

Strengthening Sanctions on Iran with Strategic Reserves

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The United States has initiated new sanctions on Iran aimed at preventing it from collecting revenue from exports of crude oil or any other good. The new US sanctions could be the most draconian introduced in many years because, if implemented fully, they would force trading partners to choose between the United States and Iran. This requirement could pose a very serious economic threat to countries that have significant trade with the US.

A number of the United States' trading partners have raised serious alarms regarding the new sanctions. China, South Korea, and Turkey, in particular, have publicly expressed concern in the first week after President Obama signed the establishing legislation. For example, Turkey immediately announced its intention to request a waiver. In response to such worries, Treasury Secretary Geithner and senior State Department officials visited several Asian countries in the second week of January. These trips assuaged some but not all fears held by America's trading partners.

Nations such as China, South Korea, and Japan, which obtain significant oil volumes from Iran while enjoying significant trade surpluses with the United States, are justifiably anxious. No doubt, these countries and others also worry that the new US and EU sanctions will disrupt oil

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markets, send crude prices higher, and further slow global economic growth, which would, at minimum, cut their export revenues.

The United States can allay some of these apprehensions, as can Europeans, by not being aggressive about enforcing the tighter sanctions. The new US sanctions law, H.R. 1540, grants the president authority to waive sanctions or exempt countries on a case-by-case basis. The European program will likely offer its member governments flexibility as well. Politicians and the public in the United States, Europe, and many other nations are set on using every economic means possible to stop Iran's nuclear weapons development. However, public support will quickly wane if aggressive enforcement of sanctions results in higher oil prices, recession, and greater friction with trading partners in Asia. As is often the case with sanctions, the actions taken by Iran's opponents may inflict as much or more harm on themselves as they do on their target.

There is, however, a way to put real pressure on Iran while moderating or eliminating economic fallout for the US and EU economies and those of its trading partners. Changes in the US energy sector have made a significant portion of our Strategic Petroleum Reserve (SPR) superfluous. As of January 2012, the US government held almost 690 million barrels of crude in reserve. Thanks to reduced consumption and increased production, one-third of the SPR—roughly 280 million barrels—is no longer required to meet US obligations under the 1974 Agreement on an International Energy Program (IEP Agreement). This oil could be sold as surplus government property, just as the US has disposed of surplus stocks of other commodities in the past. Such sales would make a minor contribution to the country's debt reduction efforts.

More importantly, the surplus SPR stocks could be used to solidify support for sanctions on Iran. This "Strategic Use of Strategic Reserves" would accomplish two complementary goals. First, it

would allow stricter application of the sanctions. At the same time, it would ease the risk of trade friction (or an outright trade war) by reducing the likelihood of a significant oil price increase and the attendant threat of recession.

Many fear that world oil prices will climb if Iran is pushed from the global crude market. Such concerns are justified even though Saudi Arabia has indicated it would replace oil previously purchased from Iran. Saudi sales may dampen but will not totally stop price escalation if the Kingdom's incremental output is inferior to the crude it supplants. Here again, the United States can help. The US originally purchased large volumes of high-quality crude for the SPR. That crude was needed by refineries twenty-five years ago because they could not process heavier sour crudes. Much of this higher-quality crude is now surplus because US facilities have been rebuilt or closed. Sales of some SPR volumes to support tighter sanctions on Iran would likely aid the Saudi sales in moderating any price increase.

As noted, China and other Asian countries have already expressed concern that prices pushed upward by stricter sanctions on Iran could harm the world economically. They are more likely to cooperate with US sanctions if the United States commits to a strategic stock release to forestall or dampen any impact on world oil prices. Prices might even be lower than pre-sanction levels if the release is really successful.

In this paper, I describe how SPR oil could be used strategically. I begin by summarizing the details of H.R. 1540, the legislation that requires the US to impose sanctions on banks trading with Iran. I then review the global supply-and-demand situation and identify countries that have the greatest exposure under the sanctions. Finally, I explain how the US could aid such nations by selling surplus SPR stocks. As part of this explanation, I provide a detailed calculation of US ob-

ligations under the IEP Agreement and show that changes in our domestic energy situation would now permit disposal of one-third of the government's crude oil holdings.

I. H.R. 1540 – New Sections on Iran

President Obama signed H.R. 1540, the National Defense Authorization Act of 2012, on December 31, 2011. Section 1245 of the act imposes sanctions on Iran's financial sector. In particular, subsection (d)(1)(A) of Section 1245 states that, sixty days after enactment, the president

...shall prohibit the opening, and prohibit or impose strict conditions on the maintaining in the United States of a correspondent account or a payable-through account by a foreign financial institution that the President determines has knowingly conducted or facilitated any significant transactions with the Central Bank of Iran or other Iranian financial institution designated by the Secretary of the Treasury for the imposition of sanctions pursuant to the International Emergency Economic Powers Act (50 U.S.C. 1701 et seq).

In effect, the law offers central banks across the globe a Hobson's choice. They can open accounts with the United States Federal Reserve to facilitate payments for exports and imports to the US and conduct other financial transactions or they can open accounts with Iran's Central Bank. They cannot do both. This means, in theory, that nations buying Iranian exports, predominantly oil, must terminate purchases or find other ways to carry out transactions with that country by March 1, 2012, if they wish to keep doing business with the United States.

This sounds like a strict "us or them" policy. Congress, however, created certain exceptions for petroleum in H.R. 1540. First, the law stipulates that the US Energy Information Administration (EIA) must prepare and provide reports to the president every sixty days regarding world oil market conditions. These reports must describe "the availability of petroleum and petroleum products produced in countries other than Iran in the sixty days preceding the submission of the report."²

² H.R. 1540, Section 1245(d)(4)(A).

Following receipt of this information, the president has ninety days to determine whether countries other than Iran can produce sufficient oil volumes to offset any reduction in Iranian supply. The sanctions described in Subsection (d)(1)(A) are to be imposed on foreign financial institutions 180 days after the law's enactment (June 30, 2012) if the president determines that

...there is a sufficient supply of petroleum and petroleum products from countries other than Iran to permit a significant reduction in the volume of petroleum and petroleum products purchased from Iran or through foreign financial institutions.³

The law is clear then. Sanctions must be imposed on financial institutions dealing with Iran if President Obama determines that oil supplies are available. However, as noted, Congress recognized such measures are extreme and thus permitted the president to grant exceptions or waivers.

Specifically, the president can waive the sanctions if he determines that a country has significantly reduced its crude purchases from Iran during the previous six-month period.⁴ The president is also authorized to grant a four-month waiver to a country if he deems this to be in the national interest.

As the US institutes these new sanctions, the EU is also moving ahead with a program to limit imports of Iranian oil. Foreign ministers from EU members were scheduled to meet at the end of January to address the issue. Initially, a number of countries proposed that the EU impose an immediate comprehensive ban on oil imports from Iran. However, a number of the southern EU members, particularly the already financially troubled Italy and Greece, have asserted that such measures would cause additional economic hardships. As a result, EU sanctions have been delayed six months, as *The Washington Post* reported on January 13, 2012:

³ H.R. 1540, Section 1245(d)(4)(C).

⁴ H.R. 1540, Section 1245(d)(4)(D).

The agreement, reached at a meeting of European Union ambassadors Thursday in Brussels, still has to be confirmed in European capitals and ratified by foreign ministers at a meeting scheduled for Jan. 23. It is designed to dilute the painful effects of a European oil embargo while at the same time seeking to maintain the gesture's political impact.

The United States has been seeking to build worldwide agreement on reducing or halting Iranian oil exports, which amount to an estimated 450,000 [sic] barrels a day. The goal is to pressure Iran into opening its nuclear development program to meaningful inspection by the United Nations' nuclear watchdog, the International Atomic Energy Agency.

Under the terms of the agreement, Greece, Italy, and Spain—the three European Union countries that are particularly dependent on Iranian oil imports—would be exempted from the embargo for even longer than six months, the diplomats said.

Greece, Italy, and Spain account for almost all European oil imports from Iran, with Greece counting on Iran for 22 percent of its imports, Spain almost 10 percent, and Italy 13 percent. By comparison, France, which pushed for an immediate implementation of the embargo, buys less than 4 percent of its oil from Iran.⁵

US officials have not demonstrated such flexibility. Treasury Secretary Geithner visited China and Japan this month. Geithner discussed the new sanctions with leaders of both countries. Separately, officials from Treasury visited South Korea for similar talks. A *New York Times* dispatch published Saturday, January 14, noted the United States' determination to move rapidly on the sanctions issue. An official quoted in the article made the government's intention absolutely clear:

“We do mean to close down the Central Bank of Iran,” said a senior administration official, adding that oil purchases were the key to that effort because oil “is the largest source of their revenue.”⁶

The US goal seems obvious. Sanctions on Iran will be tightened. Foreign central banks will be denied access to the United States after June 30, 2012, unless their governments begin to take steps to cut off or at least reduce oil imports from Iran.

⁵ Edward Cody, “E.U. Commits in Principle to Iran Oil Embargo,” *The Washington Post*, January 13, 2012.

⁶ Mark Landler and Clifford Krauss, “Gulf Nations Aid US Push to Choke off Iranian Oil Sales,” *The New York Times*, January 14, 2012. (The title of the print article was “US Efforts to Wean Asia from Iran Oil Gain Ground.”)

II. Oil Market Dynamics – Can Sanctions Be Imposed without Affecting Crude Prices?

The sanctions on Iran will remove roughly 1.5 million barrels per day from the world market. This figure differs from the 3.5 million barrels per day cited in many reports.⁷ I explain the difference by the fact that Iran must import significant petroleum product volumes to meet domestic needs. Table 1 summarizes the IEA estimates of Iranian crude production and consumption. The net, 1.5 million barrels per day, represents the amount Iran presumably sells.

Using the 1.5 million barrels per day figure, I estimate that Iran's net income from oil exports currently averages \$40 to \$50 billion at annual rates, depending on the discounts it must offer buyers. This is less than the \$73 billion estimated by EIA for 2011 but is consistent with the net import figures calculated here.⁸

One must be clear. Iran exports crude today and imports products. The Iran/Iraq war crippled Iran's refining industry, and Iran has met its growing need for fuels by exporting crude in exchange for these imports. Such "tolling" agreements (a term used in the oil trade) can be run outside the international financial system. Here we assume such arrangements would continue, in part because no country imposing sanctions wants to inflict extra hardship on Iranian citizens and because such transactions would not generate the hard currency sought to fund Iran's nuclear efforts. The goal of sanctions is simply to prevent Iran from monetizing crude oil sales of 1.5 million barrels per day.

⁷ Details on Iran's participation in the world oil market are opaque, to say the least. Our solid information is limited to estimates of Iran's oil production and oil consumption. As noted on this page, Iran exchanges some volumes of crude oil exports for products, primarily with India and Turkey.

⁸ EIA estimates that Iran earned \$73 billion from oil exports in 2010 (see *OPEC Revenues Fact Sheet*, EIA, August 2011). The agency explains that it calculates revenues by multiplying net exports by spot prices. The price level used for its calculation for 2010 is not given in the report. My lower estimate for 2011 may be explained by the fact that IEA data (thought to be more reliable than EIA data) for 2011 show a decline in production from 2010 and an increase in Iranian consumption. Two factors—lower net exports and lower prices—are behind the difference.

Iran engages in significant trade with India. Iran exports crude oil to India and receives products in return. As can be seen from Table 2, India was the second largest importer of Iranian crude during the first six months of 2011, taking in 328,000 barrels per day according to the EIA.⁹

The world's oil-exporting nations could replace the lost oil with relative ease. For example, Saudi Arabian officials have said the Kingdom can produce 12.5 million barrels per day. Most authorities believe Saudi production is now roughly 10 million barrels per day.

Saudi Arabia has also indicated its willingness to boost production to keep pace with higher demand. Indeed, Ali Naimi, the country's oil minister, announced on January 15 that Saudi Aramco would meet increased demand, as Platts reported:

Saudi Arabia has total oil production capacity of 12.5 million b/d and is able to meet any increase in demand for crude oil from consuming countries, Oil Minister Ali Naimi was quoted as saying Sunday.

"We have confirmed our ability to do that and any doubts expressed by analysts about our capacity are incorrect," Naimi was quoted as saying by the Saudi Alwatan newspaper. At current capacity, the kingdom is able to "meet any increase in demand from consuming countries," Naimi added.

The Saudi minister spoke after signing an agreement Saturday with China's Sinopec for a 400,000 b/d joint venture refinery with Saudi Aramco to be located at Saudi Arabia's Red Sea port of Yanbu.¹⁰

Mr. Naimi elaborated on his views in an interview with CNN January 16. Speaking with correspondent John Defterios, he said the country was producing between 9.4 and 9.8 million barrels per day and then added, "I believe we can easily get up to 11.4, 11.8 almost immediately, in a

⁹ Note that EIA provides information on Iran's exports for crude oil to various countries, but not its product imports from these countries. Iran is known to import significant volumes of product, as I have noted above. The EIA estimates are for gross exports, not net exports.

¹⁰ Kate Dourian, "Saudi Arabia Is Able to Meet Increased Demand for Oil: Naimi," *Platts on the Net*, January 15, 2012.

few days. Because all we need is to turn valves. Now to get to the next 700 (thousand) or so, we probably need about 90 days.”¹¹

Libya will also boost oil output in 2012. Civil war in that country limited its 2011 production, which dropped to 40,000 barrels per day in the third quarter of last year but is expected rise above one million barrels per day in 2012.

The increased volumes from Libya and Saudi Arabia will almost certainly satisfy global demand for petroleum through 2012 when added to projected production from all other producers. Indeed, it would be very difficult to argue that total elimination of Iran’s net exports of 1.5 million barrels per day would affect markets as long as other producers continued their output.

In spite of this, some countries that import significant volumes of Iranian crude have reservations regarding the sanctions. As noted above, China, South Korea, and Japan have concerns. The country that confronts the most significant problems related to sanctions, however, is Turkey. Iranian imports account for half of its total crude imports. Not surprisingly, Turkish officials have indicated they might seek a four-month waiver from US sanctions.¹²

As noted above, however, there is an alternative to waivers and exceptions. The United States can offer a carrot to Turkey and other countries importing Iranian oil in the form of SPR crude. The US can sell from the SPR, also noted above, because it holds reserves well in excess of its IEP Agreement obligations. The United States could sell reserve crude to countries importing from Iran if those nations make a diligent effort to replace their remaining imports from other

¹¹ John Deferios, “Saudi Arabia Is Ready to Turn Valves,” CNN Business360 Global Exchange, January 16, 2012.

¹² Daniel Dombey, “Turkey Defiant on Iran Sanctions,” *Financial Times*, January 12, 2012.

sources. Properly employed, this “carrot” could contribute to a drastic reduction in Iranian crude sales and help keep those sales low for up to two years.

III. The US “Carrot” – Surplus SPR Stocks

As stated earlier, the congressionally mandated sanctions on foreign central banks doing business with Iran’s central bank are among the most draconian in recent years. In the everyday vernacular, the sanctions constitute a very big “stick.” To repeat, however, the United States also has an enormous “carrot” to offer countries that work aggressively to lower imports from Iran: excess SPR crude. By our calculations, the United States had 276,394,000 surplus barrels in the SPR as of October 31, 2011. We recommend that the US offer to sell some of this oil—perhaps 500,000 barrels per day—to countries importing oil from Iran that successfully reduce those imports by 50 percent. If this strategy succeeded, it would reduce Iran’s oil export revenues from \$40 to \$50 billion in 2011 to less than \$20 billion in 2012.

As explained, the United States can offer this help because changing circumstances have left us with excessive reserves. Declining consumption and increased production have reduced our IEP Agreement obligation. Every oil-importing country ratifying that concord, which established the International Energy Agency, agreed to build strategic reserves equal to ninety days of net imports. I calculate that the US requirement peaked in May 2008 at 785 million barrels. We derive this number by multiplying US monthly net imports by ninety.

Figure 2 shows our estimate of US monthly net imports for 2000 to 2011. For descriptive purposes, I smoothed the data using a twelve-month moving average. Note that Figure 2 excludes imports from Mexico and Canada for several reasons. First, Canada and Mexico are signatories to the IEP Agreement. Second, in Canada’s case, its oil has no other place to go. Regarding Mexico, most of the country’s oil is unique and can be processed only in a few refineries. The prima-

ry facility for this is jointly owned by Mexico and Shell and located in Houston. That refinery processes the Mexican crude and returns a large portion of the products to Mexico.

In the future, this situation may change, of course. Canadian government officials have reacted to President Obama's delay of the Keystone Pipeline by pursuing a western export option. This would take oil from Alberta west to British Columbia for shipment to China. The idea faces numerous legal hurdles, however, not the least of which is opposition from one hundred sovereign Native American bands that enjoy much greater autonomy in Canada than in the United States. Moreover, hearings scheduled to last more than a year on the alternative project, dubbed "Northern Gateway," began only in January 2012. This suggests, at best, that the Canadian flow to the US will increase steadily until 2015 or perhaps even 2017.

As can be seen from Figure 2, US net imports, excluding oil from Canada and Mexico, have declined almost fifty percent from a peak of 8.5 million barrels per day in May 2005 to 4.6 million barrels per day in October 2011. Many experts expect imports to decrease further as production from shale formations in Texas and South Dakota rise and consumption falls. (While premature, a *Wall Street Journal* article has celebrated the United States' emergence as a net fuel exporter.¹³)

The decline in US net imports frees up significant amounts of SPR stocks. According to my calculations, the US had 50 million surplus barrels in January 2009, 200 million barrels in January 2010, and 225 million barrels in January 2011. It could have 300 million barrels on January 1, 2012. Figure 3 traces the growth in strategic barrels.

¹³ Liam Plevin and Russell Gould, "U.S. Nears Milestone: Net Fuel Exporter," *The Wall Street Journal*, November 30, 2011.

I suggest the surplus SPR barrels be used “strategically.” Specifically, the United States could negotiate with countries importing oil from Iran to replace one-third of those imports with oil sourced from other countries. Those that achieve this goal would be allowed to purchase an equal volume from the SPR. If done correctly, this strategy would cut Iran’s net oil exports from 1.5 million barrels per day to 500,000 barrels per day. This would also reduce Iran’s income from oil imports to less than \$20 billion per year.

The sales proposed here could also make it easier for EU members to move ahead quickly with their sanctions. European nations, as of this writing, hold stocks covering only thirty days of imports. By comparison, US stocks covered 173 days of net imports at the end of October. Europe should recognize the enormous advantage enjoyed by the United States and seek additional support from us for its sanctions program.

I note here, however, that this strategy does not address the crude volumes Iran exchanges with other countries for products. As noted, for example, Iran exports crude to Indian refiners, which in turn ship back petroleum products. This barter trade is presumably not affected by the H.R. 1540 sanctions. If it is, the trade could be easily restructured to avoid the restrictions.

IV. Price Impacts

SPR oil sales may also ease pressure on global oil prices that might otherwise result from the sanctions on Iran. The price increase would occur if Saudi Arabia and other producers did not boost their sales sufficiently *or if other producers could not produce oil of the quality required by some buyers*. Much the additional crude Saudi Arabia seeks to add to the market will be Arab Heavy, which has a gravity of 27.6° and a sulfur content of 2.94 percent.¹⁴ For many refiners, Arab Heavy is a poor substitute for Iranian Light, which has a gravity of 33.4° and sulfur content of 1.36 percent.

The surplus crude sold from the United States could be tailored to deal with such quality problems. The US SPR holds large quantities of light crude oils, acquired more than twenty years ago to meet the needs of refineries that could not process heavier, sour crudes. Most of these refineries have now closed or been rebuilt to process heavier crudes. Three of the remaining light crude refiners on the US East Coast, which account for more than 600,000 barrels per day of capacity, will be shuttered by July 2012.

By selecting the correct crudes from the SPR, the United States can thus help cover the needs of refiners that would have bought lighter crudes from Iran. The sales could be truly strategic because they would prevent prices from jumping.

¹⁴ *The International Crude Oil Handbook, 2010* (New York: Energy Intelligence Group, 2010), p. E337.

V. Conclusions

The United States has introduced new, draconian sanctions designed to prevent Iran from earning money from its crude oil exports. The sanctions will affect some oil-importing countries, most notably China, Japan, and South Korea. These nations will seek to purchase oil from other suppliers, principally Saudi Arabia.

The United States can assist the affected countries by selling oil from its strategic reserve, which now holds far more oil than required by treaty obligations. This strategic use of our SPR will increase the effectiveness of sanctions on Iran and ease the adjustment difficulties that confront our allies. The sales may also reduce any price pressure caused by removal of light Iranian crude from the market.

Figures and Tables

Figure 1
US Stock Holding Obligation under IEP Agreement,
Twelve-Month Moving Average

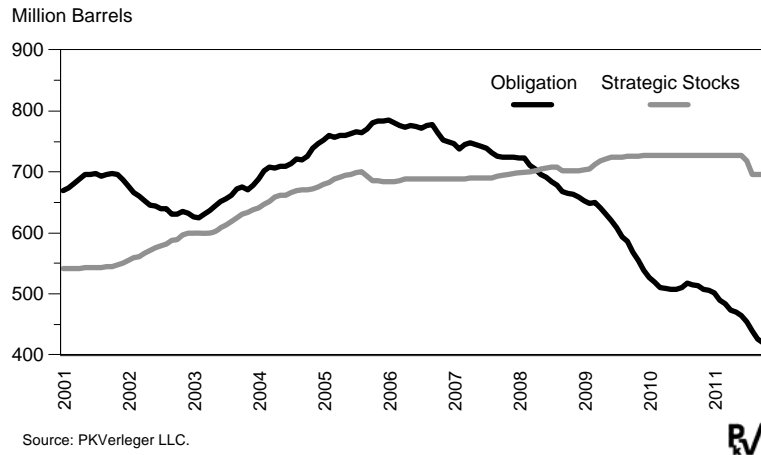


Figure 2
US Net Crude Oil Imports Excluding Canada and Mexico,
2001-2011, Monthly Data, Twelve-Month Moving Average

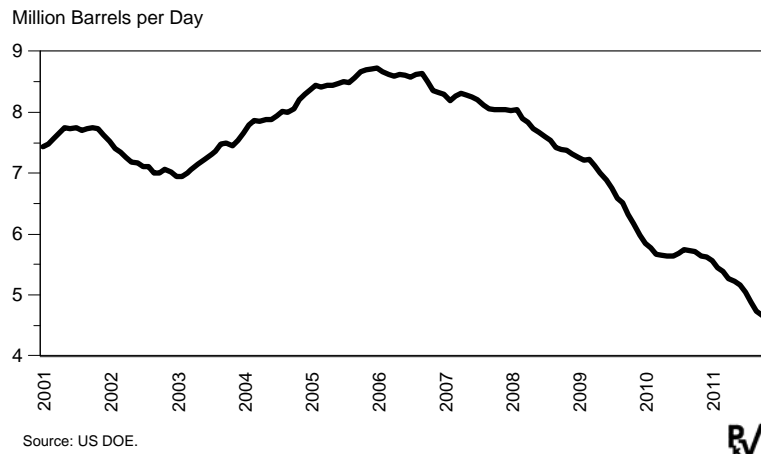


Figure 3
US Surplus Strategic Stocks, Monthly, 2001-2011

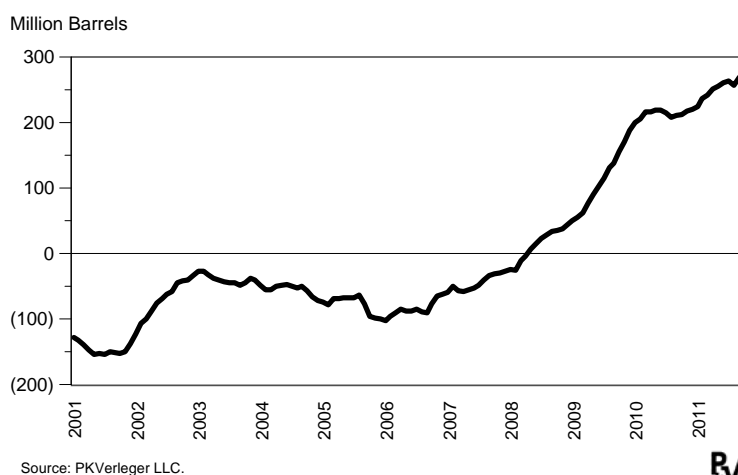


Table 1. Rough Estimate of Iranian Petroleum Supply/Demand Balance (Million Barrels per Day)

	<u>Q1:11</u>	<u>Q2:11</u>	<u>Q3:11</u>	<u>Q4:11</u>
Crude Oil Production	3.63	3.65	3.53	3.55
Estimated Petroleum Consumption	2.09	2.05	2.04	2.04
Net Exports	1.54	1.60	1.49	1.51

Source: IEA.

Table 2. Iranian Oil Trade – First Six Months of 2011 (Thousand Barrels per Day)

<u>Importing Countries</u>	<u>Volume (Thousand Barrels per Day)</u>	<u>Percentage of Country's Imports</u>	<u>Percentage of Iran's Exports</u>
European Union	450		18
Italy	183	13	7
Spain	137	13	6
France	49	4	2
Greece	20	14	1
Germany	17	1	1
United Kingdom	11	1	0
Netherlands	33	2	1
Japan	341	10	14
South Korea	244	10	10
China	543	11	22
India	328	11	13
Turkey	182	51	7
South Africa	98	25	4
Sri Lanka	39	100	2
Taiwan	33	4	1

Source: US DOE.