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Geopolitical Consequences of U.S. Natural Gas Exports

Prepared statement by

Michael A. Levi

David M. Rubenstein Senior Fellow for Energy and the Environment, and
Director, Program on Energy Security and Climate Change

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Hearing on Natural Gas Exports: Economic and Geopolitical Opportunities

Chairman Poe, Ranking Member Sherman, members of the subcommittee, thank you for inviting me to speak with you about the geopolitical implications of allowing exports of liquefied natural gas (LNG) from the United States.

Barely five years ago most analysts were projecting large-scale LNG imports into the United States. Companies applied for permits to build dozens of import terminals and ultimately commissioned 11 plants. The ongoing boom in U.S. shale gas production has, however, rendered most imports uneconomic. Instead, with natural gas prices far lower in the United States than abroad, companies are exploring the possibility of exporting natural gas. To do so freely, they must be granted special permits from the Department of Energy, which must judge exports to countries with which the United States does not already have special free trade agreements ("Non-FTA countries") to be consistent with the public interest before approving them.

The Department of Energy has approved one application to export LNG to non-FTA countries and is considering at least twenty more applications. Approving these LNG export permits would benefit U.S. economic and security relationships regardless of whether (or how much) LNG is ultimately exported. If

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exports are approved, the volumes shipped are likely to be relatively small, with limited but again positive geopolitical and geoeconomic consequences for the United States.

This testimony draws on my study *A Strategy for U.S. Natural Gas Exports* that was published last year by The Hamilton Project at the Brookings Institution. That study also addressed the domestic economic and environmental impacts of allowing LNG exports; I have provided the committee with copies. Here I will focus on three areas: the geopolitical consequences of a DOE decision on LNG exports; the geopolitical consequences of exports themselves; and steps that the United States could take domestically to increase support for LNG exports in order to capture those benefits.

Consequences of an LNG Exports Decision

The U.S. decision regarding whether to allow LNG exports to non-FTA countries will have geopolitical consequences regardless of whether the United States ultimately exports significant volumes of LNG. The United States has long been a leading promoter of open international energy markets as a way of separating commerce from diplomatic intrigue. In recent years, it has challenged Chinese restrictions on exports of a host of raw materials, including rare earth metals that are critical to defense and clean energy applications, charging that those are designed to boost Chinese commercial competitiveness, and thus violate World Trade Organization (WTO) commitments. The U.S. effort has been successful at getting some Chinese restrictions struck down; others, most notably on rare earths, are still pending.

A U.S. decision to disallow LNG exports in order to bolster U.S. manufacturing competitiveness or protect the environment would undermine Washington's strength when challenging Beijing. Precisely the same justifications – particularly environmental protection – have been offered by China in defense of its own export restrictions. But WTO law does not allow the use of export restrictions for such ends. To be certain, if the United States were to restrict exports of LNG to non-FTA countries, there would be some dispute as to whether LNG (as something intermediate between a raw material and a manufactured product) is covered by WTO law at all. As a matter of international politics, though, any U.S. restrictions would be seen negatively and would undermine U.S. leverage more broadly.

Some have gone much further and argued that the United States should abolish even the DOE review process for LNG exports to non-FTA countries. Doing this, however, would remove valuable U.S. leverage in international trade negotiations. Any uncertainty, however slight, about U.S. openness to LNG exports creates incentives for other countries to enter free trade agreements with the United States, to the benefit of the U.S. economy. Such is the case with the ongoing Trans-Pacific Partnership (TPP) negotiations with Japan and with U.S.-Europe trade talks. The same dynamic could also be relevant to future trade negotiations with India.

It is also important to note that, in order to truly prevent exports of U.S. natural gas, the U.S. government would need to stop exports to Canada and Mexico too. Without such action, U.S. natural gas could be shipped to the Canadian Pacific coast for export, or more likely, U.S. gas could be shipped to Canada for domestic use, freeing up Canadian gas for international export, with similar consequences. And because U.S. natural gas prices are set in a North American market, U.S. natural gas prices would still rise, even though Canada would capture more of the economic benefits associated with building and operating export

terminals. Preventing that dynamic would require interfering with the open North American market for natural gas (supported by NAFTA) in unprecedented and damaging ways.

Consequences of LNG Exports

It is important to think separately about the consequences of a U.S. government decision to allow exports and the consequences of subsequent private decisions to build and operate LNG export facilities. It is entirely possible that the DOE could approve a series of export applications but that no export facilities will be built or used. Export facilities are expensive, costing several billion dollars each, and take years to build. Their economics only work if U.S. natural gas prices stay well below overseas natural gas prices. The total cost of liquefying, shipping, and regasifying natural gas at its destination can easily exceed five dollars per thousand cubic feet. With slightly higher U.S. prices or slightly lower Asian prices than currently anticipated, the economic incentive to export U.S. natural gas could disappear.

Many analysts nonetheless project that small but non-trivial volumes of U.S. natural gas will be exported. Natural gas exports will be naturally self-limiting: rising exports will boost domestic natural gas prices while driving down prices overseas; the shrinking gap between prices will cut off the economic incentive to export more. Moreover, other countries (such as Qatar) can produce natural gas more cheaply than the United States can. Most analysts have thus focused on U.S. exports of at most 5-6 billion cubic feet a day by 2020, perhaps ten percent of LNG trade (and a much smaller fraction of total natural gas trade), by then. This estimate should be treated cautiously – it is likely to reflect some degree of "groupthink" – but it is a useful if crude limit on likely sales.

How would exports of that magnitude affect geopolitics? U.S. exports would give large LNG buyers, including Korea, Japan, and India, an alternative to Middle Eastern and other producers for a part (though certainly not all) of their supplies. Those Middle Eastern suppliers (along with most other LNG producers) sell their natural gas through long-term contracts where the price of LNG is determined by a formula based on crude oil prices. The formula is subject to politically charged negotiations that entangle international relations with commerce in potentially dangerous ways.

In contrast with this practice, a significant fraction of U.S. natural gas exports will likely be sold on a "spot" basis, with the price of exported natural gas being equal to domestic U.S. prices plus a charge for liquefaction services. That will provide overseas buyers with some leverage in their negotiations with traditional suppliers. It will also provide them with some protection from economic damage that might result from volatile oil (and hence oil-linked natural gas) prices. It is highly unlikely, however, that U.S. LNG exports alone will be enough to shift broader LNG pricing to depoliticized spot markets. Pricing based on U.S. spot markets makes little sense for most natural gas producers, and an alternative spot market that might be more acceptable, perhaps anchored at a trading hub in Asia, remains far away at best.

U.S. LNG exports would also help Europe maintain leverage vis-à-vis Russia – even if, as appears likely, little U.S. natural gas is actually shipped to Europe. In the wake of the U.S. shale gas boom, Middle Eastern and North African suppliers have turned to Europe to sell their surplus natural gas, creating intense competition in the European market and increasingly forcing Russia to sell its natural gas on transparent, market-based terms rather than through opaque, politically charged contracts. Even the possibility of

significant U.S. natural gas exports will help sustain pressure on Russia to sell natural gas on these market-based European terms.

Against this limited but real benefit from LNG exports skeptics cite two major geopolitical risks. Some argue that the United States would be better off using its natural gas to replace oil in its cars and trucks, thereby reducing its vulnerability to volatile oil markets, and increasing its energy security. It is reasonable to want to increase adoption of natural gas in cars and trucks for this purpose. And, since exports would lead to a small increase in natural gas prices, it would also lead to a small decrease in the use of natural gas in cars and trucks. This impact would, however, be small; instead the main consequence of allowing exports would be to boost U.S. production rater than draw natural gas away from other uses. If policymakers want to increase the use of natural gas in U.S. cars and trucks, they should create new incentives to promote that directly, whether through new legislation (such as the NAT GAS Act) or regulation under the Clean Air Act. If such efforts increase demand for natural gas, they will raise prices, and thus reduce exports. Lower exports, if they occur, should be the *result* of efforts to boost the use of natural gas in cars and trucks, not a means to that end.

Others warn that allowing natural gas exports would link the price of U.S. natural gas to prices on world markets and hence expose the United States to natural gas price volatility resulting from events overseas. Such an outcome is, however, unlikely. U.S. natural gas prices will always remain well below overseas prices due to the large cost of liquefying, transporting, and regasifying the fuel. Moreover, so long as U.S. natural gas export facilities are fully utilized, fluctuations in overseas prices will not influence the price of natural gas within the United States. For overseas dynamics to influence U.S. price volatility, demand for U.S. natural gas would need to be able to vary depending on events overseas. If, however, U.S. export facilities are always fully utilized, this will not be possible; demand for U.S. gas would be constant at whatever level existing export facilities can support.

U.S. and international natural gas prices would only become linked if there were significant overinvestment in U.S. natural gas export facilities. In that case the United States would be left with a meaningful amount of export capacity that was not fully used. Events overseas could increase demand for U.S. natural gas, and with U.S. export facilities able to adjust to meet that new demand, U.S. prices would rise. The fact that liquefaction facilities cost billions of dollars each, take many years to build, and can be highly risky, however, makes the possibility of substantial overinvestment low. There will be ample time for financially unsound LNG export projects to collapse prior to their being completed and entering into service.

Creating Conditions for LNG Exports

Allowing LNG exports would avoid doing damage to U.S. relations with allies and to U.S. leverage in trade organizations and negotiations more broadly. Actual LNG exports would also provide some security to U.S. friends, particularly in Asia. Yet there remains substantial domestic opposition to LNG exports on competitiveness, equity, and environmental grounds. Congress would be wise to address these to the extent possible in order to help realize the benefits of allowing natural gas exports.

Natural gas exports would raise domestic natural gas prices. Though the price impact would likely be very small, it could still be significant, particularly for low-income consumers who spend a significant fraction of

their income on electricity and home heating. In *A Strategy for U.S. Natural Gas Exports*, for example, I estimated that the bottom ten-percent of U.S. households could face an increase of fifty dollars a year in electricity and home heating costs as a result of natural gas exports. The Low-Income Home Energy Assistance Program (LIHEAP), if fully funded, helps protect against this risk, since it is indexed to heating and electricity costs. Congress would help sustain support for LNG exports by ensuring that LIHEAP is fully funded.

Natural gas exports would also boost U.S. natural gas production. This would be good news for the U.S. economy, including for landowners and manufacturers that supply the natural gas industry, but it would also increase environmental risks to air, water, and communities that result from intensive shale gas development. Public scrutiny is likely to be particularly acute if natural gas development is seen as benefiting overseas buyers through exports rather than helping U.S. consumers. Exports thus increase the importance of implementing strong, smart regulations to ensure that shale gas development is done safely. The Natural Gas Subcommittee of the Secretary of Energy Advisory Board has issued a smart set of recommendations for improving the environmental safety of natural gas development. Congress could build on that by mandating minimum standards for shale gas development, with most details remaining in the hands of state and local authorities, who are better equipped to deal with the state-by-state idiosyncrasies of shale gas development.

Conclusion

The shale gas boom can continue to strengthen the U.S. economy, cut carbon emissions, and bolster U.S. national security, if Congress and the administration make the right decisions. Allowing growth in LNG exports as part of a broad strategy aimed at capturing the opportunities created by abundant shale gas while protecting against accompanying risks would be a wise step forward. I thank you for the chance to speak with you about natural gas exports and look forward to answering any questions you have.