THE RAPIDAN GROUP
GLOBAL ENERGY INSIGHT

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Subcommittee on Multilateral International Development, Multilateral Institutions, and International Economic, Energy, and Environmental Policy

Hearing entitled "American Energy Exports: Opportunities for U.S. Allies and U.S. National Security"

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Chairman Barrasso, Ranking Member Udall, and Members of the Committee, my name is Robert McNally and I am the president and founder of The Rapidan Group, an independent energy market, policy, and geopolitical consulting firm based in Bethesda, Maryland. It is an honor to speak with you today about the role of US energy exports in strengthening our foreign policy and national security, particularly by assisting our allies, many of whom contend with much more challenging energy security situations than ours.

Oil and natural gas are the lifeblood of modern civilization. Their abundance and affordability are prerequisites for thriving economic growth, high living standards, and ample employment. They are also an essential requirement for our national security. US foreign policy has historically benefited from our strong position as a producer and exporter of energy. While we were known as the "Arsenal of Democracy" during World War II, we were equally an "Arsenal of Energy", supplying nearly six out of seven barrels consumed by the Allies.[1] Even after net crude imports began rising steadily after the war, our control of spare production capacity enabled us to supply our allies and prevent economically damaging price spikes that would have resulted due to oil supply disruptions associated with Middle East conflicts in 1956 and 1967.

But after the energy, geopolitical, and economic convulsions of the 1970s, our confidence in our domestic abundance and control shifted to apprehension about dependence and vulnerability. For the past forty years our foreign and national security policy planning has prioritized preparing against supply interruptions and price spikes, protecting Middle East oil fields from hostile control, and protecting the supply lines between the region and global markets.

In this respect, the tremendous and unexpected boom in domestic oil and gas production in recent years is an enormous blessing for our country. In the last ten years, our net oil imports fell from 12.5 mb/d to 5 mb/d (in the first quarter of 2015) or from 60% to 24% of supply.[2] For the first time since the 1950s, most official projections see U.S. net energy imports, which includes all fuels, declining and eventually ending.[3] Our newfound abundance does not mean we can ignore the Middle East, which holds nearly half of the world's proven oil reserves and supplies one-third of global production. That region will remain a source of potential price and supply shocks, and its stability will therefore remain a vital national interest. But our domestic boom does confer enormous benefits and requires that we change our thinking about energy.

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[1] *A History of the Petroleum Administration for War*, 1946, p. 1.
[2] June 2015 Short Term Energy Outlook, Table 4a. http://www.eia.gov/forecasts/steo/pdf/steo_full.pdf. For historical data, see EIA. In 2005, total product supplied was 20.8 mb/d and net imports were 12.5 mb/d.
[3] http://www.eia.gov/pressroom/presentations/gruenspecht_06092015.pdf, slide 2

The economic benefits of our energy boom to our consumers, businesses, and public sector have been extensively analyzed and extolled by a broad spectrum of officials, experts, think tanks and leading journals. They include higher domestic supply, lower gasoline prices, and stronger GDP growth and are summarized in the appendix below from Columbia University's Center on Global Energy Policy, where I am a non-resident fellow.

Your subject today, and the focus of my remarks, concerns the national security benefits of U.S. energy exports. To summarize at the outset, those include:

1. Strengthening our influence and leadership position with allies and our leverage vis-à-vis adversaries by reducing our dependence on energy imports and enhancing our national economic and geopolitical vitality.
2. Adding a new, stable, and relatively flexible source to the global supply pool, which reduces price volatility and thereby supports our own economic growth and that of our allies.
3. Offering allies and friends alternative supplies and the economic leverage it affords them in their negotiations with energy exporters like Russia.
4. Supporting our top foreign policy goals such as enabling oil export sanctions against Iran to be implemented without triggering economically harmful price increases.
5. Bolstering US leadership in the cause of free and open markets.

Natural gas

While much attention is paid to the spectacular turnaround in our oil supply and imports, it is worth remembering our need for imported liquefied natural gas (LNG) underwent a similar and surprising transition. Between 2002 and 2007 our LNG imports had more than tripled, and officials were expecting another doubling. We were building terminals to import from suppliers like Qatar and Russia. But after the shale gas revolution increased proven reserves by 77% from 200 billion cubic feet (bcf) in 2004 to 354 bcf last year, we are now on track to become a net natural gas exporter by 2017, according to EIA.

The US shale gas boom directly helped our European allies by giving them bargaining leverage with their main supplier, Russia. We helped first by backing out LNG imports, making them available for our allies, particularly in Europe. Then, as we began approving and reconfiguring facilities to export LNG, Moscow was forced to accept lower and more flexible prices on its sales to European customers.

The foreign policy benefits of LNG exports quickly became apparent to our leaders. In early 2013, then National Security Advisor Tom Donilon said the U.S. has "a strong interest in a world natural gas market that is well supplied, diverse, and efficiently priced. Increased U.S. and global natural gas production can enhance diversity of supply, help delink gas prices from expensive oil indexed contracts, weaken control by traditional dominant natural gas suppliers, and encourage fuel switching from oil and coal to natural gas."[4]

Foreign policy was a factor in DOE's consideration of LNG export facilities for non-FTA countries. Last April, shortly after Russia's aggression against Ukraine, then DOE Principal Deputy Assistant Secretary for Fossil Energy Chris Smith testified to the House Foreign Affairs Committee that his agency considers international factors as part of the public interest determination, among many other domestic factors, noting "of course, we are monitoring the situation in Europe very closely, and we

[4] April 24, 2013. https://www.whitehouse.gov/the-press-office/2013/04/24/remarks-tom-donilon-national-security-advisor-president-launch-columbia-

certainly take energy security of our allies very seriously. We have taken recent global events into account in making decisions in recent applications."[5]

It is important to realize that we need not export large quantities of gas to benefit from a foreign policy standpoint. Just having the option to buy from the US strengthens the bargaining power of our allies when they negotiate long term contract prices with suppliers like Russia. Last December, Lithuania opened a costly LNG import terminal, an example of an ally willing to pay a security premium for diversified source of supply. Lithuania's new terminal forced Gazprom to drop its prices to Lithuania, reportedly by 20%.[6]

Our willingness to export LNG also reduces future uncertainty and enhances contingency planning. It is impossible to predict every future economic and security challenge our allies or we will face, but knowing that trade links remain open constitutes a substantial source of support to planners and decision makers when unforeseen challenges and crises occur.

The U.S. policy of exporting natural gas also helps allies contending with challenges that are foreseeable. For example, longer term, experts believe Europe's ability to significantly wean itself from very high dependence on Russian pipeline gas, particularly highly dependent Baltic and southeast European states, will rely largely on LNG providers (including the US) and to a lesser extent new pipeline gas from Azerbaijan.[7] For those countries renegotiating long term contracts with Russia and constructing LNG import facilities, continued willingness by the US to export LNG is paramount. Russia will always be a major gas supplier to Europe, but Moscow's ability to dictate prices will erode as the market becomes more diverse and liquid, partly due to our ability and willingness to export LNG.

For these reasons, our allies asked for access to our natural gas. Former Obama Administration National Security Advisor Tom Donilon noted in 2013 "[m]any of our allies have expressed interest in the potential of the United States as a global natural gas supplier" and the leaders of Japan and India have requested access to US LNG supplies during their visits to Washington.[8] In the case of Japan, our willingness to build and construct LNG export facilities provided substantial moral support and leverage during a time when the country was reeling from the consequences of the March 2011 Fukushima disaster, which led to a shutdown of the nation's nuclear plants and triggered large increases in LNG imports. EIA reported Japan is currently able to supply only 9% of its total energy needs from domestic sources, down from 20% before the Fukushima disaster. Japan is the world's largest LNG importer, second-largest coal importer, and third largest net importer of crude and products. With more than 30% of the world's LNG passing through the Strait of Hormuz, Japan is naturally anxious to diversify its imports of LNG, and over the medium-to-long term will add supplies

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[5] http://www.gpo.gov/fdsys/pkg/CHRG-113hhrg88088/html/CHRG-113hhrg88088.htm

[6] http://mobile.reuters.com/article/idUSL5N0XA2YY20150413

[7] See graphic in the Appendix illustrating EU energy dependence on Russia. Reducing European Dependence on Russian Gas: Distinguishing natural gas security from geopolitics, Oxford Institute of Energy Studies, October, 2014. http://www.oxfordenergy.org/wpcms/wp-content/uploads/2014/10/NG-92.pdf

[8] Tom Donilon's speech at the Columbia Center on Global Energy Policy, April 24, 2013 https://www.whitehouse.gov/the-press-office/2013/04/24/remarks-tom-donilon-national-security-advisor-president-launch-columbia- and http://www.reuters.com/article/2015/01/16/india-usa-energy-idUSL3N0UV4CZ20150116

http://www.bloomberg.com/news/articles/2013-02-20/japan-s-abe-plans-to-ask-obama-to-approve-shale-gas-exports

from the U.S. So far, the U.S. Department of Energy has granted final approval to 7 LNG export projects for non-FTA countries such as Japan.[9]

[9] Current status of project approvals by DOE is available at http://energy.gov/sites/prod/files/2015/05/f22/Summary%20of%20LNG%20Export%20Applications.pdf
EIA noted: "Japan's Chubu Electric and Osaka Gas signed preliminary agreements to import more than 100 Bcf/y each for 20 years from Freeport LNG starting 2017, marking a potential reduction in the high LNG prices (cont.) that Japan currently pays. The companies also plan to acquire half of the assets of Freeport LNG's first train. Sumitomo, Japan's third-largest trading house, holds an agreement to buy 110 Bcf/y for 20 years from Cove Point LNG located on the U.S. East Coast and which received approval to export to non-FTA countries in September 2013. Sumitomo intends to sell the cargoes to Japanese utilities Tokyo Gas and Kansai Electric. In May 2013, Mitsubishi and Mitsui, Japan's two largest trading companies, first ventured into the U.S. shale gas export market by purchasing a combined 33% equity share in the Cameron LNG project located in the Gulf of Mexico. The companies have agreements to purchase 384 Bcf/y, or two-thirds of the terminal's export capacity that is expected to come online by 2017. Altogether, Japanese companies have secured about 1,000 Bcf/y in long-term volumes from the new U.S. terminals coming online by 2020."
http://www.eia.gov/beta/international/analysis_includes/countries_long/Japan/japan.pdf

Crude oil

Since 1975, US law has prohibited the export of domestic crude oil, except to Canada and in other limited circumstances. The crude oil export ban was enacted just after we lost control of the oil market and were reeling from soaring oil prices and mounting import dependence. Policymakers had imposed domestic price controls and complemented them with an export ban on crude and refined products to prevent the loss of domestic supply to uncontrolled markets abroad. While price controls and the export ban on refined products were lifted in 1981, the crude oil ban oddly remained in place. But until the recent shale oil boom, the need to export oil never arose, so few paid much attention to the ban.

As with natural gas, our oil circumstance has changed for the better. Once again the US oil industry delivered a pleasant surprise by applying multi-stage hydraulic fracturing and horizontal drilling to unlock enormous new amounts of domestic energy. Thanks to American ingenuity, sweat, and risk-taking, US crude oil production rose from 5 million barrels per day (mb/d) in late 2006 to 9.4 mb/d in the first quarter of 2015. Total petroleum and other liquids production are now 14.8 mb/d, making the US the largest liquids supplier in the world.

The United States is and will remain a substantial crude importer. We import mainly heavy or dense crudes because our refineries were designed to process them. Half of our crude imports come from our friendly neighbors Canada and Mexico.[10] But the shale oil boom has unlocked crudes of a lighter variety that are more suitable to refineries abroad. So it makes economic sense for the United States to export some of its light crude while continuing to import heavy crude. The fact that we import crude oil does not mean we should keep the ban in place. If we banned the export of commodities or goods that we also import, we would not allow the export of cars, food, steel, medical equipment, and many others.

As noted above, and illustrated in the appendix below, many studies and experts have analyzed and discussed the economic benefits of lifting the ban. Our consumers would benefit from slightly lower pump prices, stronger economic growth and higher employment. With regard to foreign policy, lifting the ban would confer the following benefits:

1. **Increase and diversify oil supply, thereby reassuring our allies about supply security.** The oil market is global; a supply disruption anywhere transmits a price increase everywhere, including here. Unfortunately, as noted above, the lion's share of global proven oil reserves is located in the unstable Middle East. Some 40% of traded oil flows through the Strait of Hormuz. Therefore, every barrel we can source from elsewhere adds more than just 42 gallons of new liquid to the global pool, it also enhances security by diversifying supply.

   If the crude oil ban were lifted, the amount and destination of exports would depend on market factors. Like with natural gas, we need not physically export a lot of oil to derive benefits from being open to exports. In foreign policy, symbolism and signaling matter.[11] "Many U.S. allies and trading partners are interested in purchasing American oil to diversify away from Russia, Iran and other problematic sources," Senator Murkowski noted on June 9, adding: "Allowing such shipments would send a powerful signal of support and reliability at a time of heightened geopolitical tensions in much of the world. The mere option to purchase U.S. oil would enhance the energy security of countries such as Poland, Belgium, the Netherlands, India, Japan, and

[10] EIA data show the US imported 7.3 mb/d of crude in 2014. Of the total, Canada supplied 2.9 mb/d and Mexico 0.8 mb/d. http://www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_epc0_im0_mbblpd_a.htm

[11] http://ec.europa.eu/energy/sites/ener/files/documents/crude-oil-imports2014.zip

South Korea, even if physical shipments did not occur."[12] The EU depends on Russia for 28% of its crude and the Middle East for another 14%. Iran, which had lost the 500-600 kb/d it used to supply to Europe due to sanctions, will likely try to recapture that market share after sanctions are lifted. Japan relies on the Middle East for over 80% of its crude imports.[13] Japan has cut the share of oil it imports from Iran in half from 2012 to 2014, from about 10% to 5%.[14]

2. **Reduce oil price volatility and thereby protect economic stability at home and abroad**. U.S. shale oil supply is more responsive to price swings than most other oil production, such as ultra-deep water or oil sands. Due to relatively high decline rates and capital intensity, shale oil production responds to price changes in months to quarters whereas other supply takes several years or more. The increased flexibility lowers the volatility of oil prices and thereby promotes economic stability. The U.S. will not replace OPEC spare capacity, which consists of supply available within 30 days.[15] But shale oil does increase the flexibility of the supply system.

3. **Strengthen US influence and leverage internationally, especially in the case of Iran**. Ambassador Carlos Pascual, who until recently was the Obama Administration's lead international energy policy negotiator, testified to your committee that from his experience he had "seen that lifting the export ban would increase U.S. leverage in convincing international partners to adopt policies that mirror U.S. interests on Iran, Russia, free trade, and even the environment."[16]

   Iran constitutes a good recent example of how the US oil boom has contributed to our energy security while also spotlighting the need to remove the export ban. The unexpected increase in US oil production by some 3.7 mb/d between 2008 and 2014 was fortuitously timed. It coincided with the loss of roughly 3 mb/d of disrupted global supply, particularly from Libya due to civil war in 2011. The US oil boom reduced our imports, freeing up barrels that could flow elsewhere, keeping a lid on oil prices everywhere. Without the US supply surge, much higher oil prices would have resulted, dampening support for sanctioning Iran's oil exports.

   However, as the Iran nuclear issue proceeds it would be in our interest to remove the crude oil ban. If a nuclear deal with Iran is struck, the US and EU will lift restrictions on Iran's ability to export oil. Meanwhile, the crude oil ban US producers face will remain in place. While not intentional, an absurd juxtaposition would result. As Senator Murkowski said in April, "We should not lift sanctions on Iranian oil while keeping sanctions on American oil. It makes no sense."[17]

   If nuclear talks fail or Iran cheats, sanctions on Iran's oil exports may remain in place or be strengthened. We may ask the EU to retain its total embargo on Iranian imports, while asking the six remaining importers – including allies South Korea and Japan – to further reduce their purchases. These countries have refineries that are better suited to shale oil and would likely

[12] http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=86561761-6237-45a3-b41b-fe0bb976c322
[13] http://www.paj.gr.jp/english/statis/data/04/paj-4E_201506.xls
[14] Ibid and http://www.bbc.com/news/world-asia-16523422
[15] IEA recently redefined spare capacity to include supply available within 90 days. EIA retains a 30 day definition. By historical standards, OPEC spare capacity - held almost entirely by Saudi Arabia - are low. While shale oil can reduce oil price volatility, it cannot eliminate it.
[16] http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=4c054551-8357-46fd-95e3-1eee2686aee1
[17] http://www.energy.senate.gov/public/index.cfm/2015/4/sen-murkowski-calls-for-lifting-prohibition-on-crude-oil-exports

bid on US crudes depending on market conditions. How could we ask our allies to further cut oil imports from Iran without making our own supplies available to them?

4. **Replace resource nationalism with free trade.** We are the only advanced country that bans crude oil exports. Canada, the UK, and Australia allow both crude imports and exports. The crude oil ban contradicts our attempt to promote free trade and open markets, especially in energy and other strategic commodities that are produced and sourced globally. To cite Ambassador Pascual again: "[M]aintaining the ban increasingly undercuts US credibility in its three-decades endeavor to persuade other nations to permit free flows of energy trade and not constrain trade in strategic commodities with political restrictions and resource nationalism. The United States, for instance, has launched numerous complaints under the WTO against China exactly because of these kinds of restrictions on natural resources that China imposes."[18]

Conclusions

The U.S. energy boom is a national security and foreign policy blessing. Our ability and will to export energy strengthens our global influence; reassures allies while giving them leverage with major producers like Russia; bolsters free trade, especially for strategic commodities; and reinforces efforts to dissuade Tehran from developing a nuclear weapons capability. As our energy circumstances have changed, so too should our energy policy. We benefit from free trade in natural gas and would do so from crude oil as well. Seizing the foreign policy benefits of energy exports is one of the few major issues today that enjoys bipartisan support, as exemplified by former Bush National Security Advisor Stephen Hadley and former Obama Administration Defense Secretary Leon Panetta, who wrote:

> *Too often foreign-policy debates in America focus on issues such as how much military power should be deployed to the Middle East, whether the U.S. should provide arms to the Ukrainians, or what tougher economic sanctions should be imposed on Iran. Ignored is a powerful, nonlethal tool: America's abundance of oil and natural gas. The U.S. remains the great arsenal of democracy. It should also be the great arsenal of energy.*[19]

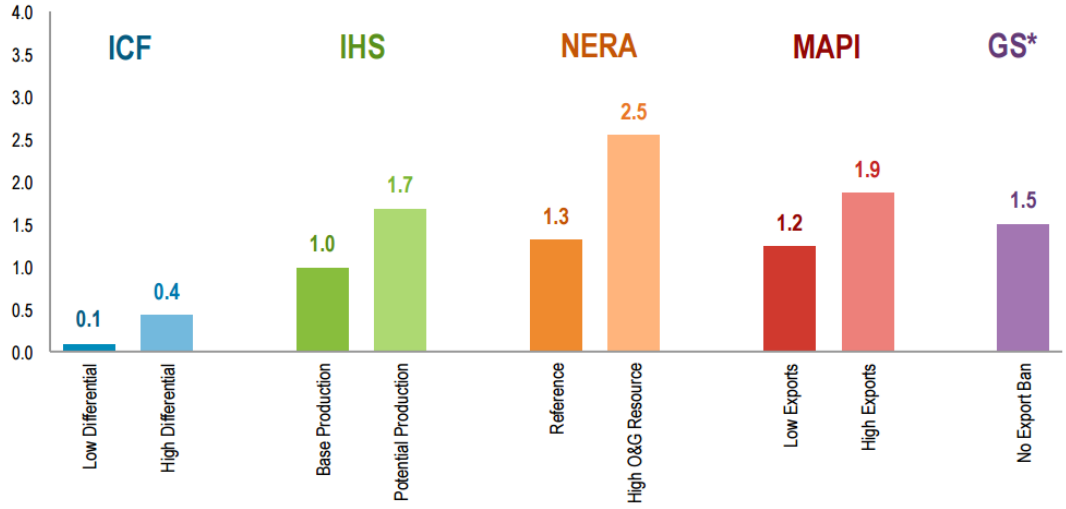
[18] See footnote 8

[19] http://www.wsj.com/articles/the-oil-export-ban-harms-national-security-1432076440

Appendix

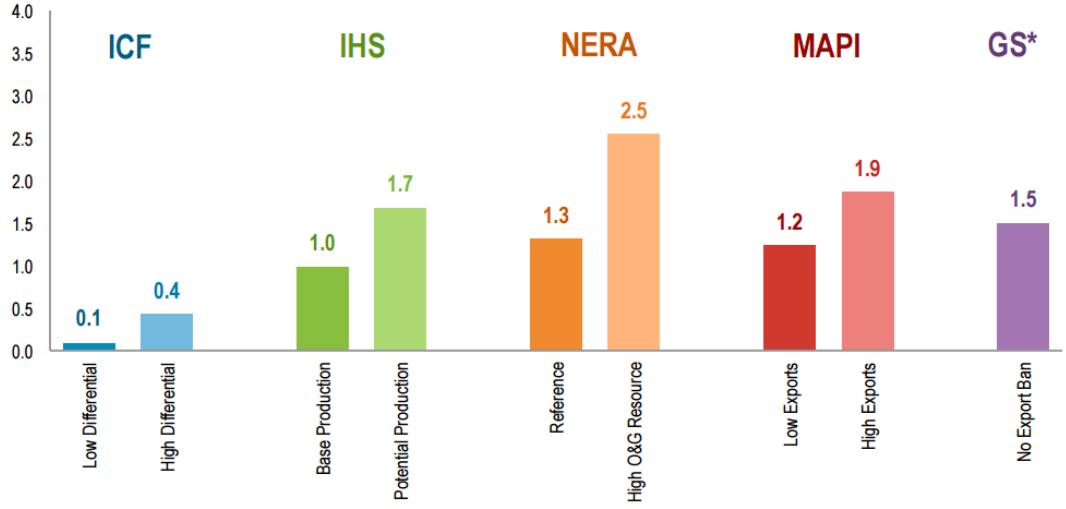
The source for the following three figures is Columbia University Center for Global Energy Policy's January 2015 study entitled "Navigating the U.S. Oil Export Debate," by Jason Bordoff and Trevor Houser. http://energypolicy.columbia.edu/on-the-record/navigating-us-oil-export-debate

Figure 15: Increase in US crude production from lifting export restrictions, 2015–2025
Million b/d



Source: ICF, IHS, NERA, Aspen Institute, Goldman Sachs, and Rhodium Group estimates.
*2020 only.

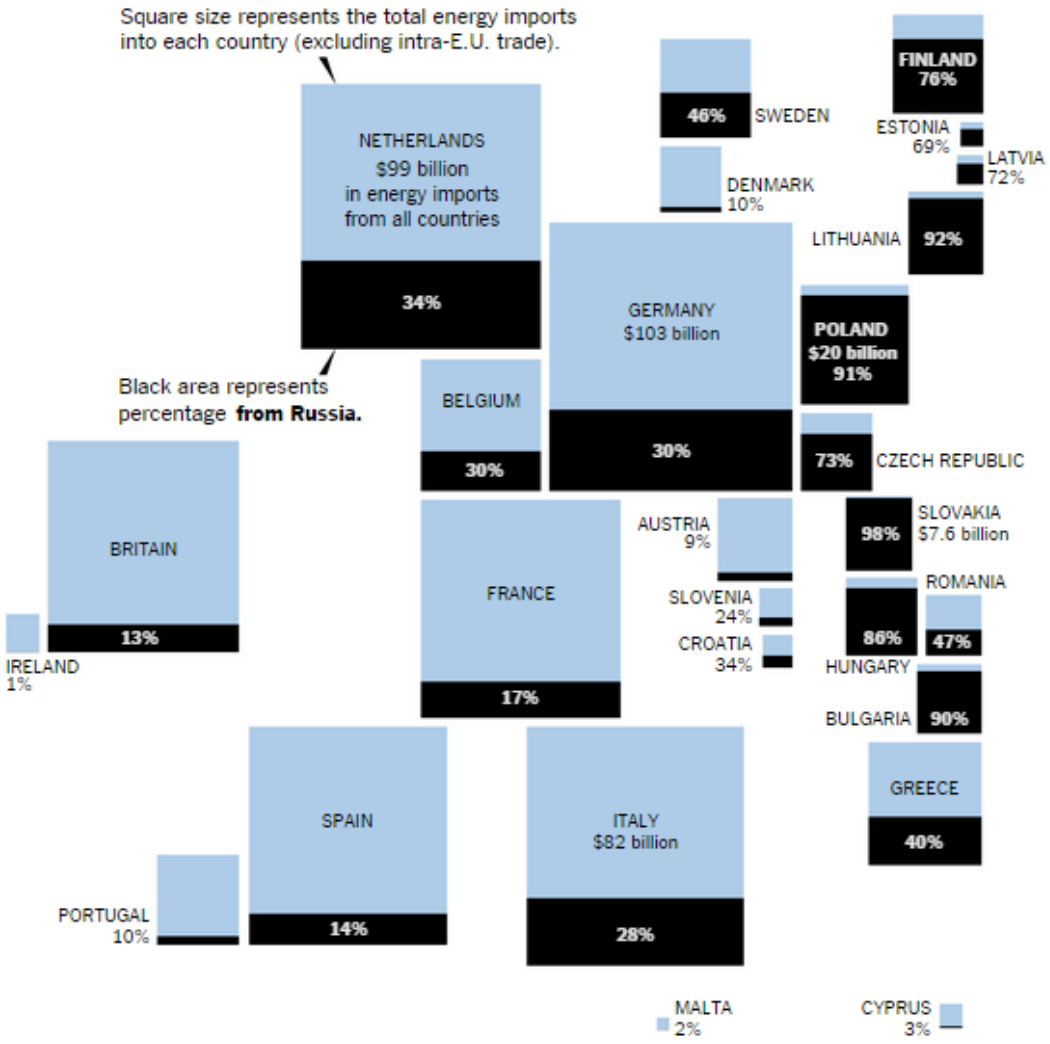
Figure 15: Increase in US crude production from lifting export restrictions, 2015–2025
Million b/d



Source: ICF, IHS, NERA, Aspen Institute, Goldman Sachs, and Rhodium Group estimates.
*2020 only.

How Much Europe Depends on Russian Energy

Current European Union sanctions ban the sale of certain oil industry technologies to Russia. But the situation is complicated by the union's reliance on imported Russian oil, which has not yet been restricted. UPDATED September 2, 2014 | RELATED ARTICLE

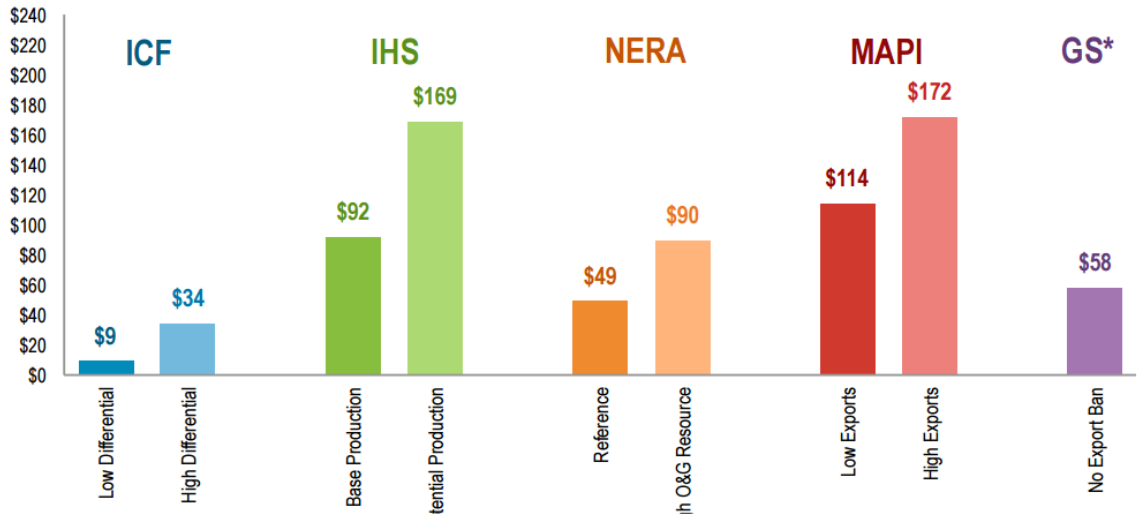


Note: Luxembourg's imports are too small to show.

Source: Eurostat as published by Global Trade Information Services

Printed in The New York Times, September 2, 2014

Figure 17: Increase in GDP from lifting crude export restrictions, 2015–2025
Billion 2013 USD



Source: ICF, IHS, NERA, Aspen Institute, Goldman Sachs and Rhodium Group estimates.
*2020 only.