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SANCTIONS AND IRANIAN ENERGY EXPORTS **AS CRUDE OIL SALES DECLINE NEW OPPORTUNITIES ARISE**¹

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¹ Part of the results of this paper will be presented at the 18th Salzburg REFORM group meeting, August 26-30 2013.

Resumo: Apesar das sanções que lhe têm sido impostas o Irão tem sabido diversificar as suas parcerias internacionais diminuindo a sua dependência das exportações do petróleo.

Palavras-chave: Irão / Política energética / Gás natural / Sanções

Abstract: The Iranian draft budget for the 2013/2014 period assumed a 40% decline in oil revenues taking into account the economic consequences of international sanctions since 2012 that have targeted Iran's oil and natural gas sector. Yet, Iran is making plans to boost its energy exports to circumvent Western sanctions and ease its losses. Sanctions were not an unexpected outcome of the previous negotiations on Iran's nuclear program and as such Iran has been building non-Western and regional ties to increase its options. These include the strategic investment in electricity imports in neighboring countries as well as the construction of new grids to these areas, the expansion of natural gas exports and the change of crude oil imports. This paper seeks to argue that although the sanctions have reduced the immediate revenues of the government, particularly through decreased investments and relations to the West. New opportunities have been sought and groomed since 2009 to balance out these losses and diversify its energy export dependency.

Key-words: Iran / Energy policy / Natural gas / Sanctions.

I. Introduction

The Iranian budget of 2013/2014 projects a 40% decline in oil revenues compared to the previous year.² This is largely due to the tightened European and U.S. sanctions since the beginning of 2012 that have halted crude oil exports towards Europe and pressured U.S. allies to reduce Iranian crude oil imports. The first set of recent crude oil related sanctions from the United States were imposed on 31 December 2011. The European Union adopted a similar embargo in January 2012, which took effect in 1 July 2012. The U.S. sanctions also determined punitive measures against all those countries which do not “significantly reduce” their crude oil imports from the Islamic Republic of Iran.³ How significant these reductions have to be has not been officially quantified.

As the sanctions on Iranian crude oil imports impact consumer countries giving them little opportunity to replace the imports with the same quality crude, the United States has introduced waivers for some countries that require these imports and do not want to risk being cut off from the U.S. financial system. The waivers are applicable for a 180-day period and allow currently 9 countries to purchase – while continuously reducing – crude from Iran.⁴ The newest set of waivers was passed in June 2013 for China, India and South Korea, Malaysia, Singapore, South Africa, Sri Lanka, Turkey and Taiwan.⁵ Iranian imports in April and May 2013 suggest an increase from the average low of 2012 crude oil imports. Although at first glance the economic consequences of the sanctions deem the international sanctions highly effective, a second look on Iran’s energy export strategy since 2009, however, show that Iran has taken measures to buffer the hit of international sanctions.

2 L. Nasser, “Iran to Boost Gas Exports in Efforts to Cut Oil Sales Reliance,” *Bloomberg*, April 7 2013, <http://www.bloomberg.com/news/2013-04-07/iran-to-boost-gas-exports-in-efforts-to-cut-oil-sales-reliance.html> (accessed June 22 2013).

3 Steven Blockmans & Stefan Waizer, “E3+3 coercive diplomacy towards Iran: Do the economic sanctions add up?” *CEPS Policy Brief*, No. 292, June 6 2013, p. 3.

4 Waivers for Japan and 10 European countries were approved earlier in 2013; new waivers for 9 other countries were approved in June 2013.

5 Roberta Rampton; Timothy Gardner, “U.S. renews Iran sanctions waivers for China, India and others.” *Reuters*, June 5 2013, <http://www.reuters.com/article/2013/06/06/us-usa-iran-sanctions-idUSBRE9541DT20130606> (accessed July 27 2013).

The economic pressure on Iran with the break in its crude oil export revenues was to bring the country to the negotiation table on its nuclear program. Other consequences have been “increased corruption, rent-seeking, and illegal trade in the country by reducing the inflow of petrodollars and decreasing foreign exchange reserves.”⁶ In response the Iranian government has taken steps to substitute oil revenues with tax revenues in the fiscal 2013 draft budget.⁷ But most importantly, in recent years Iran has sought diversification in both its natural gas sector and electricity sector – investing into new infrastructure, seeking new export markets and expanding existing routes. Closer relationships with neighboring countries has been fundamental in shaping an alternative for Short-term solutions are regional solutions for Iran, away from Western control and thus undermining the western pressures. Although the current volumes of exports and generated revenue are not far from the same level as previous crude oil sales, the strategic value and the consequences of a reorganization of Iran’s energy exports holds fundamental consequences not only for targeted Western sanctions, but the general political approach towards Iran. Particularly, with the election of Hassan Rouhani as president in the June 2013 election and a government change in August 2013, new opportunities for collaboration between Iran and the international community may emerge, requiring also a different policy approach towards Iran.

This paper is divided into three main section analyzing recent developments in Iran’s crude oil, natural gas and also electricity exports. It focuses on the evolution of partnerships outside of Western markets to create a more diversified export base within the energy sector and certainly less reliable on Western markets. In consequence, however, sanctions are not effectively undercutting Iranian government revenues sufficiently to force the country into a change of policy on its nuclear program. Instead, the pursuit of a policy of diversifying energy export markets is another key part in Iran’s strategy to manifest itself regionally as a key player.

Crude oil

Historically, U.S. sanctions have targeted the Iranian crude oil sector because of its national importance. Oil exports made up approximately 80% of total export earnings and 50 to 60% government revenue in 2011 – a 40% loss has far reaching consequences for the government budget if it cannot be replaced by other earnings.⁸ According to a law passed in late 2011 in the United States, the U.S. can sanction any firm that buys Iranian crude, but it

6 Mohammad Reza Farzanegan, “Effects of International Financial and Energy Sanctions on Iran’s Informal Economy,” *SAIS Review*, Volume 33, Number 1, Winter-Spring 2013, p. 15.

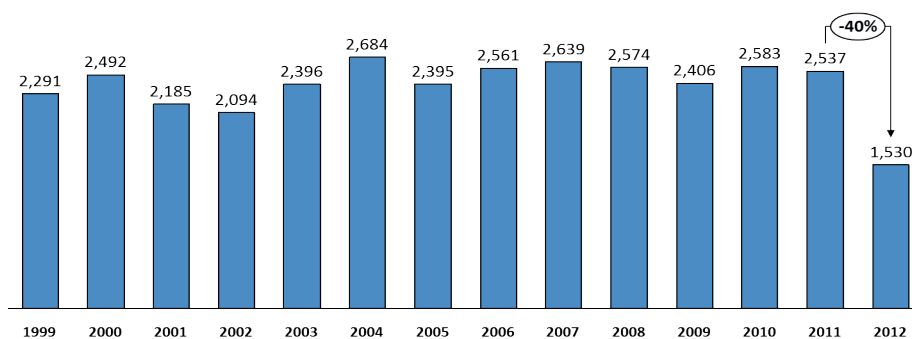
7 Ibid.

8 U.S. Energy Information Administration, “Country Profile: Iran,” *U.S. Energy Information Administration*, 2013, Washington D.C.

can also grant exemptions from sanctions to countries which have attempted “significant reduction” in imports from Iran.

Crude oil exports have been stable around 2,450 thousand barrels a day between 1999 and 2011. However, imports declined sharply in 2012, leading to an overall average loss of 40% compared to the previous year. The most important crude oil export markets have been China, India, Japan, Korea, Greece, Italy, Spain and Turkey. While none of the countries were able to bow to sanctions immediately, they have all reduced between 65 and 14% their Iranian crude oil imports in 2012 compared to the previous year. The European countries (incl. Turkey) have had the most significant reductions from 2011 to 2012 of more than 60%.⁹

Figure 1: Iranian crude oil exports (1999-2012), in thousand barrels per day ^{10 11}



Each oil refinery is set-up for a specific type of crude oil and as such an immediate alteration is almost impossible. The sanctions pursued a drastic and continuous reduction of crude oil imports from Iran. Since June 2012, the U.S. State Department has reviewed 180-day waivers for twenty countries that continuously decrease their crude oil imports from Iran, but are still dependent on them. On country-by-country basis the State Department evaluates the efforts of countries in reducing their energy dependency on Iran and in return the country receives an import quota permission for 180-days. The consequences of not surpassing the quota are not known. For example, Sri Lanka has been highly criticized by the United States as over-reaching its crude oil import quota from Iran.¹² South Korea, for example, has not been able to meet its target. It

9 Ibid.

10 Ibid.

11 Oil Producing and Exporting Countries (OPEC), “Annual Statistical Bulletin,” OPEC, 2012.

12 “SL unlikely to get new U.S. waiver for Iran crude”. *Daily Mirror Sri Lanka (Reuters)*, June 26 2013, <http://www.dailymirror.lk/news/31462-sl-unlikely-to-get-new-us-waiver-for-iran-crude.html> (accessed July 27 2013).

is supposed to import 15% less crude than it did during the December 2012-May 2013 period – only 126,000 barrels per day – but has overreached by 12,000 barrels per day based on June estimates.¹³

India, Iran's second largest crude importer, is one of the success-stories for the United States' sanctions. India used to import 372 thousand barrels of daily imports (2011) and 363 thousand barrels of daily imports (2012) – and on average 193 thousand barrels per day in the first half of 2013. More than 75% of India's domestic energy needs come from the Middle East region. The Persian Gulf accounts for more an estimated 60% of its crude oil imports and within this context, Iran has gained significant importance.¹⁴ The Asian Clearing Union (ACU) that was created in 1974 at the initiative of the United Nations in Tehran, facilitated trade between nine Asian countries, including Iran and India. In December 2010 the Reserve Bank of India (RBI) cancelled the ACU arrangements for oil payments to Iran.¹⁵ India has successfully cut half of its crude oil imports from Iran and replaced those with greater imports from Saudi Arabia, Iraq and Kuwait.

Data from 2013 indicate than China still remains the largest importer of Iranian crude oil, followed by India, Japan, South Korea and Turkey. While between January and June 2011, China had a share of 22%, Japan 14%, India 13% of Iranian crude oil exports, this share has increased for China to 27% to 38%, for Japan between 17% to 20% and for India between 11% and 26% in the first six months of 2013.¹⁶

13 "UPDATE 1 - S.Korea's June Iran crude imports down 23 pct on year," *Reuters*, July 14 2013, <http://www.reuters.com/article/2013/07/14/oil-korea-iran-idUSL4N0FK0DD20130714> (accessed July 25 2013).

14 P. R. Kumaraswamy, "India's Energy Dilemma with Iran," *Journal of South Asian Studies*, 36:2, p. 290.

15 *Ibid*, p. 295.

16 2011 numbers come from: "Iran oil exports: where do they go?" *The Guardian*. February 6 2012, <http://www.guardian.co.uk/news/datablog/2012/feb/06/iran-oil-exports-destination> (accessed July 25 2013).

Figure 2: Iran crude oil exports by month (December 2012 to June 2013), in thousand barrels per day^{17 18 19 20}

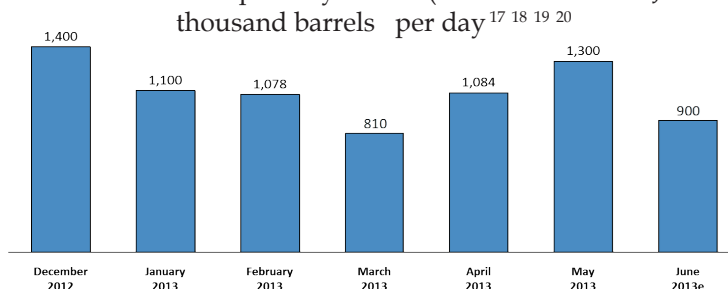
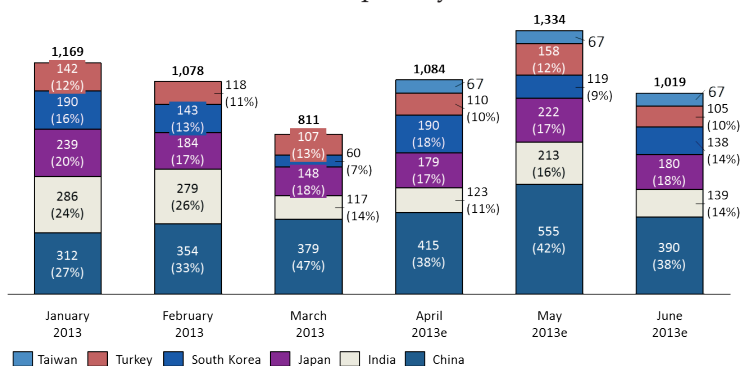


Figure 3: Iranian crude oil exports by country (January to June 2013), in thousand barrels per day^{21 22 23 24 25 26 27}



17 "China imports 390,000 bpd of Iranian crude oil in June," *Gulf Oil and Gas*, July 15 2013, <http://www.gulfoilandgas.com/webpro1/MAIN/Mainnews.asp?id=29295> (accessed July 25 2013).

18 "Iran's crude exports to plunge in January," *Trade Arabia (Reuters)*, March 3 2013, http://www.tradearabia.com/news/OGN_231578.html (accessed July 24 2013).

19 "Iran's March crude exports to fall to lowest since sanctions kicked in," *ArabNews*, March 16 2013, <http://www.arabnews.com/news/445031> (accessed July 27 2013).

20 "Toothless sanctions? Iranian oil trade booming, China top buyer," *Reuters*, January 31 2013. <http://rt.com/news/iran-oil-sales-high-132/> (accessed July 27 2013).

21 "Iran Oil Desk: Tracking the World's Third Largest Oil Exporter," *Rhodium Group*, July 25 2013, <http://rhg.com/interactive/iran-oil-desk-mm.php> (accessed July 25 2013).

22 "Iran crude export to rebound in April after March slump," *Reuters*, April 7 2013, <http://www.reuters.com/article/2013/04/07/asia-iran-crude-idUSL3N0CS1RI20130407> (accessed July 24 2013).

23 Small differences to Figure 2 can be explained by rounding differences as well as multiple different sources.

24 "India oil imports from Iran increases by 21% in June," *Press TV*, July 24 2013, <http://www.presstv.ir/detail/2013/07/24/315354/india-oil-imports-from-iran-up-21/> (accessed July 25 2013).

25 Nayla Razzouq Anthony DiPaola, "Iran's Crude Exports Rise as China Port Blockage Ease, IEA says" *Bloomberg*, June 12 2013, <http://www.bloomberg.com/news/2013-06-12/iran-s-crude-exports-rise-as-china-port-blockages-ease-iea-says.html> (accessed July 25 2013).

26 "S. Korea cuts Iran crude oil import," *Dawn.com*, June 16 2013, <http://beta.dawn.com/news/1018520/s-korea-cuts-iran-crude-oil-import> (accessed July 20 2013).

27 "Japan oil imports from Iran double in May," *Press TV*, June 27 2013, <http://www.presstv.ir/detail/2013/06/27/311117/japans-oil-imports-from-iran-double/> (accessed July 3 2013).

Some recent indicators, however, suggest that some of these losses may have only been temporary. According to China's General Administration of Customs, Iran sold 555,557 barrels per day to China in May 2013. This is a 49.5 percent rise from April 2013 and a 6.4 percent increase from May 2012 imports.²⁸ Turkish crude oil imports have stabilized above 100 thousand barrels per day since January 2013 after considerable lower imports in November 2012 (89 thousand barrels per day). Nonetheless, 2011 contracted values were as high as 150-180 thousand barrels per day.²⁹

Data on the Iranian crude oil exports in the last ten years clearly indicates two things: Firstly, sanctions effective since July 2012 have reduced Iranian crude oil exports by almost 50% compared to 2011 volumes. Secondly, the reductions have been driven by changes in European countries as well as continuous pressures on importers to reduce their dependence on Iranian crude oil incessantly. The question remains, however, if and how much lower the Iranian export volumes can become. As the US claims that the international market can sustain its vitality without Iranian crude oil, importing countries such as China, India and Turkey have stabilized the importing volumes.

Natural gas exports

In the last few years, Iran has sought to position itself as a major natural gas supplier despite Western sanctions (IHS Global Insight, 2012, p. 5). The first more substantial natural gas exports only occurred in 2003 – until that point natural gas was mostly the backbone of national consumption. Even in 2012, natural gas exports amounted to approximately 10 to 11 bcm but national gas consumption reached 153 bcm (2011)³⁰ or 48% of total final energy consumption (2010).³¹ Iran holds 33.6 tcm of proven natural gas resources and is seeking to increase its production capacity significantly. In 2012, Iran had a share of 4% in the global natural gas production (approximately 160 bcm) and is seeking to increase this value to 167.7 bcm by 2016.³²

The largest natural gas field in Iran is the South Pars field with approximately 8 to 14 tcm proven gas reserves in an area of 3.700 km². It has been deemed a national priority since the early 1990s. South Pars holds 50 to 60% of all Iranian natural gas reserves. The South Pars area is divided in 29 phases (or projects), ten

28 "Iran crude oil exports to China increase 50 percent in May," *Press TV*, June 21 2013, <http://www.presstv.ir/detail/2013/06/21/310138/iran-oil-exports-to-china-up-50-in-may/> (accessed July 25 2013).

29 "Turkey's Iranian oil purchases fall by one-third in one month," *Hurriyet*, February 14 2013, <http://www.hurriyetdailynews.com/turkeys-iranian-oil-purchases-fall-by-one-third-in-one-month-.aspx?pageID=238&nID=41147&NewsCatID=348> (accessed July 25 2013).

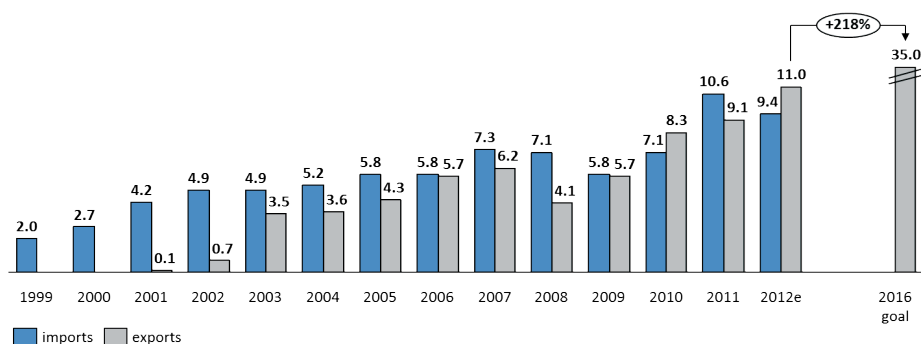
30 Business Monitor, "Iran: Oil and Gas Report Q2," *Business Monitor*, March 2013.

31 International Energy Agency (IEA), "Energy Statistics of non-OECD countries," *International Energy Agency (IEA)*, 2012.

32 Business Monitor, "Iran: Oil and Gas Report Q2," *Business Monitor*, March 2013.

of which have been completed by mid-2013, with three more likely to be finished by the end of 2013. In 2012, the completed 10 phases of South Pars produced 109.5 bcm, most of which has been dedicated to national consumption. With the completion of three more projects in 2013 the production is expected to increase to 146 bcm annually in 2014.

Figure 4: Iranian natural gas imports and exports (1999-2012e), in bcm ^{33 34}



In 2009 and 2010, the European Union Member States entered negotiations for the Nabucco gas pipeline project. Iran's gas reserves were fundamental to achieve the intended annual supply capacity of 30 billion cubic meters from Asia to Europe.³⁵ The sanctions against Iran in 2012 changed the original Nabucco plans to a slimmed down version - Nabucco West - which would only start at the Turkish-Bulgarian border to Austria. With the announcement in June 2013 by the Shah Deniz II consortium to supply the competing gas pipeline - the Trans-Adria Pipeline with 10 bcm annually - the Nabucco pipeline plans have been terminated.³⁶ For European members this means a significant loss in energy supply security, while Iran has been pursuing natural gas export options on its own. While the South Pars field seeks the construction of two Liquid Natural Gas (LNG) Terminals (Phase 11 and Phase 13), these projects have not yet been realized.³⁷ Thus, Iran is currently highly dependent on the construction of new natural gas infrastructure to develop new markets.

33 British Petroleum Company, "Statistical Review of World Energy," *British Petroleum*, 2013.

34 Oil Producing and Exporting Countries (OPEC), "Annual Statistical Bulletin," OPEC, 2012.

35 "Iran verhandelt über Beteiligung," *Süddeutsche Zeitung*, May 17 2010, <http://www.spiegel.de/wirtschaft/unternehmen/gasversorgung-iran-verhandelt-ueber-beteiligung-an-nabucco-pipeline-a-658482.html> (accessed April 12 2013).

36 "Nabucco ist gescheitert," *Frankfurter Allgemeine Zeitung*, June 26 2013, <http://www.faz.net/aktuell/wirtschaft/gaspipeline-projekt-nabucco-ist-gescheitert-12244787.html> (accessed July 4 2013).

37 The Chinese National Petroleum Corporation (CNPC) developed Iran's first LNG Terminal (Phase 11) from 2009 until the summer of 2012. While it is still open to speculation why the contract was aborted at that stage, international political pressures may have contributed to the termination. Since then Iran Gas has been developing the project site - an end date for this LNG and Phase 13 are not known.

Three major gas pipeline projects have survived international political pressures so far and promises to triple Iran's gas exports to some of its neighbors in the coming year to make up for economic losses in its crude oil exports.³⁸ In April 2013, the National Iranian Gas Company announced after signing new agreements with Turkey and Iraq an increase of natural gas exports from 35 mcm daily in 2012/2013 to 100 mcm daily within a year – the government's objective is to increase Iranian natural gas exports to 35 bcm by 2016 compared to an estimated 11 bcm in 2012.³⁹

Iran-Pakistan(-India) Pipeline

After decades of negotiations in March 2013, president Ahmadinejad and his Pakistani counterpart, Asif Ali Zardari, officially inaugurated the final phase of construction of the Iran-Pakistan natural gas pipeline.⁴⁰ The original pipeline, known as *the peace pipeline* included a connection from Iran, across Pakistan to India, but in 2008 and 2009, India bowed to U.S. pressures to end cooperation on the pipeline with Iran.⁴¹ In May 2009, however, the Pakistani Inter State Gas Systems (ISGS) and the National Iranian Oil Company (NIOC) signed a gas sales and purchase agreement of 21.5 MMcm/d to Pakistan. The pipeline accord and a sovereign guarantee agreement were signed in March and June 2010. In 2012, former Secretary of State, Hilary Clinton warned Pakistan at a U.S. House Appropriations Subcommittee Meeting on Foreign Operations of the negative consequences if it would go ahead with the construction of the natural gas pipeline between Iran and Pakistan.⁴² Pakistan was subject to similar U.S. pressures and threats to end the pipeline plans with Iran widening the consequences of U.S. sanctions against third-parties.

The pipeline starts at the South Pars fields and leads to Pakistan (Nawab Shah) and holds an annual capacity of 9.15 bcm. The costs are estimated at approximately 1.5 billion USD on Pakistani territory alone and a similar amount for the Iranian section. The entire construction will be overseen by *Tadbir Energy Development Group*, an Iranian company. The share of the pipeline on Iranian territory will be completed by the fall of 2013. The problem, however, lies in the remaining 700 km on Pakistani territory that have not been constructed. While the German firm, ILF Engineering, was awarded the contract for construction in August 2011, the company gave in to U.S. pressures and terminated the contract

38 L. Nasser, "Iran to Boost Gas Exports in Efforts to Cut Oil Sales Reliance," *Bloomberg*, April 7 2013, <http://www.bloomberg.com/news/2013-04-07/iran-to-boost-gas-exports-in-efforts-to-cut-oil-sales-reliance.html> (accessed July 5 2013).

39 Ibid.

40 "Iran, Pakistan inaugurate IP gas pipeline," *Press TV*, March 12 2013, <http://www.presstv.ir/detail/2013/03/11/292995/iran-pakistan-inaugurate-ip-gas-pipeline/> (accessed March 14 2013).

41 "Pakistan-Iran gas pipeline defies US," *British Broadcasting Cooperation*, March 11 2013, <http://www.bbc.co.uk/news/world-asia-21736725> (accessed March 12 2013).

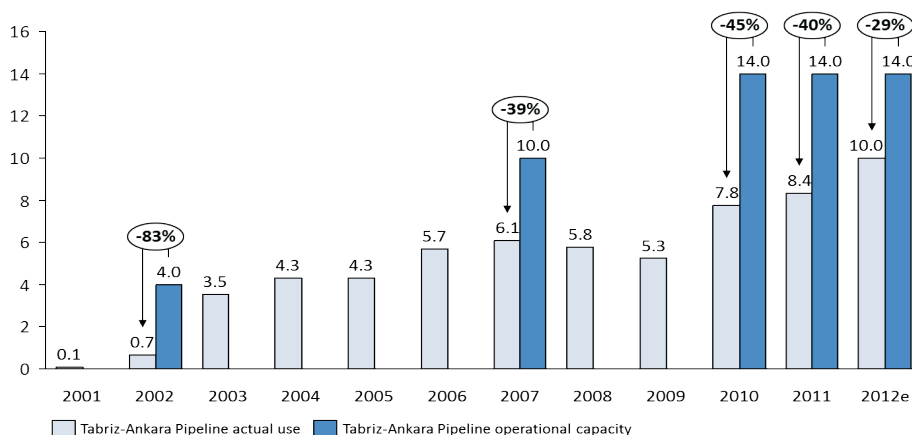
42 IHS Global Insight. (2012). "The Iran-Pakistan Pipeline: A dangerous proposition," 2012, p. 2.

in early 2012. Iran has sought to financially support the construction of the Pakistani section and contributed more than one-third of the costs to Pakistan, yet, the Pakistan is still looking for other investors. Officials expect the pipeline to come on-stream by the end of 2014.⁴³

3.2 Iran-Turkey Pipeline

In 2012, 90% of Iranian natural gas exports are directed towards Turkey. The natural gas exports towards Turkey only commenced in 2001 and hold significant future potential as Turkey is positioning itself as an energy hub and transit country towards Europe. The first natural gas contract between Iran and Turkey was signed in 1996 for the duration of 23 years and was supposed to come on stream by 1999. The contract determined growing exports rates from Iran to Turkey, reaching 4 bcm annually by 2002, 10 bcm annually by 2007 and an expansion to 14 bcm annually by 2010.⁴⁴ However, as the pipeline only became operational in 2001, the contracted values of 4 bcm were by far not met in 2002 and by 2007 only 6.1 bcm instead of 10 bcm were exported. Estimates in 2012 indicate that 10 bcm have been exported, leaving an unused capacity of 4 bcm annually.

Figure 5: Iran-Turkey natural gas imports (2001-2012e), in bcm^{45 46}



Growing Turkish invest in investment opportunities in the Iranian South Pars phases expanded the existing energy cooperation between the two countries.

43 "Iran-Pakistan gas pipeline to come on-stream by end of 2014: Pakistan official," *Press TV*, July 1 2013, <http://www.presstv.ir/detail/2013/07/01/311738/ip-gasline-to-come-online-by-end2014/> (accessed July 19 2013).

44 Elin Kinnander, "The Turkish-Iranian Gas Relationship: Politically Successful, Commercially Problematic," *OIES*, p. 12.

45 British Petroleum Company, "Statistical Review of World Energy," *British Petroleum*, 2013.

46 Business Monitor, "Iran: Oil and Gas Report Q2," *Business Monitor*, March 2013.

The Turkish state-run company *Turkish Petroleum Company* (TPC) received a license for natural gas production for three phases in South Pars. In the same year (2008) Turkey and Iran signed a memorandum of understanding for the transportation of Turkmen and Iranian natural gas through Turkey towards the European market.⁴⁷ The project was supposed to bring a total of 30 bcm annually through Turkey from which Turkey can use 16 bcm annually for its own growing national consumption.

U.S. and European pressures following the sanctions against Iran in 2012 have not decreased natural gas trade between the two countries. Iran is after Russia (46.2% in 2010) the second largest natural gas exporting country (20.4% in 2010) to Turkey.⁴⁸ Instead of direct financial transactions, Turkey has been paying with gold exports in return for natural gas exports since the end of 2012. In February 2013 alone, Turkey exported gold for the value of 180 million USD (compared to 54 million USD in January 2011).

In May 2013, Iran and Turkey publically announced that they were in the final phases of a new natural gas contract that would expand their existing volumes by 3 bcm annually. The natural gas would be transported through Turkey towards Europe.⁴⁹

3.3. Iran-Iraq(-Syria)

According to Iranian news, the country is negotiating a contract with Iraq for a natural gas pipeline from Asalouyeh to Baghdad and eventually towards Syria. The pipeline to Iraq was initially to have a capacity of 10.95 bcm annually with an additional capacity of 9 to 11 bcm annually for Syria.⁵⁰ The construction of the 1,500 km long pipeline started at the end of 2012 and first exports towards Iraq are expected to start in early 2014. Experts estimate 18-20 billion USD revenue annually for the delivery of 9.13 bcm annually.⁵¹

Natural gas exports seem to be a viable option to complement and diversify existing energy partnerships that may be comprised by Western pressures. Grooming these new partnerships, however, has proven to be both a political as well as a financial challenge. U.S. threats to other countries that

47 Nader Habibi, "Turkey and Iran: Growing Economic Relations Despite Western Sanctions," *No. 62, Waltham: Brandeis University - Crown Center for Middle East Studies*, 2012, p. 4.

48 Energy Delta Institute, "Turkey," Energy Delta Institute, 2011. <http://www.energydelta.org/mainmenu/energy-knowledge/country-gas-profiles/country-gas-profile-turkey#t44829> (accessed July 19 2013).

49 Natural Gas Asia, "Turkey to transit 2 bcm of Iranian Gas to Europe," *Oil and Gas Eurasia*, May 17 2013, <http://www.oilandgaseurasia.com/news/turkey-transit-2-bcm-iranian-gas-europe> (accessed May 19 2013).

50 "Iran plans to extend gas pipeline to Iraq, Syria," *Press TV*, January 9 2013, <http://www.presstv.ir/detail/2013/01/09/282649/iran-plans-iraq-syria-gas-pipeline/> (accessed April 3 2013).

51 "Iran to gain \$1.5-2 per day from gas exports to Iraq: NIGC chief," *Press TV*, March 12 2013, <http://www.presstv.ir/detail/2013/03/12/293208/iran-to-gain-2md-from-iraq-gas-exports/> (accessed April 3 2013).

seek energy cooperation has been substantial and diverted some interests in long-term collaboration, such as in the case of India. The limited resources at hand of countries such as Pakistan furthermore require Iran to invest in order to be able to diversify its energy partners – a loss in the short- and mid-term. Two other factors contribute to the difficulty of grooming this market: firstly, the lack of completed LNG terminals in Iran (two are being constructed with no confirmed operation date) makes Iran dependent on the construction of physical infrastructure. And secondly, changes in the regional gas markets (i.e. the shale gas revolution) have opened opportunities for new players in the market, lower prices and the potential for the global market.

Electricity Exports

Rarely, however, electricity exports are considered as a geopolitically relevant outlet energy exports. In the case of Iran, these are extremely relevant for two reasons: firstly, more than 70 percent of the electricity generated in Iran is produced by natural gas and electricity has not been subject to foreign sanctions; secondly, Iran strategically invests in the infrastructure and management of regional grids that creates a longer term regional dependence on Iran.⁵² Currently Iran is ranked first in electricity generation in the Middle East (14th in the world) and seeks to strategically expand its capacities while signing contracts with neighboring countries.⁵³ It has held swap agreements with Armenia, Azerbaijan and Turkmenistan – natural gas for its northern areas for electricity.

Iran's growth in domestic electricity consumption is considered one of the highest worldwide, with a current electricity net consumption of an estimated 183.07 TWh in 2012 and approximately 194.9 TWh in 2015. Meanwhile, total electricity generation in the country has been increasing continuously with 220.2 TWh in 2011. In order to be able to grow its electricity exports while facing high domestic consumption, the Iranian government enacted a subsidy reform plan, which included price reforms of the previously subsidized electricity prices. In the first phase of the subsidy reform implemented in December 2010, the average electricity prices for households went up to 360 rial per kWh – more than three times the pre-reform price in 2010 and almost eight times the kWh price in 2000.⁵⁴

In the first 9 months of 2012, Iran had increased its net electricity exports to more than 5 TWh.⁵⁵ The government has made electricity generation and

52 Shabnam Mirsaeedi-Glossner, "Iran's Flourishing Regional Influence: Electricity Exports as a Loophole to Sanctions," *Science & Diplomacy*, 2(3), September 2013, pp. 2-11.

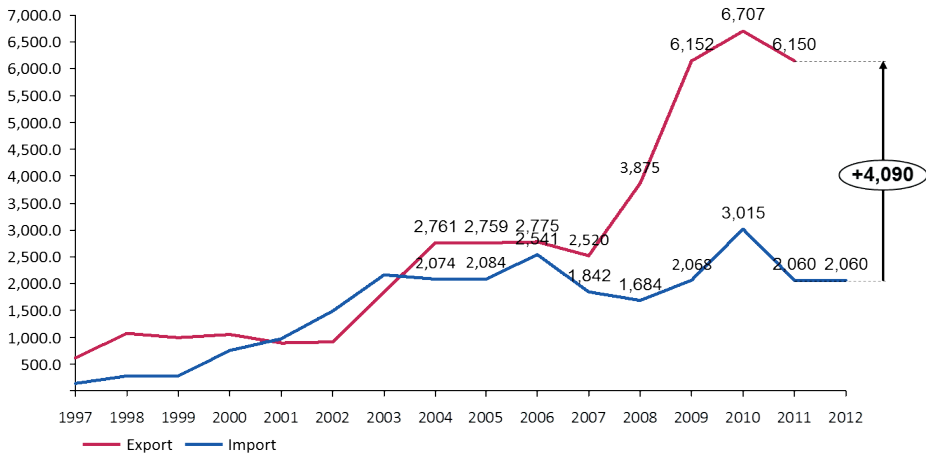
53 "Iran electricity exports to neighbors reach 1,059 MW," Press TV, July 26 2013, <http://www.presstv.ir/detail/2013/07/26/315732/iran-electricity-exports-reach-1059-mw/> (accessed July 29 2013).

54 Shabnam Mirsaeedi-Glossner, "Iran's Flourishing Regional Influence: Electricity Exports as a Loophole to Sanctions," *Science & Diplomacy*, 2(3), September 2013, pp. 2-11.

55 Saman Energy Company, "Domestic production," *Information Centre*, March 30, 2010.

electricity exports to neighboring countries a national priority: by the end of the Fifth Five-Year Economic Development Plan (2015), Iran will boost its electricity generation capacity by 25GW to reach 73GW. The managing director of Iran Power Development Company has announced that approximately 23 new power plants will begin production by the end of the government’s tenure in the next Iranian year, starting March 2013.⁵⁶

Figure 6: Iranian Electricity Exports and Imports (1997-2011), in GWh ⁵⁷



To further its objectives of increasing its electricity exports, Iran has entered into several collaborations: Iran, Russia and Turkey have signed an agreement to jointly construct power plants in Iran that are designated to increase Iran’s electricity exporting capacity to neighboring countries.⁵⁸ The terms of the agreement dictate that the Turkish companies will be permitted to construct new power plants and invest in Iran’s power sector and Turkey and Russia will create a joint venture (JV) to build new power plants.

Turkey

In April 2012, Iran exported 190 MW per hour to Turkey. The construction of new electricity transfer lines with a capacity of 230 kV and a new power post increased the exports 400 MW per hour in 2013. In July 2013, a joint Turkish-Iranian delegation has decided to go ahead with plans to build together several power plants with a total capacity of 20,000 MW. These power plants would include thermal power plants as well as renewable energy and hydropower plants. New

56 Business Monitor, “Iran Power Report Q4 2012,” *Business Monitor*, 2012.

57 Shabnam Mirsaee-Glossner, “Iran’s Flourishing Regional Influence: Electricity Exports as a Loophole to Sanctions,” *Science & Diplomacy*, 2(3), September 2013, p. 3.

58 Business Monitor, “Iran Power Report Q3 2013,” *Business Monitor*, 2013.

discussions on an additional transfer lines could increase the electricity export to 1,200 MW in the future.

4.2 Afghanistan – Tajikistan

In January 2012, Iran and Afghanistan signed an electricity supply agreement that would increase the power supply from 10 MW to 24 MW for Nimroz and from 90 MW to 140 MW for Herat and Farah Province will get 50 to 100 MW of electricity.⁵⁹ In June 2012, Iran, Tajikistan and Afghanistan successfully concluded negotiations on a joint power line (500 kV) from Iran through Tajikistan and Afghanistan.⁶⁰

4.3 Pakistan

In 2009, Iran and Pakistan signed a memorandum of understanding for the construction of a 170 km transmission line from Iran to Pakistan and the provision of initially 1,000 MW of electricity a year.⁶¹ The proposed project includes the construction of the power plant in Zahedan Province, bordering Pakistan. Iran is willing to provide US\$800 million to US\$900 million to complete the project.⁶² In the second phase, up to 10,000 MW per year would be exported from Iran to Pakistan.

In an effort to forego western sanctions, Pakistan has authorized the export of 100,000 tons of wheat to Iran, to settle some of its outstanding payment of 53 USD million for electricity and energy supplied to Pakistan's border areas through the Iranian electricity grid. Approximately 3 million USD a month of electricity are supplied by Iran to Pakistan's border, including the geopolitically important port Gwadar.⁶³

4.4 Iraq – Syria – Lebanon

Iran has started more significant electricity exports to the Wasit Province in Iraq (Mirsaeedi-Glossner, 2013, p. 3). By July 2013 it was reported that nearly 1,300 MW of electricity were exported to Iraq (compared to only 450 MW by mid-

⁵⁹ United Nations Assistance Mission in Afghanistan. "Afghanistan and Iran sign electricity supply agreement," January 28 2012, <http://unama.unmissions.org/Default.aspx?ctl=Details&tabid=12254&mid=15756&ItemID=36333> (accessed July 28, 2013)

⁶⁰ "Iran-Tajikistan-Afghanistan to build joint power line." *Technical Review Middle East*. June 26 2012. <http://www.technicalreviewmiddleeast.com/power-a-water/transmission/iran-tajikistan-afghanistan-to-build-joint-power-line> (accessed July 25 2013).

⁶¹ Shabnam Mirsaeedi-Glossner, "Iran's Flourishing Regional Influence: Electricity Exports as a Loophole to Sanctions," *Science & Diplomacy*, 2(3), September 2013, p. 3.

⁶² Ibid.

⁶³ "Pakistan approves 100,000 tons of wheat for Iran to pay power," *The Express Tribune*, May 18 2013, <http://tribune.com.pk/story/550822/pakistan-approves-100000-tons-of-wheat-for-iran-to-pay-for-power/> (accessed July 29 2013)

2011) and 150 MW more will be added to the volume by the end of the year.⁶⁴ In the mid-term the path through Iraq will serve also the supply of electricity to Syria. In June 2013 – despite persisting conflict – the Syrian Ministry of Electricity and Iran’s engineering and oil company signed four contracts worth 40 million euros for the supply of high voltage transformers (400, 230 and 60 kV) and essential equipment for electricity transfer stations in Syria.⁶⁵ Although a timetable has not been set yet for the supply of Iranian electricity to the country, general agreements have been signed for further cooperation in this area.

Cooperation between Iran and Lebanon has been gaining momentum since 2012. According to the news agency IRNA, the Lebanese Electricity Company has decided to purchase electricity from Iran, as of April 15 2012. The first consignment was 25 MW and will increase to 100 MW – the electricity will be exported through Iraq and Syria to Lebanon.

4.5 Gulf Countries

New plans from Iran aim at expanding its regional role across the Persian Gulf including the United Arab Emirates, Oman, and Qatar through development of the Forouz B gas field in the Gulf.⁶⁶ According to the Iranian Energy Minister, the Iran Offshore Oil Company struck a US\$3.8 billion agreement with the Iran Power Plant Projects Management Company (MAPNA) to develop a power plant based on the natural gas field’s generating an estimated 3 GW of electricity, which would be exported mostly to these Gulf countries.⁶⁷

A drop of water will always find a path (Persian Proverb)

As Sajjad Faraji Dizaji and Peter A. G. van Bergeijk described in their article, the limited impact of sanctions over time. A significant impact is felt by the targeted country in the initial phase, yet, after this phase adjustments in economic dependencies and structure s are made to mitigate the economic and political impact of the sanctions. To summarize: “sanctions may work in the short term; their impact in the long run is limited at best.”⁶⁸

64 “Iran to up electricity exports to Iraq,” *Press TV*, July 7 2013. <http://www.presstv.ir/detail/2013/07/07/312720/iran-to-up-electricity-exports-to-iraq/> (accessed July 29 2013).

65 “Syrian-Iranian Electricity Contracts at 40 Million Euros,” *The Syrian Times*, June 5 2013. <http://syriatimes.sy/index.php/economy/5741-syrian-iranian-electricity-contracts-at-40-million-euros> (accessed July 29 2013).

66 Shabnam Mirsaeeedi-Glossner, “Iran’s Flourishing Regional Influence: Electricity Exports as a Loophole to Sanctions,” *Science & Diplomacy*, 2(3), September 2013, p. 3.

67 “Iran to export USD 2bn in electricity to Persian Gulf states,” *Press TV*, February 24, 2012, <http://www.presstv.ir/detail/228401.html> (accessed March 25 2013).

68 Sajjad Faraji Dizaji and Peter A G van Bergeijk, “Potential early phase success and ultimate failure of economic sanctions: A VAR approach with an application to Iran,” *Journal of Peace Research*, 26 June 2013.

The United States and Europe have used their international leverage and sanctions in an effort to isolate Iran seeking to bring the country to its knees and negotiate its nuclear program. In the short-term the sanctions have succeeded in leading to economic losses due to the almost halved crude oil exports. But more interestingly are the mid-term consequences. Current data indicates that the level of Iranian crude oil exports is unlikely to be reduced to a substantially lower level. Turkish, Chinese, Indian, South Korean and Japanese crude oil imports from Iran have stabilized amidst U.S. pressures.

Attention has to be given to the failure of U.S. pressures in stopping the diversification of Iranian pipeline projects to geopolitically crucial Iranian neighbors. The construction of new pipelines towards Iraq and Pakistan represent to growing and new outlets for Iran's South Pars natural gas reserves. The expansion of existing contracted volumes to Turkey that could supply Europe has failed to bring about the isolation and could even revamp European energy dependency.

The consequences of the diversification of Iranian energy exports – as little as they are in monetary value in 2013 – have important short-and mid-term consequences for the targeted sanctions towards Iran. The strategic alliances that Iran is weaving within the geopolitically region of great political and security interest to both the United States and Europe creates new dependencies towards Iran that become more difficult to control by Western powers. Although Iranian financial means are limited, it is investing in infrastructure projects that are either jointly led or create an active dependency on Iranian energy sources. Consuming countries have been forced to choose between their loyalty towards the United States and their energy dependence on Iran, seeking often a loophole to achieve the most optimal result for them, i.e. Turkey's payment with gold and Pakistan's payments with wheat.

Certainly, this strategic approach is financially costly for Iran. Neighbors such as Pakistan, Afghanistan and Iraq often lack the financial resources or able/willing investors for these investments forcing Iran to stem much of the projects by itself. This is not a financially sustainable policy path for the future considering the weak national economy.

The Iranian energy export diversification complicates targeted sanctions towards Iran's energy sector and increases the U.S. stakes at the negotiation table in an effort to balance out Iran's regional influence. While the winner of this policy game has not been announced yet, every day that passes increases the odds for Iran. The government change in August 2013 is an opportunity to engage on an eye-to-eye level that carefully weighs in Iran's regional influence as well as the difficulty to successfully isolate this country from the international community.