development of civilian nuclear energy programmes, such as using nuclear reactors for energy generation, as long as they can demonstrate that these programmes are not being used for the development of nuclear weapons.[50] Given the enmity and mistrust among regional actors, the encirclement by nuclear arsenals, namely China, India, Pakistan and Israel, and the possibility of Iran acquiring nuclear weapons would encourage proliferation in the region. Within this context, following the Iranian example, Saudi Arabia recently started to hire atomic contractors, to buy nuclear hardware and build support for a regional system of reactors. Turkey too is preparing for its first nuclear plant while Egypt has announced plans to build one on its Mediterranean coast. Within this context, roughly a dozen states in the region have recently turned to the IAEA in Vienna for help in starting their own nuclear programmes. Even though all those states declared their intentions to be peaceful, to use nuclear power to satisfy their domestic energy needs, the advanced Iranian nuclear program and reports about other regional states embarking on civilian nuclear programmes have created concerns about the prospect of further nuclear weapons proliferation throughout the region. Officials from 21 governments in and around the Middle East warned, at a meeting of Arab leaders in March 2007, that Iran's drive for atomic technology could result in the beginning of "a grave and destructive nuclear arms race in the region."[51] The imminent prospect of several regional states developing nuclear energy is a security challenge that comprises both environmental and military aspects. Hence, the consequences of a region-wide nuclear proliferation in the Middle East would pose an existential threat to global and regional energy politics since the security of regional energy supplies and infrastructures is crucial for both the Western and Asian consumers of Middle Eastern oil and natural gas.

Last but not least, as underlined by several Iranian officials, the Iranian nuclear programme may end up being a peaceful programme after all. This path comprises a variety of scenarios. First of all, it is highly probable that if Iran starts to satisfy domestic energy needs through nuclear energy, it could help to increase Iranian gas and oil exports to third parties. In general, using nuclear fuels involves cutting the import costs of alternative fuels and also means cutting the share of energy needs that must be met by oil and gas. 86.5%of the total in-

[50] Article IV of Treaty on the Non-Proliferation of Nuclear Weapons, 22 April 1970, http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf, (Accessed on 13 October 2008).

[51] "Eye on Iran, Rivals Pursuing Nuclear Power", *New York Times*, 15 April 2007.

stalled capacity of power plants in Iran uses fossil fuels, which is not economically sustainable and causes long-term environmental degradation. As stated by Ghorashi, "the diversification of energy generation by various energy sources is a secure method of planning national energy policy, in which the NPP hold a substantial unavoidable share."[52] To secure Iran's sustainable energy development, a 15,000 MW nuclear power plant is projected to be constructed within 30 years. According to Ghorashi, this prediction well-justifies the Iranian parliament's resolution to require the government to plan for the installation of a 20,000 MW nuclear power plant within 30 years.[53] In this case, replacing fossil fuels with nuclear fuels will help Iran to generate more capacity for oil and natural gas exports and to benefit from economic development. In sum, a peaceful nuclear programme, which aims at constructing nuclear power plants to generate energy for domestic use, will be the best-case scenario. In this case, Iran will have more surplus oil and natural gas reserves to ease both Asian and European states' concerns about diversifying their energy suppliers.

Second, as a result of the diplomatic approach to Iran and to prevent tensions with the US throughout the nuclear negotiations, Iran might see the EU as one of its most preferred energy partners. Furthermore, the confirmation of Iran's nuclear programme as a peaceful one will pave the way for the end of economic sanctions and ease the US' European and Asian allies' dilemma of purchasing Iranian oil and gas at the expense of their relations with the US.

Finally, as a consequence of the growth in its oil and natural gas exports, Iran will enjoy its new position as an energy superpower alongside Russia and it will become a more credible regional power in balancing the US involvement in the Middle East.

Conclusion

Iran's potential as a supplier of oil and gas has triggered a geopolitical competition between Asia and Europe to secure oil and gas exports as well as over the routes of pipelines. While the extent of Iran's trade in hydrocarbons constitutes one of the main stimuli for large and rapidly industrializing countries, including China, India and Russia, to back Iran in global politics, European states have faced severe competition in securing their access to Iranian gas. The competition gives Iran strategic leverage over the US, which has been trying hard within the international community to isolate Iran. This leverage has already been demonstrated by Russia and China's siding with Iran over the nuclear issue. The US' containment policy that aimed at isolating Iran and

[52] Ghorashi, "Prospects of Nuclear Power Plants", p. 1647.
[53] Ibid.

cutting its links with the international community has not succeeded thanks to Iran's rich energy resources. On the contrary, Iran's geopolitical position has been strengthened.

Iran is one of the largest exporters of crude oil in the world and remains as a net petroleum products exporter due to large exports of residual fuel oil. In the face of the depletion of its oil reserves, Iran has found itself in need of foreign investment to develop both onshore and offshore oil reserves, particularly in the Caspian Sea. As the US sanctions have prevented large amounts of foreign investment in the Iranian oil sector, Iranian leaders have found ways and routes in the Caspian to escape from US pressures and to encourage foreign investors. Its possession of huge natural gas reserves has been used for attracting foreign investment in the field development business. In this regard, Iran has concluded a series of deals, rewarding liquefied natural gas buyers with participation in the development of its oil fields. These include Iran's deal with Brazilian Petrobras and with India to export liquefied natural gas. Furthermore Iran's growing oil trade with China paves the way for Iran to retain its power in the oil markets.

As far as natural gas is concerned, Iran holds the world's second largest reserves of natural gas after Russia. The South Pars offshore fields are officially the largest natural gas reserves in the world, but almost 62%of Iranian natural gas reserves have not yet been developed. The geopolitics of natural gas has more complications than oil. The growing importance of natural gas for both industrialized and industrializing countries gives Iran considerable potential power and influence in energy geopolitics. Iran's natural gas reserves and export potential have become particularly important for the industrializing Asian states, like China and India, to satisfy their growing energy needs. The EU, the world's second largest energy market, wishes to benefit from Iran to balance Russian dominance of European energy markets. Iran is also important for Turkey given its transit role between European markets and energy suppliers in the Caspian and the Middle East.

It is probable that the two natural gas giants, Russia and Iran, would search for a coordinated strategy over gas exports for wider geopolitical purposes within the framework of their strategic cooperation. In this regard, Russia is pleased at the present orientation of Iranian energy exports toward the Asian market, which eases the competition from China for gaining access to Central Asian energy producers and reduces the potential for Iranian gas exports to Europe. However, Iran's attempts to compete for Russia's markets for natural gas in Europe based on the pipeline that connects Turkmenistan to Iran and Turkey might irritate Russia in the long run.

Aware of the strategic importance of the oil and natural gas exports, the Iranian government initiated a sustainable energy policy that aims at satisfying domestic demand through alternative energy resources, including nuclear power. Until now, it was not certain whether the Iranian nuclear programme was peaceful or not. Whether be it for peaceful or military reasons, Iran's nuclear programme will have significant repercussions on regional and global energy geopolitics. The most dangerous scenario is that the possibility of Iran acquiring nuclear weapons would encourage proliferation in the region. It is obvious that the consequences of a region-wide nuclear proliferation would imply an existential threat to global energy politics since the security of regional energy supplies and infrastructures is extremely important for the consumers of Middle Eastern energy resources. On the other hand, it is probable that if Iran starts to satisfy domestic energy needs through nuclear energy, it could help to increase Iranian gas and oil exports to third parties. In this case, replacing fossil fuels with nuclear fuels will help Iran to have more surplus oil and natural gas reserves to ease both Asian and European states' concerns about diversifying their energy suppliers, which will put Iran among the energy superpowers alongside Russia.

To sum up, Iran's rapprochement with Russia and China, its invitation to Russia's Gazprom and Chinese companies to invest in Iran and Tehran's initiation of the Gas Exporting Countries Forum (GSCF), reflects Iran's intention to consolidate its geopolitical stance and split the UN Security Council at the expense of US interests. If Iran, Russia and China manage to deepen their cooperation in energy they would explicitly come closer to their search for a multi-power World system by degrading the currently all-pervading influence of the US.

Bibliography

A European Strategy for Sustainable, Competitive and Secure Energy, European Commission Green Paper, Brussels, 8.3.2006 COM (2006) 105 final, http://ec.europa.eu/energy/green-paper-energy/doc/2006_03_08_gp_document_en.pdf.

Barosso, J.M., *Building a Global Low-carbon Economy*, Press Release, Brussels, 23 January 2008, http://ec.europa.eu/commission_barroso/president/focus/energy-package-2008/index_en.htm.

Belkin, P., *The European Union's Energy Security Challenges*, Congressional Research Service Report for Congress, 30 January 2008, http://www.fas.org/sgp/crs/row/RL33636.pdf.

Bhadrakumar, M.K., "Russia, Iran and Euroasian Energy Politics," *Japan Focus*, 23 December 2007.

Bilgin, M., "European Energy Grid and Gas Extensions in Euroasia and the Middle East," *Energy Policy*, (forthcoming).

Bilgin, M., *Türkiye'nin Küresel Konumu*, İstanbul, IQ Kültür Sanat Yayıncılık, 2008.

Bilgin, M., "New Prospects in Political Economy of Inner-Caspian Hydrocarbons and Western Energy Corridor through Turkey," *Energy Policy*, Vol. 35, No. 12, December 2007, pp. 6383-6394.

Bilgin, M., "The Emerging Caspian Energy Regime and Turkey's New Role," *The Turkish Yearbook of International Relations*, No. 34, 2003, pp. 1-22.

Clawson P. and Rubin, M., *Eternal Iran: Continuity and Chaos*, New York, Palgrave MacMillan, 2005

Country Analysis Briefs: Iran, US Energy Information Administration, Washington DC., October 2007, http://www.eia.doe.gov/emeu/cabs/Iran/pdf.pdf.

"Eye on Iran, Rivals Pursuing Nuclear Power," *New York Times*, 15 April 2007.

"Gas Producers Dismiss Cartel Talk," *BBC News*, 9 April 2007.

Ghorashi, A.H., "Prospects of Nuclear Power Plants for Sustainable Energy Development in Islamic Republic of Iran," *Energy Policy*, Vol. 35, 2007, pp.1643-1647.

Gutfeld, A., *Is Iran's 'Oil Weapon' A Doubled-Edged Sword?*, Tel Aviv, Institute for National Security Studies Insight No. 9, 2007.

Henderson, S., "Energy Security and Iran: Assessing the Transatlantic Divide," *EurActiv EU News, Policy Positions & EU Action Online*, 18 June 2007.

IAEA Country Nuclear Power Profiles: Iran, 2004, http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2004/CNPP_Webpage/countryprofiles/Iran/Iran2003.htm

"India and Iran in Gas Export Deal," *BBC News*, 7 January 2005.

"Iran, Armenia Open Gas Pipeline," *BBC News*, 19 March 2007.

"Iran Ready for Energy, Security Cooperation with EU," *Tehran Times*, 24 January 2008.

"Iranian Energy Deals Made or in Process," *Global Research*, 22 December 2007

Karbassi, A. R. et al, "Sustainability of Energy Production and Use in Iran," *Energy Policy*, Vol. 35, 2007, pp. 5171-5180.

Kreyenbűl, T., "Iran-Turkey Gas Deal Gives New Hope for EU Nabucco Pipeline," *World Politics Review*, 9 October 2007.

Landau, E.B., *After the 31 August Deadline: The Fading International Resolve to Confront Iran*, Tel Aviv, Tel-Aviv Notes No. 31, 2006.

Maleki, A. "Energy Supply and Demand in Eurasia: Cooperation between EU and Iran," *The China and EuroAsia Forum Quarterly*, Vol. 5, No. 4, 2007, p.103-113.

Mills, E., "Chasing Pipeline Dreams," *The World Today*, Vol. 64, No. 7, 2008, p. 23-24.

Nabucco Pipeline Project Description, http://www.nabucco-pipeline.com/project/project-description-pipeline-route/project-description.html.

Nuclear Weapons: Iran, Global Security.org, http://www.globalsecurity.org/wmd/world/iran/nuke.htm.

Pandian, S., "The Political Economy of Trans-Pakistan Gas Pipeline Project: Assessing the Political and Economic Risks for India," *Energy Policy*, Vol. 32, 2005, p. 659-670.

Piebalgs, A., European Energy Security Policy Speech at the European Business Summit, Brussels, 21 February 2008, http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/08/96&format=HTML&aged=0&language=EN&guiLanguage=en.

"Russia will Complete Iran Nuclear Plant," *AFP*, 2 September 2008.

Treaty on the Non-Proliferation of Nuclear Weapons, 22 April 1970, http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf.

UN Security Council Resolution 1696: Iran, New York, 31 July 2006, http://www.cfr.org/content/publications/attachments/SC1696.pdf.

US Energy Information Administration, Iran: Background, Washington DC., October 2007, http://www.eia.doe.gov/emeu/cabs/Iran/pdf.pdf.

Verma, S.K., "Energy Geopolitics and Iran-Pakistan-India Gas Pipeline," *Energy Policy*, Vol. 35, 2007, pp. 3280-3301.