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To cite this article: Zahid KHAN & Changgang GUO (2017) China's Energy Driven Initiatives with Iran: Implications for the United States, *Asian Journal of Middle Eastern and Islamic Studies*, 11:4, 15-31, DOI: [10.1080/25765949.2017.12023315](https://doi.org/10.1080/25765949.2017.12023315)

To link to this article: <https://doi.org/10.1080/25765949.2017.12023315>



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Published online: 17 Jul 2018.



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China's Energy Driven Initiatives with Iran: Implications for the United States

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Abstract: *This article explores China's contemporary energy initiative with the Islamic Republic of Iran, which is one of the largest energy reserves regions. Iran is one of the five natural gas producers and top 10 oil producers in the world — it has an asset of 1/3 of OPEC natural gas reserves. China has initiated the upstream and downstream joint ventures with Iran, banks and backed-loans policies and its companies of national oil are mounting the capacity of energy that will flow from Iran. China's financial potency, zero military installation and limited political involvement in the region gives her a unique balance from its open access to the Iran energy resources. Critically, it is evidenced that the political implications of China's energy gaining strategy, the potential for conflict, cooperation with the US, and the probability of the repositioning of major powers in Iran will give China a unique vantage point in the future. It's an epicenter for US-China rivalry too.*

Key Words: *China; Energy Politics; Iran; US; Middle East Oil and Gas*

I. Introduction

The fundamental aim of China's energy initiative with Iran is to firmly supply energy resources essential for achieving sustainable development of the Chinese economy and upgrading process. To attain this objective, China has largely pursued the following strategies: improving the capacity of strategic oil reserves, securing Iran's crude oil, securing oil supplies through land routes, and obtaining China's own energy resources through international ventures.^② Historically, China established diplomatic relations with Iran in August 1971, when Iran recognized the People Republic of China as "the sole legitimate government of China" and China expressed its support for Iranian just struggle to defend its national resources.^③ In the late 1970s, Deng Xiaoping came to power and with him the

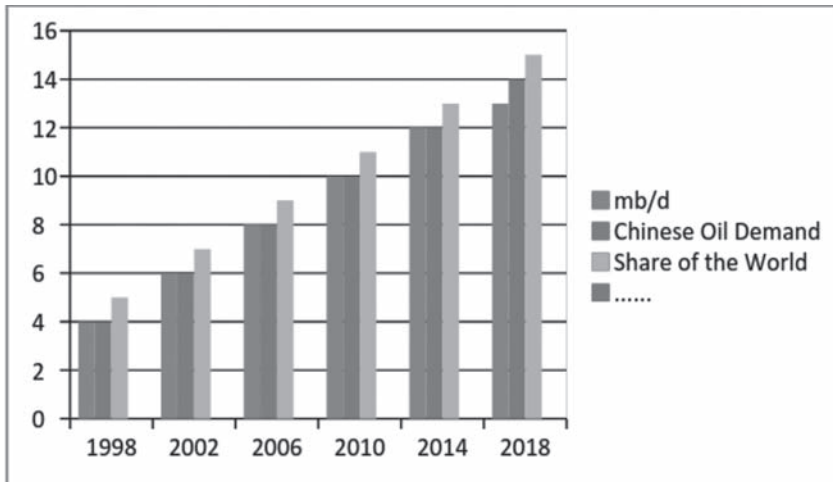
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^② Yong Soo Park, "China's Energy Security Strategy: Implications for the Future Sino-US Relations," *International Journal of Social Science Studies*, Vol.3, No.2, 2015.

^③ Li Hua, "New China and Iran Relations in Sixty Years," *Western Asia and Africa*, No.4, 2010.

induction of opening-up policy and economic liberalization came into fruition; China's economic development outset took off with a huge upward surge during this period. This rapid economic growth highly increased China's need more sources of energy. Her local oil and gas reserves (respectively, 2% and 1% of total world reserves) were enough to supply for domestic energy needs until 1992.^① From 1992 to 2005, China proceeded from being independent in petroleum to dependence on imports for more than 1/3 of overall consumption. China is the world's 2nd largest energy consumer and in 2004, China overtook Japan as the world's second largest oil importer. Petroleum imports are expected to sustain an increase of a rapid pace.^② Over the past decade, as China's crude oil imports surged from 2.5 mb/d in 2005 to 6.7 mb/d in 2015.^③ According to the IEA Oil Market Report (IEA, 2014b), China is the second largest oil consumer in the world after the US, its oil demand sustained to raise in 2013 at 10.1 mb/d, a 3% increase over 2012, and its estimate to reach 10.4 mb/d in 2014 and 10.8 mb/d in 2015. Over the longer term, IEA forecasts suggest that oil demand will reach 12 mb/d by 2018 and 15.6 mb/d by 2035. China is predicted to surpass the US as the largest oil consumer by around 2030.

Figure.1 An overview of Chinese Oil Demand



Source: Medium-term Oil Market Report 2013, OECD/IEA, Paris

In the early 1990s, Chinese companies initiated their first steps into international oil and gas upstream projects. Moreover, in 1995 to 1996, the attrition between China and the US across the Taiwan Straits, shown China's military weakness and the potential risks associated with greater dependence on sea-borne oil supplies. So, in an early stage of the 2000s, the Chinese government fully supported National Oil Companies (NOCs) and their

^① Manochehr Dorraj, Carrie L. Currier, "Lubricated with Oil: Iran-China Relations in a Changing World," Middle East Policy Council, 2015, <http://www.mepec.org/lubricated-oil-iran-china-relations-changing-world>.

^② Charles E. Ziegler, "The Energy Factor in China's Foreign Policy," *Journal of Chinese Political Science*, Vol.11, No.1, 2006, p.1.

^③ Mackenzie Peter, "A Closer Look at China-Iran Relations, CNA Roundtable Discussion: China's Relations with Iran," 2010, p.1, http://www.cna.org/sites/default/files/research/d0023622_per_cent20a_per_cent20closer_per_cent20look_per_cent20at_per_cent20china-iran_per_cent20relations.pdf.

efforts to invest in overseas upstream projects in the conviction that in the event of conflict, Chinese equity oil could be shipped home. Within less than two decades, China's main oil and gas firms have established an important global presence. In the early 2000s, it was highly stressed in China to diversify import sources, and despite billions invested in global oil markets, China still relies on Russia, Saudi Arabia, Iraq, Angola, Oman, and Iran specifically for 2/3 of its imports.^① Where the Gulf-China relationship adjusted well into the GCC states strategy to diversify their international affairs in an attempt to minimize their dependence on the US. It was a golden opportunity for GCC countries that China shifted from an exporter to consumer market. Now, GCC states are improving their competitive position and extending their share in the world's largest market.^② In this circumstance, China's opening-up policy is balanced by non-politicized relationships, which have led China and the Gulf states to make investments worth billions of dollars.^③

In the Gulf States — as Oil Producing Export Countries (OPEC), in which Iran is the second largest oil exporter. Iran produces 3.7 (mb) million barrels of crude oil per day and is ranked as the world's 4th largest oil producer.^④ Moreover, it has oil reserves estimated at 155 (bb) billion barrels and gas reserves at 33 trillion cubic meters.^⑤ From global perspective, Iran is a top five natural gas producer and top ten oil producer — it has an asset of 1/3 of OPEC natural gas reserves. Thus, unsurprisingly, China's energy driven initiative with Iran has developed a keen interest in the Iranian energy sector. Although energy in the form of Liquefied Natural Gas (LNG) has endured a second energy relation with Iran — Iranian crude oil is still the main attraction. Since China's first purchase of Iranian oil in 1974, under the Shah's regime, China's oil imports from Iran have increased exponentially.^⑥ In two years, oil imports from Iran increased from 7 million tons in 2000 to 11 million tons in 2002.^⑦ This striking outcome increased Iranian oil imports. Thus, in 2003, Iran was ranked as the 2nd largest oil exporter to China, after Saudi Arabia.^⑧

1.1 Chinese Oil Companies Stakes in Iran

China recognized Iran as a nation — its sizable area and population, rich energy-resources, and strategic location make it a main regional power in a strategically significant region of the world. As a regional power, Iran has big influence over the economic and political landscape of the Middle East.^⑨ Chinese oil companies have been

^① "China's Worldwide Quest for Energy Security," IEA, Paris: OECD, 2000, <http://www.oecdchina.org/OECDpdf/china2000.pdf>; Erica Downs, "China: Energy Security Series," The Brookings Foreign Policy Studies," December 2006, <https://www.brookings.edu/wp-content/uploads/2016/06/12china.pdf>; Michal Meidan, "The Implications of China's Energy-Import Boom".

^② Abdulaziz Sager, "GCC-China Relations: Looking beyond Oil-Risks and Rewards," Washington, DC: Nixon Center, 2010, p.12.

^③ For more information on the numerous investments China has made in the Middle East see also: Abdulaziz Sager, "GCC-China Relations: Looking beyond Oil-Risks and Rewards," pp.12-14.

^④ Nori Kasting, Brandon Fite, "US and Iranian Strategic Competition: The Impact of China and Russia," Strategic Report of Center for Strategic and International Studies, 2010, p.10; Mahnaz Zahirinejad, "Implication of New World Order on China's Energy Policy towards Iran," *Asia-Pacific Journal of Social Sciences*, No.1, 2015, p.114.

^⑤ Nori Kasting, Brandon Fite, "US and Iranian Strategic Competition: The Impact of China and Russia," pp.10-12.

^⑥ Although China began importing oil from Iran in 1974, Davis et al., point out that Beijing's earnest involvement in Tehran's oil and gas sector began with a 1997 agreement for cooperation in oil and gas exploration. —Davis et al., "China-Iran: A Limited Partnership," p.16.

^⑦ Hongyi Harry Lai, "China's Oil Diplomacy: Is It A Global Security Threat?" *Third World Quarterly*, Vol.28, No.3, 2007, p.525.

^⑧ Hongyi Harry Lai, "China's Oil Diplomacy: Is It A Global Security Threat?" p.525.

^⑨ Garver, "China & Iran," p.27.

incredibly active in Iran since 2002, where Chinese NOCs (Sinopec and CNPC) attainment contract with Iran to assign at least \$14 billion to explore and develop 04 oil and gas fields.^①

In the period of 2011 to 2013, Chinese National Oil Companies (NOCs) have made important achievements in both upstream and downstream investments in energy-rich resources countries, getting more supplies of oil and gas to China and making strong partnerships with energy-rich resources countries, such as Saudi Arabia, Russia and, particularly, Iran, which are China's largest crude oil suppliers.^② As sanctions are slowly being lifted there is an increase in competition for market share among Iran, Iraq and Saudi Arabia. Iran is China's 6th largest oil supplier, accounting for eight percent of imports and Iranian upstream also invested by Chinese NOCs.

Sinopec signed a contract in 2007 to build up the 85,000 b/d Yadavran field, followed in 2009, by China's Natural Petroleum Corporations (CNPC) buyback deal with NIOC to develop South Azadegan. In the same year, CNPC signed an additional contract to build up phase eleven (p-11) of the South-Pars offshore gas field but due to the slow work and progress, CNPC has been detached from both these fields. Also from 2009, the CNPC still holds its buyback contract for the 75,000 b/d North Azadagan and Sinopec is planning to develop the Yadavaran field, but the company does not seem interested in future phases of the project.^③ Western companies under the sanctions regime and due to their absence, the Chinese companies profited a lot; but, they were affected by the limited availability of IOC expertise: in 2012, the CNPC left the South Pars due in part to Western companies' stopping of the shipping of critical tools like natural gas compressors to Iran. Similarly, in 2014, the slow progress in Azadegan was connected to CNPC's requirement for critical tools and expertise from Western partners as well as its worries that significant developments in Iran would restrain its operations in the US.

Iran is eager to attract Western firms in the post sanctions era, which are still known for more advanced technical standards than their Chinese counterparts, their comeback would be evidence to the end of Iran's isolation. While, these risks are well known to China's NOCs, and China will likely emphasize to Iran that Chinese funding — which was made available to Iran during the sanctions period — remains on the table. But despite the outcome of China's upstream and investments in Iran, the oil exports are increasing and will likely surpass the 0.53 mb/d that China imported from Iran in 2015.^④ Iran is a founding member of the China-backed Asian Infrastructure Bank (AIIB). A few days later, Iran signed an agreement on its nuclear program.

2.1 China- Iran Energy Partnership and the US Factor

Hedging against US-led sanctions — Iran is active again to upgrading its refinery potential, and advancing its nuclear energy capabilities. China has some necessary functions acting as a main commercial and political partner. The so-called US-led sanctions are more opportunities for Iran and China to cooperate. For China, fewer Asian and European investors mean lesser competition for its companies in Iran and more access to Iranian energy.^⑤ By 2015, China will overtake the US as the world's largest net oil

^① See the IEA report (2011), pp.22-29.

^② See also IEA report (2011), p.28.

^③ Ibid.

^④ See IEA report (2011). pp.22-29.

^⑤ John S. Park, Cameron Glenn, "Iran and China," US Institute of Peace & Iranian Premier, 2015, <http://iran.primer.usip.org/resource/iran-and-china>.

importer. Iran is the world's 4th largest crude oil reservoir. Iran helps to secure China's energy security.^①

Due to US naval superiority and its *de facto* control of key strategic trade-points, Chinese officials have worried about this situation, particularly the Strait of Malacca — by which approximately 85% of imported commodities are Chinese-owned. In light of this, China has wanted to hedge against supply disorders and guarantee a regular flow of oil supplies by supporting its national oil companies' investments in oil and gas fields out of the country, as well as by offering loans to producer countries which are repaid with oil. Often, the two have gone hand in hand: Chinese strategy, banks have granted credit lines to recipient countries that they have used for infrastructure development in return for exports of crude to China.

Similarly, in the late 1990s and early 2000, the Chinese NOCs, which had minimal capital during their first outbound investments, developed new project financing arrangements whereby the loans to finance their upstream investments were secured by equity from these assets.^② As a result, by 2015, Chinese NOCs' participation in overseas production reached 1.7 mb/d, and oil-backed loans generated an additional estimated 1.4-1.6 mb/d of crude that is available to Chinese traders. Certainly, not all these barrels reaching directly back to China, and their investments of upstream are under several contract formats, leading to different volumes of oil supplies made obtainable to them, but from China's perspective, its supply position is looking less uncertain.^③

The main aim of China's relations with Iran is searching for energy resources, an opportunity to form a miscellaneous portfolio of foreign market shares and to use political influence in the Middle East.^④ Additionally, aside from acknowledging Tehran's crucial role in the energy market, Beijing also recognizes Iran's vital geostrategic location and its potential as an energy transport base between the Middle East, Central Asia, and Europe.^⑤ China is not the only beneficiary in the Gulf-China relationship as the strengthening of ties with China fits well into the GCC states strategy to diversify their international relationships in an attempt to lessen their dependence on the US. China shifting from an exporter to a consumer market is viewed as an opportunity for GCC countries to improve their competitive standing and enlarge their share in the world's largest market.^⑥ In this context, China's opening-up policy is complemented by non-politicized relationships, which have led Beijing and Middle Eastern countries to make investments worth billions of dollars.^⑦

^① Flynt Leverett, Jaffrey Bader, "Managing China-US Energy Competition in the Middle East," The Brookings Institutions, 2016, https://www.brookings.edu/wp-content/uploads/2016/06/20051216_leverett_bad.

^② Alex Vines, Lillian Wong Markus Wiemer, Indira Campos, "Thirst for African Oil Asian National Oil Companies in. Nigeria and Angola," A Chatam House Report, August 2009, https://www.chathamhouse.org/sites/files/chathamhouse/r0809_africanoil.pdf.

^③ Michal Meidan, "China's Loan for Oil: Assets or Liability?" OIEC Paper, The Oxford Institute of Energy Studies, 2016, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2016/12/Chinas-loans-for-oil-W-PM-70.pdf>.

^④ John Calabrese, "China and Iran: Mismatched Partners," Occasional Paper: The Jamestown Foundation, 2006, p.5, <http://www.jamestown.org/docs/Jamestown-ChinaIranMismatch.pdf>.

^⑤ Peter Mackenzie, "A Closer Look at China-Iran Relations," CNA Roundtable Report: China's Relations with Iran, 2010, p.1, http://www.cna.org/sites/default/files/research/d0023622_percent20a_per_cent20closer_per_cent20look_per_cent20at_per_cent20china-iran_per_cent20relations.pdf.

^⑥ Abdulaziz Sager, "GCC-China Relations: Looking beyond Oil-Risks and Rewards," p.12.

^⑦ Ibid., pp.12-14.

II. Key Developments in Sino-Iranian Energy Cooperation

Chinese energy security was a concern for her leadership during the 1990s, when Sino-American relationship became bitter and China's dependence on imported oil was growing. Hence, for the Chinese leadership, there were two major concerns; [a] The US might use its supremacy to control China's oil imports in the event of confrontation over Taiwan, and, [b] high prices fluctuation that could hurt the Chinese economy.

Chinese policy makers believe that "the only way to guarantee a secure flow of energy is to take physical control over oil and gas by buying up equity stakes or long-term supply contracts in producing countries."^①

During the 1970s, Japan invested highly in energy resources all over the world when its economic growth was at its peak. Chinese experts deeply observed the western journalists — the most important point was that oil is just a commodity, it can be purchased by anyone who has money but this statement is most famous in the countries that already control the supplies.^② It is very interesting to say that China assigned as a latecomer to the international energy market, but they find that most of good oil and gas resources in stable and developed countries are unavailable because national companies owned them by western oil companies, or by producer countries.^③ Therefore, China has been forced to boycott these countries particularly, Iran and Sudan where US sanctions levied on them and also forbidden strictly the US companies from doing business and investment. When Western companies stopped their projects, trade, and business in Iran, the Chinese jumped in to fill the gap and played a major role in Iranian oil sector. On the other side, Iran found China as a reliable partner to fulfill the Iranian needs and ways of doing things.^④

For industrialization, Iranian leadership have given preference to the Chinese partnership and immensely comply to allow China to investment enough in Iran energy sector and to pay for a large portion of its oil and gas imports with industrial tools and advance technology which are highly needed in Iran energy sector. For China, Iran is one of the major suppliers of oil and gas resources — Iran has emerged as the largest supplier of crude oil to China in the beginning of the 21st century, and in 2011, China's oil imports from Iran accounted for approximately 11% of china's total imports.^⑤

Why is China interested in Iran's growth? There are some reasons; China's aim is not only a buyer of Iranian oil but wants to become a key partner in Iran's oil development projects in order to lock in both in Iranian sales and Chinese commodities exports to Iran. During 2000, the Iran nuclear program became a bone of contention for US, and the US sanctions imposed sanctions on firms doing business in Iran; European, South Korea, and Japanese companies backed away from dealings and investment in the development of Iranian oil sectors. Ultimately, Iran struggled to ask for upstream investment from China and India to fill up the gap of other firms. Thus, China invested extensively in Iranian energy sectors.^⑥

Recently China has become Iran's largest trading partner. In 2003-2011, China's FDI in Iran grew from \$7.8 million to \$615.6 million with an accumulated value of \$1,351.6 billion, most of which invested in the oil and gas sectors (including refineries). It is wonderful change in bi-literal trade between China and Iran. In 2003, the volume of both

^① Shirk, "China: Fragile Superpower," p.137.

^② *New York Times*, June 27, 2005.

^③ Shirk, "China: Fragile Superpower," p.138.

^④ Garver, "China & Iran," p.275.

^⑤ "Iran Plans to Boost Oil Sales to China, India," *Fars News Agency*, August 15, 2008.

^⑥ *Ibid.*

bilateral trades increased from \$5.6 billion to \$29.4 billion in 2010, and more increased to \$45 billion in 2011. Recent years have found, few of Chinese national oil companies (CNOCs) signing some mega investment projects with Iranian oil companies. In 2008, the NIOC and CNPC signed a deal worth of \$1.76 billion to develop north Azedagan oil field of Iran— by 2012^①, it could produce 75,000 barrels of oil per day. Furthermore, China and Iran signed a gas contract worth \$3.2 billion in March 2009, in which an Iran LNG and Chinese led-consortium agreed to build a pipeline to extract some 10 million tons of LNG from phase 12 of Iran south par gas field. In February 2010, CNPC signed an agreement with Iran to develop phase 11 of south par gas field. The deal total worth is \$4.7 billion.^②

Table 1. Iran — One of the Top Oil Exporter to China (million tons; %)

| Exporter | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|-------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| World Total | 70.3 (100) | 60.3 (100) | 69.4 (100) | 91.1 (100) | 122.8 (100) | 126.8 (100) | 145.2 (100) | 163.2 (100) | 178.2 (100) | 203.7 (100) | 239.3 (100) | 253.8 (100) |
| Iran | 7 (10.0) | 10.8 (17.9) | 10.6 (15.8) | 12.4 (13.6) | 13.2 (10.8) | 14.3 (11.3) | 16.8 (11.6) | 20.5 (12.6) | 21.3 (12.0) | 23.2 (11.4) | 21.3 (8.9) | 27.8 (11.0) |

Source: China Customs Statistics Yearbook, 2000-2011

Furthermore, major investment projects of upstream and downstream in Iran (include Sinopec) in the developing of Iran large Yadavran oil field; the developing of south and north par gas fields, the up-gradation of Iranian oil refineries, and improvement of oil recovery potentials and the configuration of LNG plan. Although some of these projects are very go-getting, whether most of these signed projects can be productive or successfully completed is still a big question. The advance technology is a big a hurdle for Chinese NOCs needed to liquefy the Iran's natural gas. Although, Chinese NOCs are running to build up their own such technology, but this process will last for many years. Another an important issue for Chinese national oil companies is the lack of expertise and inexperience to hold complicated mega projects like gas liquefaction ventures.^③

III. China-Iran Upstream and Downstream Joint Ventures

Iran welcomes domestic and foreign investors in the mega projects of upstream and downstream sectors.^④Iran's oil and gas condensate exports have attained 2.45mn barrels per day (bpd).OilMinister Bijan Zanganeh stated "there was no impediment to Iran re-possession its lost share of the oil market after the lifting of international sanctions against Tehran". Meanwhile, the managing director of Iran's Petrochemical Industry Investment Company (PIIC Group) Fereidoun F. Dolat said the Islamic Republic encourages domestic and foreign investments in oil and gas industry.^⑤

^① Ibid.

^② "Iran, China Sign \$3.2B Gas Deal," *Fox News*, March 15, 2009.

^③ Garver, "China & Iran," p.201.

^④ Indrajit Sen, "Iran Oil & Gas Condensate Exports Reach 2.45m bpd," 2016, <http://www.arabianoilandgas.com/article-15645-iran-oil-gas-condensate-exports-reach-245m-bpd/>.

^⑤ Ibid.

Iranians have not built a new oil field since 2007. They have identified a few for exploration over the past few years that could provide Iran with a benefit in its crude oil production capacity; meanwhile, sanctions were imposed on Iran which negatively affected the Iranian oil industry.

Pragmatically, after the sanctions from the US, majority of Western companies stopped their projects in Iran, though there were some Chinese and Russian companies that are still engaged in oil and gas production. Iran upstream and downstream both sectors badly affected because of US sanctions.^① After the exit of Western companies from Iran — Iran faced the major issues of technology, investment, and the lack of expertise has resulted in project delay, and in some cases resulted to cancellation of projects. However, some of the projects continue at a slow pace, but recently the Chinese investment, import and export, manufacturing, backed-loan money, upstream and downstream projects, and the political stance has given big support to the Iran.

In the 1999, Azadegan oil field was declared as a biggest oil field in Iran found in thirty years. This mega oil field contains 6 to 7 million barrels of recoverable crude oil reserves but its geological position is very complicated and became a big dilemma for extraction process. Now Azadegan field divided into two positions; North and South Azadegan oil fields. While, CNPC in a two-phases development with total production estimated at 150,000 bbl/d (75,000 bbl/d for each phase). The latest figure calculated by FGE with total costing \$1.8 billion — the first phase will be on-stream by 2015/2016.^②

CNPC signed a Memorandum of Understanding (MOU) with the National Iranian oil company to obtain a contract worth \$2.5 billion to develop the south Azadegan field and was granted the contract in 2011. The project targeted the highest production is 260,000 bbl/d in two phases, in which 150,000 bbl/d in the first phase 11,000 bbl/d in the second phase. Hence, in 2014, the National Iranian Oil Company (NIOC) had cancelled its contact with the Chinese Natural Petroleum Company (CNPC) due to consistent project delay.^③

According to the Middle East Economic Survey (MEES), in 2014, Iran declared that CNPC drilled only 7 of 185 wells, it had decided at the field. Similarly, the south Azadegan field came into operation in the 2007 and produced 50,000 bbl/d in 2013. Practically, there was no change from its production in 2009. Yavaran is another mega upstream development project with a total volume of 3.2 billion barrels of recoverable oil and gas reserves with total capacity of 2.7 Tcf. At the end of 2007, the Chinese Sinopec signed a buyback contract to invest 2.2 billion to develop Yavaran field. In 2013, it has produced 25,000 bbl/d, though production was expected to raise to 85,000 bbl/d by mid of 2015. In the same fields development of the second phase is projected to increase the production by 50, 000 bbl/d to 100,000 bbl/d in 2018. Hence, NIOC is also planning a third phase to increase output to 300, 000 bbl/d.^④

^① US Energy Information Administration, “Country Analysis Brief: Iran,” July 21, 2014, <http://www.iranwatch.org/sites/default/files/us-doe-irananalysisbrief072114.pdf>.

^② Ibid.

^③ Ibid.

^④ Ibid.

**Table 2. Status of few selected new upstream oil projects in Iran
(China is an important project developer state for Iran)**

| Project | Recoverable reserves(billion barrels) | Developer | Status |
|----------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| South Azadegn | 6.0 to 7.0 | NIOC contract with (CNPC). Recently, contract cancelled. The NIDC company will drill wells. | South Azadegan came online in 2007. It produced 50,000 bbl/d in 2013. Phase I targets 150,000 bbl/d and Phase II targets 110,000 bbl/d. |
| North Azadegn | 6.0 to 7.0 | CNPC | Phase I is underway and expected to be completed by 2015-16 (75,000 bbl/d). Phase II expected to be completed by 2020 (75,000 bbl/d). |
| Ya Divan | 3.2 | Sinopec | Yadavaran produced 25,000 bbl/d in 2013 and it is expected to increase to 85,000 bbl/d in 2015. Phase II is expected to add 50,000 to 100,000 bbl/d in 2018. (NIOC) Phase III is expected to add more than 100,000 bbl/d after 2020 |
| Yaran | 1.1(Oil in place) | PEDEC (South Yaran) and Local company percian Energy (North yaran) | North Yaran is expected to produce 30,000 bbl/d in 2015 and South Yaran 50,000- 60,000 bbl/d in 2018 |
| Azar | NA | Iranian Consortium | Shared oil field straddling Iran and Iraq. The field is called Badra on the Iraqi side and is operated by Gazprom Neft. Azar drilling set to resume next year. Initial target production is 30,000 bbl/d at Azar, with plans to increase to 65,000 bbl/d. |
| South Pars(Oil Layers) | 1.3 | PEDCO | Installation of a floating production, storage, and offloading unit needs to occur before production can commence. Initial capacity is expected to be 35,000 bbl/d |
| Zagheh | 3(Oil in place) | Iran is Looking for new developer | In 2014, Iran cancelled the MOU2 signed with Tatneft Iran Oil. Its production potential is estimated at 55,000 bbl/d of heavy crude |
| Bushgan, Kuh-e-Ka ki,Kuh-e | 1.1(Oil in place) | Iran is Looking for | In 2014, Iran cancelled the MOU signed with joint Iranian-Russian and Iranian-Ukrainian companies (Gazprom Pars Kish International). The total |

| | | | |
|------|--|---------------|---------------------------------------------------|
| Mond | | new developer | production potential is estimated at 22,000 bbl/d |
|------|--|---------------|---------------------------------------------------|

Source: US Energy Information Administration based on FACTs Global Energy (FGE), Arab Oil & Gas Journal, Middle East Economic Survey (MEES), National Iranian Oil Company (NIOC), Bloomberg, Fars News, and United Nations.

According to the statement of acting deputy oil minister of Iran (M. Hashemian) the Chinese petroleum and chemical industry federation (CPCIF) will come to Iran to invest in oil industries downstream sector. The Iranian oil minister has already proclaimed that the country requires \$400-500 billion worth to develop its oil industry. By September 2013, the total capacity of Iran crude oil distillation reached 2.0 million bbl/d, about 140,000 bbl/d more than the previous year, stated by FGE.^① Most of that extend came from expansions projects that were newly completed at Lavan and Arak refineries.

Iran also extracts petroleum products at the natural gas processing plant (Liquefied petroleum gas and naphtha). Initially, for power generation, a small quantity of crude oil is burned directly, the amount of crude oil is approximately 4,000 bbl/d. Almost, all products of consumption produced locally in Iran — Iran imported approximately 17, 000 bbl/d of petroleum products, of which around 85% was gasoline, (Calculated by FGE). The last few years, the increasing domestic refining capacity and subsidy cuts has decreased the import ratio of gasoline for Iran. By the end of 2014, Iran planned to increase the production capacity of gasoline at Bandar Abbas and Isfahan refineries—regardless of refineries expansions, it is expected by FGE that Iran gasoline import ration increases up-to the medium and long term because of increased gasoline demand and the Iranian government plans to lessen gasoline production at petrochemical plants. Hence, the reason of decreasing in import ratio of gasoline was a short-term policy because of high prices as an output of subsidy deduction.^②

IV. China’s Potential Investment in Iran

For China, Iran is the sixth largest oil supplier, accounting for 8 percent of imports and Chinese National Oil Companies (CNOCs) also have an extensive investment in Iranian upstream projects. In the post sanctions period, Iran is still highly magnetized from western firms because of its higher technical standards than their Chinese counterparts. Therefore, China’s national oil companies aware of such risks, and China will probably draw attention to Iran that Chinese funding — which was presented to Iran during the sanctions period — remains on offer.^③

China has increased its share and set to double for Iranian infrastructure projects to \$52bn from \$25bn, the report said, quoting Iran deputy minister for energy, (Esmael Mahsoli).^④ Oil and gas projects, electricity, and water will all benefit from more investment, Mahsoli said.^⑤ Chinese government made possible pre-requisites reforms in the area of domestic and foreign investment, China’s Ministry of Commerce has been negotiating

^① US Energy Information Administration, “Country Analysis Brief: Iran,” July 2014, <http://www.iranwatch.org/sites/default/files/us-doe-irananalysisbrief072114.pdf>.

^② Ibid.

^③ Michal Miedan, “China’s Loan for Oil: Asset or Liability?”

^④ “China to Double Iranian Investment, Business,” *BBC News*, November 16, 2016.

^⑤ Ibid.

bilateral investment treaties with a number of countries including the United States and the European Union, and negotiations with Kazakhstan and Iran started in 2015.^①

China offered Iran to become a member of Asian Infrastructure Investment Bank (AIIB), and Iran has shown keen interest to join AIIB — thus, Iran became the 34th member of the bank. In October 2014, AIIB was launched by China with the objective of financing infrastructure projects in Asia.^② More than anything the progress is remarkable, provided Iran's previous isolation from the world's banking systems. Iran purchased a 2.8% stake in the bank while China is expected to invest \$50 billion in order to own a 50% stake.^③

In 2014, China's Ministry of Commerce estimated that total outward direct investment (ODI) stood at around \$123 billion, 14% more than the previous year.^④ In 2011, Iran ranked 12th as a target for Chinese FDI flows, getting about \$615 million^⑤, but three years before dropped to 22nd place and \$600 million. From 2012 to 2014, the Iranian share of China's overall FDI dropped each year.^⑥ In terms of stocks, although China's total investments have been rising, Iran's ranking as a choice of investment destination has remained stable, for instance, 22nd position in 2011, 23rd in 2014.^⑦ Thus, the hope of extensive growth in China's investments in Iran following sanctions relief is not turning into reality.^⑧

There are two tendencies in China's ODI decisions. Firstly, China is investing in new sectors beyond resource extraction. Secondly, China's investment future is changing gradually from resource-rich developing countries to developed countries capable of facilitating access to advanced technologies, expertise, established products, and wide industry experience.^⑨ The Future for China's ODI is becoming more diversified, as Chinese companies are going up into the developed countries in Europe and US rather than the resource-based economies in Asia, Africa and Latin America. Hence, even Iran, declared as an emerging market, may not attract Chinese investments.^⑩

^① Ministry of Commerce People's Republic of China, "2015 Business Review XVII: Active and Steady Promotion of the Commerce Legal Construction," February 1, 2016, http://english.mofcom.gov.cn/article/z_t_businessview2015/news/201602/20160201261339.shtml.

^② Angelo Young, "China Welcomes Iran, UAE to Asian Infrastructure Investment Bank; Founding Members Now Number 35," *IBTimes*, July 14, 2015, <http://www.ibtimes.com/china-welcomes-iran-uae-as-ian-infrastructure-investment-bank-founding-members-now-1872553>.

^③ "Iran Buys Shares of AIIB Multinational Bank, October," *Mehr News*, March 15, 2015, <http://en.mehrnews.com/news/111402/Iran-buys-shares-of-AIIB-multinational-bank>.

^④ Ministry of Commerce of People's Republic of China, "Statistical Bulletin of Outward Foreign Direct Investment," National Bureau of Statistics of People's Republic of China. State Administration of Foreign Exchange, Beijing: China Statistics Press, 2014, p.81.

^⑤ Ministry of Commerce, "Statistical Bulletin of Outward Foreign Direct Investment," 2014, p.131.

^⑥ Ministry of Commerce of People's Republic of China, "Statistical Bulletin of Outward Foreign Direct Investment," National Bureau of Statistics of People's Republic of China. State Administration of Foreign Exchange, Beijing: China Statistics Press, 2013, p.83; "Statistical Bulletin of Outward Foreign Direct Investment," 2013, p.93; "Statistical Bulletin of Outward Foreign Direct Investment," 2014, pp.131-135.

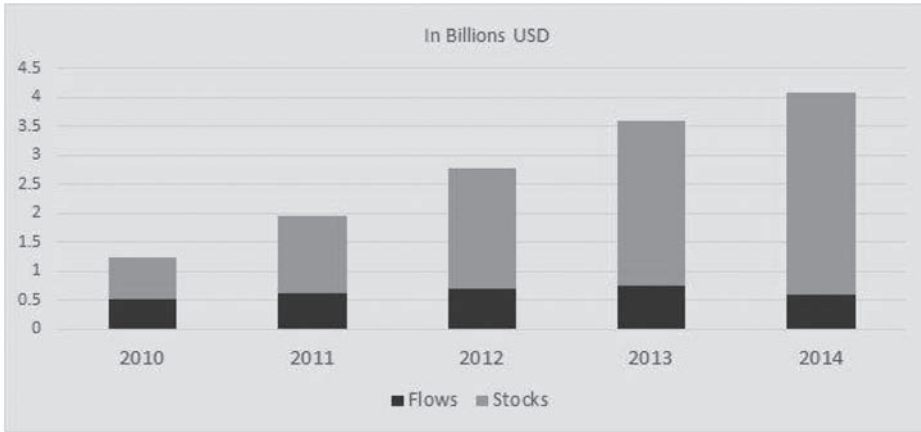
^⑦ Ministry of Commerce, "Statistical Bulletin of Outward Foreign Direct Investment," 2014, pp.136-140.

^⑧ For expectations, see for example the comments of R. A. Seyed (Iran's commercial attaché in China), quoted in "China's investment in Iran to Grow by Sanctions Relief," *Mehr News*, November 4, 2015, <http://en.mehrnews.com/news/111645/China-s-investment-in-Iran-to-grow-by-sanctions-relief>.

^⑨ "China Outlook," KPMG Global China Practice, 2015, <http://www.kpmg.com/ES/es/Internacionalizaci on-KPMG/Documents/China-Outlook-2015.pdf>.

^⑩ Joao Piexe, "Iran Suspends Chinese Contract for North Pars Natural Gas Field," October 15, 2011, <http://oilprice.com/Latest-Energy-News/World-News/Iran-Suspends-Chinese-Contract-For-North-Pars-Natural-Gas-Field-.html>.

Figure 2. China’s Outward FDI in Iran



Source: National Bureau of Statistics of China, Ministry of Commerce

Many projects are making good progress, while only a couple of remains far from realization. The following table of ‘*Chinese investment in Iran energy sector*’ shows a clear image of various projects initiated by oil companies of China and Iran— table data analyzing the total worth of projects in US dollars, its starting period, the development of projects, and current status of projects.^①

Table 3. Chinese Investments in Iran

| Chinese Investors | Iranian Partner | Project | Start Period | Investment Amount USD | Current Project Status |
|---------------------------------------------|------------------------------|-----------------------------------|-------------------|-----------------------|---------------------------|
| Sinopec | National Iranian Oil Company | Phase 2: Yadavaran oil field | Under negotiation | | |
| China’s Natural Petroleum Corporation’s | NIOC | Phase 2: North Azadegan oil field | Under negotiation | | |
| CNPC | NIOC | Phase 1: North Azadegan oil field | 2009 | 2 billion | Re-started in 2105 |
| CNPC | NIOC | Phase 1: South Azadegan oil field | 2009 | 2.5 billion | Cancelled by Iran in 2014 |
| CNPC | NIOC | Phase 11: South Pars gas field | 2009 | 4.7 billion | CNPC withdrew in 2102 |
| China’s National Off-shore Oil Corporations | NIOC | North Pars | 2007 | 15 billion | Suspended by Iran in 2011 |

^① “Common Grounds for Cooperation. China, Iran,” *Financial Tribune News*, April 25, 2016.

| | | | | | |
|----------------------------------------------------------------|------------------------------------------|-----------------------------------------------|------|-------------|----------------|
| Sinopec | NIOC | Phase 1: Yadavaran oil field | 2007 | 2 billion | Started in 215 |
| Chinese Government | Tehran Municipality | Sadeqieh subway station | 2006 | 250 million | Completed |
| China International Trust and Investment Corporation & Norinco | Tehran Urban and Sub-Urban Railway | Line 1 & 2, Tehran Metro | 1995 | 1.5 billion | Completed |
| China's Railway Engineering Corporation | Khatmal-Anbiya Construction Headquarters | High speed Rail Tehran-Qom-Isfahan | 2015 | 1 billion | In progress |
| China National Machinery Import and Export Corporation. | Iran MAPNA | Electrifications of the Tehran-Mashad Railway | 2106 | 1.7 billion | In progress |

Source: Data Compiled by Centre of Chinese Studies, Stellenbosch University- South Africa

In fact, the Chinese leadership is aware of future tensions with regional and global major powers particularly the US and India — for Chinese experts, dependence on foreign oil can bring foreign economic hurdles and political pressure that can menace the national security.^① Most of Chinese analyst explicated their views that US is a main threat to the China's energy security.

In terms of defense, technological advancement, politically, and economically, the US is also an influential country and had/have a sturdy hold on energy resourceful countries in the Middle East, Africa, and Asia. Many Chinese analysts believe that US is already uncomfortable and sternly conscious with rising power and doubtful that the United States seeks to limit the China's emergence as a potential competitor.^②

Politically, China is planning to advance the security of its oil imports from the Middle East, particularly Iran, through escalating its diplomacy in the region. The Chinese leadership think that the solid bilateral political relationship can provide a better supply of security during crises. In 1999 and later, China's top leadership visited the Saudi Arabia, Iran, Algeria, Syria, Iraq, Jordan, Morocco, and Israel. The aim of visits to strengthen Chinese relationship to the states in a region where United States has many allies and China has several. Hence, according to the report of China Society for Strategy and Management Research (CSSMR) suggests that diplomacy may be fruitful with all those states that are unhappy with US presence.^③

^① Choonho Park, Jerome Alan Cohen, "The Politics of the Oil Weapon," *Foreign Policy*, No.20, 1975, pp.28-40; Woodward, pp.49-66, 122-127; Ronald C. Keith, "China's 'Resource Diplomacy' and National Energy Policy," in Ronald C. Keith, ed., *Energy Security and Economic Development in East Asia*, London: Croom Helm, 1986, pp.17-78.

^② Yan Xuetong, "China's Strategic Security Environment," *World Affairs*, No.3, February 2000, pp.8-10, in FBIS (Document ID: FTS2000021600038); Yan Xuetong, "The International Security Environment that China's Development Faces," pp.6-7.

^③ Wu and Xian Xuetong. p.50.

Today, China has a sound diplomatic and economic relationship with Iran and Iraq — Chinese leadership views political support of these countries as a key purpose to gain access to their energy supplies. China's membership in UNO and permanent membership in UN Security Council dealings with sanctions were reportedly influential to China's achievement in its oil deal with Iran and Iraq.^① China's energy security is an important issue — the US could exploit to pressure China — China shifted from net oil exporter to a net oil importer. US is a big menace for China's oil import because, US Navy has controlled over the maritime routes stretching from Persian Gulf to South China Sea, through which China's oil imports must pass. If China-US relationship bitters in future, the US could use its defensive power to interrupt China's oil supply. The US could use its supremacy of Middle East oil to “observe” China.^②

V. Risks and Cooperation between China and US with Special Reference to Iran

China and US are world two major producers and consumers of energy, as well as the largest green-house gas emitters, China and US faced common challenges in the field of energy. Consequently, they both have huge potential for cooperation in different fields, e.g., the stabilization of world energy supply and prices, decreasing of green-house gas emissions, and the advancement of new energy resources.^③ Both countries have had numerous meetings since the late 1980s, including the US China 10-Year Energy and Environment Cooperation Framework (2008).^④ Both countries have a series of cooperation agreements on energy, environmental issues, and climate change such as the US-China Memorandum of Understanding (MOU) to Enhance Cooperation on energy, the environment, and climate change signed in 2009. But regardless of the possible efforts for energy cooperation and dialogue between the two countries, there always exist a probability of diplomatic and military risks, as proved by the history of the past hundred years, which obviously show that nation-states are tending to rely on realist competition rather than liberalist-cooperation when it comes to energy procurement.^⑤

On July 14, 2015, a historic agreement was successfully signed between Iran and China, Britain, Russia, Germany, France, the EU, and US (P5+1) on Iran's nuclear program. Former US president Barack Obama and Chinese President Xi Jinping represented Washington and Beijing cooperated to end the Iranian nuclear crisis, which turns to a new way of dealings on the wake of global politics.^⑥

This agreement is also called a *Joint Comprehensive Plan of Action* (JCPOA) — founded an effective framework for banning all sort of sources and ways by which Iran could obtaining material for nuclear missiles. It is a historic deal for nuclear non-proliferation and international security. The P5+1 is a long-term agreement — in

^① Sergei Trough, “China's Changing Oil Strategy and Its Foreign Policy Implications,” Center for Northeast Asian Policy Studies, Working Paper, 1999, Washington, DC: Brookings Institution, www.brookings.edu/fp/cnaps/papers/1999_trough.html.

^② Wu Lei, “Middle East Oil and Our Equilibrium of Oil Supply and Demand in the Future,” *World Economics and Politics*, No.3, 1997, pp.30-33.

^③ Kenneth M. Pollack, *A Path Out of the Desert: A Grand Strategy for America in the Middle East*, Random House Trade Paperback, Canada, 2008, pp.10-37.

^④ Yong Soo Park, “China's Energy Security Strategy: Implications for the Future Sino-US Relations,” *International Journal of Social Science Studies*, Vol.3, No.2, 2015.

^⑤ Ibid.

^⑥ US Department of State, “Joint Comprehensive Plan of Action (Iran Sanctions),” 2015, <https://www.state.gov/e/eb/tfs/spi/iran/jcpoa/>.

which some of these restrictions have suggested for the periods of 10 years, some for 15 years, and some for 25 years.^①

Obama praised Chinese role about the historic agreement, appreciating China for its incredible key contributions in the process. Xi Jinping expressed that the US and China had close contacts and harmonization during the talks — acknowledged to the two nations' resolution to jointly build a New Model of Major Country Relationship (NMMCR). In fact, China chairs its communication with the United States regarding Middle East affairs within the NMMCR agenda.^②

In June 2013, at the venue of sunny lands, California, both the president endorsed a new model of relationship during their informal summit. Over the past few years, the NMMCR has a key role in China-US relationship and reflected in some promising developments related to the Middle East Affairs (MEA). Middle East region is significant for both the states — China and the United States have maximum productive dealings in the Middle East than in some other regions of the world. Probably, The two nations have common interest in maintaining peace and stability of the Middle East region in general and the Gulf sub-region in particular: resolving the Iranian nuclear dilemma, enduring the Palestine-Israel peace process, protecting central energy supply lines and bolstering orderly, peaceful transition of social, economic, and political systems in the countries concerned.^③

Both countries are facing increasing risks and impeaches of international terrorism and extremism, given them an opportunity for re-groupings, so-called state building and the additional wars and violence. Hence, international terrorism is not an isolated factor — the economic poverty and social stagnation are closely related to it, which produces a breeding ground for radical ideologies and extremist movements. The US and China have agreed on the severity and destruction that terrorism and extremism could bring to the states as well as the world. There has been mutual understanding from both countries to combine struggles in dealing with both the root-causes and symptoms.^④

Further, on February 16, 2016, during bilateral debate between US and Chinese scholars on the topic of “Balancing Cooperation and Competition in US-China Relations”, Cheng Li stated on the occasion by recalling a historical statement of Ronald Reagan, “So long as books are kept open, then minds can never be closed” — which he adapted and applied to US-China relations: “I think as long as the doors are open, exchanges are open, our relationship could not be that bad.”^⑤

Iran, through strategic and by virtue of its location, vast energy resources, holds the key to China's energy security. It is the only OPEC state in the Gulf that can supply land based oil and gas pipeline connections to China. Iran has the world's third largest reserves and second largest natural gas. Iran is a central point to China's energy security China as Iran largest energy oil buyer is significant to Iran economic security. Iran energy pipelines can be enlarged to junction to the existing China's pipeline network carrying oil and gas from Kazakstan and Turkmenistan.^⑥

^① Ibid.

^② Yang Jiemina, “US-China Cooperation on Iran Signals a New Day in Global Governance,” http://www.huffingtonpost.com/yang-jiemian/us-china-iran-_b_7965180.html.

^③ Ibid.

^④ Ibid.

^⑤ Zachary Balin, “Balancing Cooperation's and Competition in the US-China Relations,” February 19, 2016, <https://www.brookings.edu/blog/up-front/2016/02/19/balancing-cooperation-and-competition-in-u-s-china-relations/>.

^⑥ Samir Tata, “US, Iran and China: An Emerging Strategic Triangle,” *Partner Perspectives*, January 30, 2014, <https://worldview.stratfor.com/article/us-iran-and-china-emerging-strategic-triangle>.

From the Iranian perspective, an additional edge of such pipelines connection is that it would facilitate China in order to install security equipment needed to protect Iranian oil fields and pipelines. Obviously, it has giving mutual benefits to both states, and the probability of increasing China-US energy competitions in near future. Moreover, Iran needs intensively to develop renewable nuclear power to meet its growing domestic acquisition for electricity. Iran also resolved US concern over a potential nuclear program. By incisive triangulation between China, Iran, and US-Iran can reduce the possibility of military attacks while increasing its economic security.^①

The core relationship between China and Iran has significant implications for US and regional security.^②The Energy Procurement Strategy (EPS) of China and containment policy of US are key competitors in this region. As two of the world's largest energy consumers, the China and US frequently discuss with on energy issues and, at times, exchange ideas on innovations and healthy practices within the field. These activities traced back to the early 1970s when the two countries commenced diplomatic relations following president Richard Nixon's historic visit to China in 1972. Since that time, energy has been viewed as a relatively "safe" and non-controversial topic that has enhanced bilateral relations and mutual confidence. Simultaneously, however, Due to rapid economic growth, the Chinese state-sponsored energy firms have started searching of energy markets around the world and energy resources which are planned to assure China's growing energy demands. On many occasions, the US officials reacted abnormally and creating hurdles to china regarding these activities, and are fearful that such commercial relationships might enhance Chinese economic and political influence in many regions of Middle East specifically, Saudi-Arabia, Iraq, and Iran where the US has traditionally enjoyed hegemonic supremacy. About China-American energy cooperation and competition, there are few positive and negative factors.^③China is manipulating to secure its energy needs by building a strong interdependent relationship with Iran and other regions of Middle East.^④

VI. Conclusion

China and Iran are economic and trading partners rather than political allies. Both countries have assisted one another on many levels. In fact, China's history is free from any sort of internal interventions or zero role in the domestic politics of Iran, unlike Western countries, such as UK and the US. China and Iran are developing nations that worry US strong hold in their neighborhood. China needs energy resources — Iran has enormous energy resources Energy is a big challenge for a rising power of the world during twenty first century. On the other hand, China is a source of investment, technology, and some extent military hardware. Hence, there is an increasing perception in Iran of overdependence on China.

Recently, China surpassed the US as the world's top importer of crude oil — of the 6.2 million barrels per day (bpd), it currently imports, more than half are extracted in the MENA region particularly, (Iran and Saudi Arabia). Most of the crude oil imported from

^① Ibid.

^② Paul J. Smith, "Energy Security and the US-China Dyad: Is Sustained Energy Cooperation Possible?" *Journal of Energy & Natural Resources Law*, Vol.34, Issue 4, 2016, pp.417-441.

^③ Ibid.

^④ Bill Richardson, "Does China's Quest for Energy Security Threaten the United States?" *Foreign Policy*, December 10, 2014.

Iran. It is expected by (IEA) International Energy Agency that China's oil imports from MENA region would be doubled by 2035, in which Iran and Saudi Arabia are top oil exporter to china. In fact, a China's interest in its stability is only likely to grow.

China's FDI in Iran is slowly increasing as a ratio of China's total investments. Investments in the energy (oil + gas) sector have been afflicted by delays. Hence, in some cases, the development on new projects remains uncertain. China's economic opportunities in Iran have increased with the lifting of sanctions, but this is not guaranteed. Western corporations re-entering Iran would compete with the Chinese. Increased Iranian oil output would take global oil prices down, which is eventually to the benefit of China. Further, it is possible that China's trade volume with the US dwarfs Iran-China trade.

Chinese analysts expressed their views that the US is a main threat to China's energy security. That's why China is planning to advance the security of its oil imports from Iran and other Middle East countries through increasing its diplomacy in the region. The Chinese leadership has a strong idea that the solid bilateral political relationship can better secure supply during crises, regardless of historical proof to the opposition.