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**Testimony before the Senate Committee on Energy & Natural Resources
How to harness a game-changing resource for export, domestic consumption, and
transportation fuel**

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Madam Chair, Ranking Member Murkowski and distinguished members of the Committee, thank you for the opportunity to testify on some of the key considerations associated with production and export of abundant U.S. natural gas supplies. I will focus my remarks on the national security and foreign policy implications of exporting liquefied natural gas (LNG).

The United States finds itself today in a radically more positive energy supply position than that of five years ago. Natural gas production expanded over 30 percent since 2005 to 66.5 billion cubic feet per day in 2013.¹ Imports fell sharply, roughly 66 percent in this time.² This abundance, along with 100 years' worth of reserves in the ground at current consumption levels, has led to the redesign of terminals intended to receive LNG only five years ago. They are now intended to *export* this commodity and will compete with other proposed new facilities to move gas overseas. The United States is expected to send LNG abroad at the end of next year or in early 2016, and is forecast to be a net gas exporter by 2018.

In a period of tremendous geopolitical uncertainty, and when many questions exist about the future role of the United States in the world, Washington has a unique window of opportunity to use newfound sources of energy to revitalize U.S. global leadership and the strength of free markets and liberal international norms. Exporting LNG will deepen U.S. trading ties with strategic states, including those in Europe and Northeast Asia. It will bolster the U.S. economy, improve the energy security of partners abroad and allow the U.S. to more effectively spur and support multilateral action to counter international security threats. To enhance energy and national security, and reduce the ability of potential adversaries to use energy as a weapon of coercion, a new national energy policy should actively embrace a more nimble and supportive regime for LNG exports.

Exporting LNG Enhances U.S. Economic Growth

The ability to export LNG opens new markets abroad for U.S. natural gas. In turn, this creates new revenue opportunities and strengthens the U.S. economy. Exporting LNG will also create an incentive for additional natural gas production, which will accrue economic benefits throughout the gas value chain in the United States, from wellhead to export terminal. In two recent studies by

¹ U.S. Energy Information Administration, *U.S. Natural Gas Imports*, (May 30, 2014).
<http://www.eia.gov/dnav/ng/hist/ng100us2a.htm>

² *Ibid.*

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NERA Economic Consulting, analysts concluded that exporting LNG will have positive benefits for economic growth and the trade balance. Furthermore, they found that “the greater the level of exports, the greater the benefits.”³

A strong economy is fundamental to U.S. national security. It provides the fiscal basis for U.S. leadership abroad, including military, development and humanitarian relief commitments. Also, it is what enables the United States to be the world’s only superpower. The massive and recent increase in unconventional gas has already helped to put the United States in a much stronger financial position. It has been a leading factor in decreasing the trade deficit, which was at its lowest in four years last year, and has slowed the rate of increase of U.S. indebtedness. Both of these factors will allow the United States new capacity and flexibility to advance foreign policy interests. The United States can further strengthen its hand globally if it exports energy, including LNG.

LNG exports are expected to offer a modest but meaningful contribution to economic growth and security. The volume of exports may range from five to nine billion cubic feet per day between 2020 and 2025.⁴ A variety of factors determines the price for natural gas and planned LNG exports. These include various demands for gas from the U.S. sectors of residential heating, power generation, industrial manufacturing and transport, as well as export demand. Gas supply is relatively elastic in the United States, but these competing demands will likely increase natural gas prices somewhat. Price increases will be felt particularly by low-income consumers and will contribute to more muted growth in certain particularly gas-intensive manufacturing sectors. However, even with many demand sources and increased gas prices, sustained and expanding macroeconomic growth is expected. Using current projections for LNG export volumes, revenue from LNG exports will make a contribution, though relatively minor, to the U.S. gross domestic product (currently valued at well over \$16 trillion) over the next decade.

In broad terms, any opportunity to expand economic growth, including ones that will keep natural resource rents at home, will help build U.S. economic vitality, security and standing abroad. When such opportunities involve expansion of exports and greater integration of the U.S. economy with foreign trade partners, they will expand U.S. clout and capacity for leadership. For this reason, LNG exports will make a contribution to economic growth and security. By contrast, restraining the export of LNG in order to support domestic gas-intensive manufacturing industries will cause the

³ NERA Economic Consulting, *Macroeconomic Impacts of LNG Exports from the United States*, December, 2012, http://energy.gov/sites/prod/files/2013/04/fo/nera_lng_report.pdf. Also, NERA Economic Consulting, *Updated Macroeconomic Impacts of LNG Exports from the United States*, March, 2014, http://www.nera.com/nerafiles/PUB_LNG_Update_0214_FINAL.pdf.

⁴ Analysts vary on the volume of LNG that will be exported by the United States over the near to medium term, though most offer a range of roughly five to nine billion cubic feet per day. For example, IHS CERA, *Fueling the Future with Natural Gas: Bringing It Home*, January 2014, XI-5, <http://www.fuelingthefuture.org/assets/content/AGF-Fueling-the-Future-Study.pdf>. BG Group estimates that the United States will export the equivalent of 7.95 to 9.27 billion cubic feet per day by 2025: Chris Finlayson, “Global LNG Update”, (report presented at the Howard Weil Energy Conference, New Orleans, Louisiana, March 23-27, 2014) http://files.the-group.net/library/bgggroup/files/doc_526_t.pdf.

United States to forego an opportunity for economic growth and expansion of trade. This will undermine foreign relations and the scope of U.S. leadership abroad.

LNG Exports Improve Global Gas Market Competition and Security

An additional and more significant contribution to national security that the export of LNG will offer is to help make global natural gas markets more stable, efficient and diversified. The United States is stronger when our allies and trading partners have efficient, stable markets and have reliable energy supplies so fundamental to the health of any economy. Stable and diversified natural gas markets in Europe and Asia, for example, will help insulate these economies to potential supply disruptions. Stable and diversified markets will also help them to mitigate current or future politicized pricing arrangements from some more traditional suppliers. They will also undermine the ability of gas suppliers, including our adversaries and enemies, to exert coercive market pressure on consumers.

LNG Export Will Contribute to European Energy Security

The recent U.S. boom in natural gas production has contributed directly to greater gas supply diversity and competitive prices in European markets. LNG imports to the United States slowed to a trickle over the last several years, and cargoes of LNG destined for the United States were redirected to Europe and elsewhere. These new LNG supplies gave European consumers greater leverage with Russia's Gazprom in supply negotiations. As a direct consequence, European companies have been able to exact more favorable pricing arrangements in some gas contracts. This is a boon for European consumers, who depend on Russia for 30 percent of their gas supplies.

The expectation of U.S. LNG exports entering the global gas market, whether cargoes will land in Europe or travel to other destinations, gives additional leverage to Europeans in future price negotiations with Gazprom. Russia will have to concede more favorable terms with European consumers to keep market share. However, even while U.S. LNG will help to diversify supply sources in Europe, and thereby help reduce the cost of some Russian gas, it will not drive down the price of gas substantially. The cost of U.S. gas plus liquefaction and transatlantic transport fees will mean it only slightly undercuts European gas prices, and therefore will only slightly drive down European equilibrium prices.

Another benefit to European energy security derived from U.S. LNG export is the signal it will send to investors to build new LNG receiving and gas pipeline infrastructure. This will help make the European market more efficient and more resilient in the face of a potential supply disruption from one source or supplier. There are, of course, various other measures necessary to improving efficiency and resiliency of the European gas market, and to reducing European vulnerability to politicized Russian gas pricing. Significantly, Europe should develop new indigenous gas resources, reform market and gas pricing mechanisms and build new pipeline interconnector and transmission infrastructure. Additionally, Central and Eastern European countries in particular should adopt greater energy efficiency practices and the use of alternative energy resources.

The crisis in Ukraine, spurred and sustained by ongoing disagreements between Moscow and Kyiv about gas pricing, highlights the vulnerability of heavy dependence on Russian gas among Eastern and Central European countries. U.S. LNG cannot offer immediate relief to Ukraine, both because Ukraine lacks the infrastructure required to receive LNG cargoes and because of the unavailability of U.S. supplies at present. Indeed, helping Ukraine manage this week's supply-cut off of Russian gas or erasing Russia's dominant position as a European gas supplier is beyond the scope of what any LNG supplies to Europe can provide. However, the potential for U.S. LNG exports to diversify European gas supplies and increase competitiveness is evident. Permitting and promoting the export of U.S. LNG will expand and diversify the supply of LNG from reliable sources in the global market. This will boost European energy security and help to erode Russia's coercive pricing and political leverage.

LNG Export Will Positively Shape a Developing Asian Market

In contrast to Europe, where U.S. energy policy is aimed at addressing insecurities that ensue from well-established and relatively inflexible market dynamics, many important contours of the future Asian energy market are being determined now. Today's policy and investment choices will shape the region's economic and security future for decades. Unlike most national security decisions, which are typically reactive and short-term, in this case the U.S. government has the unique opportunity of having the tools and the foresight to help shape a crucial element of Asia's geopolitical future. It would be irresponsible to fail to employ those tools and find ourselves decades from now wondering why the United States did not act when it had the chance.

Exporting LNG to Asia will help to diversify gas supplies and reduce prices. It will also fetch lucrative returns for U.S. suppliers. Natural gas prices in Northeast Asia are roughly three times more than they are in the United States, and one and a half times European prices. This differential will likely pull the majority of U.S. LNG exports to Asia, and meaningfully alter LNG trade patterns in the Asia-Pacific region.

Given the large LNG import dependence of Japan and South Korea, the largest and second largest global LNG importers, substituting lower cost U.S. LNG for current higher cost LNG imports will have several important economic benefits. Notably, it will reduce the massive Japanese trade deficit, and in both countries it will boost gross domestic product by reducing its energy costs. In turn, this will allow Japan and South Korea to become even more significant trading partners and investors in the United States. Japanese LNG imports, which have soared in the wake of the 2011 Fukushima Daiichi nuclear disaster, pushed the Japanese trade deficit to its highest-ever level last year. According to an analysis from Japan's Institute of Energy Economics, the amount of U.S. LNG currently committed to Japanese buyers from those U.S. export projects with DOE permits is equal to about 20 percent of Japanese LNG imports last year. Lowering the costs of this quantity of Japan's LNG imports would represent a substantial economic gain.

The export of U.S. LNG will also give Asian consumers more supply options. This will help to ensure that they are not pushed into significant, politicized contracts with Russia for lack of sufficient

alternative supplies. Asian gas demand is expected to grow 70 percent by 2025, and more than double by the year 2035, according to the International Energy Agency,⁵ and Russia aims to be a substantial supplier to this region. With last month's Gazprom-CNPC gas pipeline deal to supply 38 billion cubic meters of Russian gas annually to China, Russia locked in an important Asian market share. It also has substantial LNG supply aspirations to meet gas demand in the rest of Asia, the largest LNG importing region. However, the entrance of U.S. LNG, or LNG from other suppliers such as Australia, Canada and East Africa, will help Asian consumers to bargain hard with Russia for future supplies and attract more affordable, stable terms.

Northeast Asia harbors myriad sources of insecurity. The Korean Peninsula, Taiwan, maritime disputes and the broader U.S.-China competition could all produce crises and conflicts in which Russia, alone or in collaboration with China or North Korea, is tempted to use natural gas as an instrument of coercion. It has done so in Eastern Europe and there is no reason to believe it would not do so in Asia as well. The United States has the ability to limit Russia's future capacity to use energy to twist the arms of America's friends and allies, if it adopts pro-export energy policies now.

U.S. LNG Exports Will Travel on More Secure Maritime Routes

Supplies of LNG moving from the U.S. market to Europe and East Asia will avoid traveling through conflict-prone regions and maritime hot spots. Unlike LNG supplies from the Persian Gulf, for example, U.S. LNG cargoes will sail shorter distances through open waters of the Pacific to reach East Asian consumers. Exports from the United States will avoid the South and East China Seas and the Straits of Hormuz and Malacca, where territorial dispute, piracy and terrorism pose a greater risk to marine vessels. The United States is a very stable jurisdiction and the threat of Middle Eastern conflict, like the destabilizing and violent upheaval we see now in Iraq, poses no supply disruption concerns for potential future purchasers of U.S. LNG.

Exporting LNG Will Strengthen Strategic Allies

The United States will be in a better position to achieve more of its foreign policy and economic objectives when it collaborates closely with economically vital and energy secure trading partners. The United States suffers when its trading partners experience energy supply disruptions or when their economies falter due to unaffordable energy costs. In a highly globalized economic system, and in anticipation of more interconnection between regional natural gas markets in the future, the United States has a fundamental strategic interest in promoting stable, diversified gas market arrangements and more liberalized trade.

Europe will be a stronger security partner to the United States with more competitive natural gas prices and supply diversity, and the energy security to which these factors will contribute. Investing in the transatlantic partnership, from expanding trading ties to enhancing NATO military and diplomatic capacity, will allow European partners to more ably pursue shared security objectives with the United States. This includes diplomatic and economic efforts to limit Russia's

⁵ International Energy Agency, *World Energy Outlook 2013*, 578 & 596.

destabilization of eastern Ukraine and other countries on its periphery, such as Georgia and Moldova. It also includes joint action on economic sanctions, including those targeting Iran and Syria, and collective peacekeeping or military efforts.

Northeast Asian treaty allies of the United States will also be stronger security partners as a result of U.S. LNG supplies, and the resulting improved gas market and economic conditions. Expanded economic growth and stability will enhance the ability of key U.S. allies to boost military spending and invest greater attention and resources into joint security efforts. U.S.-Northeast Asian alliances play a critical role in maintaining U.S. power and presence in Asia, and it would be strategically wise and economically prudent to take all appropriate policy steps to strengthen these states. Japan and South Korea will look favorably on a U.S. LNG export policy that will effectively benefit their energy market conditions. Indeed they have actively advocated for such exports to U.S. policy and business leaders in recent years. Japanese and South Korean leaders will also perceive LNG exports as a meaningful economic component in the U.S. administration's policy to "rebalance" strategic focus to Asia.

For China, the expansion of trade ties with the United States to include LNG could contribute to a more constructive bilateral relationship. A more significant U.S. position in Asia's energy markets should serve as a source of caution and restraint in Beijing, even with sometimes cool diplomatic ties between the U.S. and China, particularly as Beijing behaves in an aggressive and provocative manner in territorial disputes with neighbors. Also, support for more liberalized LNG trade will give the United States a stronger leg to stand on in trade organizations and international negotiations to demand that China not withhold high value natural resources, such as rare earth minerals, from the international market. Building shared liberal economic norms will support U.S. interests and increase the potential for greater economic integration and mutually beneficial growth.

The economic and strategic benefits of liberalized trade are something that U.S. policymakers have acknowledged and touted, at least in theory, for decades. Its national security and foreign policy value is also evident, though difficult to quantify. Liberalized trade regimes for energy are even more important than ever in the United States today, when abundant energy production and export capacity align so poorly with restrictive and outdated export rules. In the present market conditions, one of the most practical ways for the United States to promote secure and diversified gas markets globally, and to reap the geopolitical advantages of its energy abundance, is to take an active role in global LNG trade.

The Market Needs a Stronger Signal of Administration Policy on LNG Exports

The recently-announced Department of Energy (DOE) proposal to alter the LNG export authorization process is a positive step, but additional measures need to be taken to secure a role for the U.S. as a leading LNG exporter in the near- and medium-term. The DOE proposal would do away with conditional authorizations of LNG export projects that will supply countries with which the United States does not have a free trade agreement, and thus makes the LNG project approval process more rational. This move will, as intended, elevate more commercially viable projects in the

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regulatory approval process. It will also ensure that applicants that have completed the environmental review will not be delayed by their position in the current order of precedence. However, it will not meaningfully accelerate the plodding pace of LNG export project development. The time-intensive environmental review process, which will not change, is likely still to constitute the lengthiest part of the new proposed process. The proposed new rules also do not clarify whether the administration plans to cap LNG exports.

The United States is an extremely attractive potential supplier of LNG in the post-2018 period, the period after which the bulk of currently planned LNG projects will be up and running. However, without a clearer policy signal from the administration that the United States is committed to as robust an LNG export capacity as the market will bear, potential investors in many proposed projects are hanging back. Assurances from the DOE that the United States supports LNG exports have clarified that there will be at least some LNG export capacity permitted in the United States. However, the administration has offered no firm guidance on the potential extent of LNG export capacity nor signaled a clear policy of non-interference with the market. Without this, foreign companies remain worried that the United States will cap LNG exports if there is a domestic gas market crisis, price spike or political opposition.

Competitor developers of LNG export facilities abroad are delaying plans and carefully watching the slow progress of U.S. LNG projects. They will move forward to supply LNG demand if the United States does not. But in the current “wait and see” period, regional and global energy security risks grow. United States policymakers should expressly support an export policy to lock in a share of the expanding LNG market and enhance market stability and supply.

Conclusion

U.S. export of LNG is an important policy choice that will expand U.S. economic opportunity, strengthen national security and help cement U.S. leadership in the international community. It is far from a cure-all for gas market inefficiency, politicization and instability. It cannot, of itself, bring economic or energy security to our own economy or the economies of our allies and partners. As a blunt instrument of foreign policy, it also cannot achieve short-term, targeted geopolitical aims. It can nevertheless promote more stable, competitive, and diversified energy markets internationally, which redound to the benefit of U.S. security. By strengthening the economy, by helping to make allies in Europe and East Asia less dependent on unstable and politicized supply, and by promoting energy stability internationally, more liberalized gas trade and the export of LNG is in the American national interest.

Biography

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Elizabeth Rosenberg is a Senior Fellow and Director of the Energy, Environment and Security Program at the Center for a New American Security. In this capacity, she publishes and speaks on the national security and foreign policy implications of energy market shifts and the environmental effects of climate change. She has testified before Congress on energy issues and been quoted widely by leading media outlets in the United States and Europe.

From May 2009 through September 2013, Ms. Rosenberg served as a Senior Advisor at the U.S. Department of the Treasury, to the Assistant Secretary for Terrorist Financing and Financial Crimes, and then to the Under Secretary for Terrorism and Financial Intelligence. In these senior roles she helped to develop and implement financial and energy sanctions. Key initiatives she helped to oversee include the tightening of global sanctions on Iran, the launching of new, comprehensive sanctions against Libya and Syria and modification of Burma sanctions in step with normalization of diplomatic relations. She also helped to formulate anti-money laundering and counter-terrorist financing policy and oversee financial regulatory enforcement activities.

From 2005 to 2009 Ms. Rosenberg was an energy policy correspondent at Argus Media in Washington D.C., analyzing U.S and Middle Eastern energy policy, regulation and trading. She spoke and published extensively on OPEC, strategic reserves, energy sanctions and national security policy, oil and natural gas investment and production, and renewable fuels.

Ms. Rosenberg studied energy subsidy reform and Arabic during a 2004-2005 fellowship in Cairo, Egypt. She was an editor of the Arab Studies Journal from 2002-2005 and researched and wrote on Middle Eastern politics at the Council on Foreign Relations in 2003. She received an MA in Near Eastern Studies from New York University and a BA in Politics and Religion from Oberlin College.