
NATURAL RESOURCES JOURNAL

Volume 54
Issue 2 *Hydraulic Fracturing*

Fall 2014

Can the United States Control Its Natural Gas: International Trade Implications of Restrictions on Liquefied Natural Gas Exports

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ABSTRACT

This article examines the cross-section between energy, environmental, and international law while exploring the recent developments of liquefied natural gas (LNG) exports to non-free trade agreement countries, and considers how international free trade agreements affect efforts to restrict or limit exports of LNG. The article discusses the environmental and economic impacts of large-scale exports of LNG, but argues that efforts to stifle LNG exports will ultimately fail regardless of potential negative impacts due to conflict with existing international trade agreements, including the General Agreement on Tariffs and Trade and the North American Free Trade Agreement. Since approval of export licenses for LNG is inevitable, the article offers proposals to achieve safe natural gas production and considers factors that are important in understanding the greater impacts of the United States becoming a major exporter of LNG.

INTRODUCTION

"Exporting natural gas would increase fracking and carbon emissions, put sensitive ecological areas at risk, and do nothing to address our country's energy problems."[1] — Sierra Club

"If the federal government approves more of these export terminals to send America's natural gas to China and Europe, then we'll eventually be exporting our manufacturing jobs abroad along with the fuel. America should exploit her competitive advantage with lower natural gas prices to create jobs in the United States, not export natural gas to create more

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1. *Stop LNG Exports*, Sierra Club, http://content.sierraclub.org/naturalgas/stop-lng-exportshttp://content.sierraclub.org/naturalgas/stop-lng-exports (last visited Feb. 4, 2014).

> profits for oil and gas companies."[2] — Congressman Ed Markey (April 17, 2012)

Buzzwords like "clean energy" and "energy independence" are very attractive at a time when the United States is attempting to lessen its carbon footprint and wean itself off of foreign oil, but the energy source rising to the surface in the United States is fueling a heated debate concerning the safety of its extraction and the economic implications of large-scale exports from the United States. While coal continues to be the cheapest fossil fuel for generating electricity, it is also the dirtiest.[3] The current low price of natural gas and its abundance in the United States are convincing many in the electric-generating industry that increased reliance on natural gas is inevitable,[4] but do these expectations hold true if this cheap natural gas is shipped abroad in large quantities?

Both support for and opposition to the export of U.S. natural gas are growing. Two years after the approval of the Sabine Pass liquefied natural gas (LNG) export facility, the Department of Energy (DOE) finally moved forward with the processing of non-free trade agreement (FTA) LNG export applications by conditionally approving an application by Freeport LNG.[5] Newly confirmed Energy Secretary, Ernest Moniz, claims the agency will move "expeditiously" to evaluate more applications, although he also announced that additional research is needed before the more than 20 pending applications can be approved.[6] Speaking before Congress, Moniz pledged he would act on the export applications before the year's end.[7] Still, the fight to prevent large-scale exports of LNG to non-FTA countries will surely continue, as evidenced by continued opposition even as LNG export facilities are coming to fruition. Sabine Pass LNG filed a construction update with the Federal En-

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2. Press Release, Natural Resources Committee Democrats, Markey: Sabine LNG Export Facility Approval Would Help Export U.S. Manufacturing Jobs (Apr. 16, 2012), *available at* http://democrats.naturalresources.house.gov/press-release/markey-sabine-lng-export-facility-approval-would-help-export-us-manufacturing-jobs [hereinafter *Markey Press Release*].

3. *Electric Generation Using Natural Gas*, NATURALGAS.ORG, http://www.naturalgas.org/overview/uses_eletrical.asp (last visited Mar. 11, 2013).

4. *Id.*

5. *Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC*, DOE/FE Order No. 3282, Order Conditionally Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas to Non-Free Trade Agreement Nations (May 17, 2013), *available at* http://energy.gov/sites/prod/files/2013/05/f0/ord3282.pdf.

6. Marie Cusick, *Moniz: Department of Energy Will Move 'Expeditiously' on LNG Exports*, STATEIMPACT, June 17, 2013, http://stateimpact.npr.org/pennsylvania/2013/06/17/moniz-department-of-energy-will-move-expeditiously-on-lng-exports.

7. *Id.*

ergy Regulatory Commission (FERC)[8] reporting that the plant's liquefaction and purification trains one and two are over 50 percent complete and will be completed by February 2016 and June 2016, respectively, and that trains three and four will be completed by April 2017 and August 2017, respectively.[9] Amid this construction milestone, there are legal challenges to the Dominion Cove Point LNG terminal in Maryland state courts.[10] Meanwhile, American's Energy Advantage, a group of influential manufacturers and municipal gas distributors, sent a letter to Energy Secretary Moniz urging the DOE to stop approving application for LNG exports.[11]

Part of the controversy stems from two ways of looking at the environmental pros and cons of a shift to natural gas. Natural gas is seen by many as a "bridge fuel," thought to have less of an environmental impact when compared to conventional oil or coal, but many recent studies claim the overall footprint of shale gas production is much higher than oil or coal.[12] Natural gas emits less carbon than coal at the point of combustion, but recent studies show that overall greenhouse gas emissions from shale exploitation may be greater than coal when emissions from the production process of shale gas are taken into account.[13] Shale gas production requires thousands of trucks to transport the water needed for the hydraulic fracturing (commonly known as "fracing" or

8. FERC, an independent federal agency within the DOE, is responsible for authorizing the siting and construction of onshore and near-shore LNG import or export facilities under Section 3 of the Natural Gas Act. Under Section 7 of the Natural Gas Act, FERC issues certificates of public convenience and necessity for LNG facilities engaged in interstate natural gas transportation by pipeline. FERC also prepares environmental assessments or impact statements for proposed facilities under its jurisdiction as required by the National Environmental Policy Act. *LNG*, FERC, http://www.ferc.gov/industries/gas/indus-act/lng.asp (last visited Jan. 24, 2014).

9. Sabine Pass LNG L.P. and Sabine Pass Liquefaction, LLC, *Monthly Progress Report, Docket Nos. CP11-72-000 & CP13-2-000*, FERC (Dec. 2013) *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13442521.

10. Max Ehrenfreund, *Natural Gas Export Project Could Hinge on Court Case*, WASH. POST (Jan. 12, 2014), *available at* http://www.washingtonpost.com/local/natural-gas-export-project-could-hinge-on-court-case/2014/01/12/5c9ccf10-7892-11e3-b1c5-739e63e9c9a7_story.html.

11. *AEA Sends Letter to Sec. Moniz Urging Him to Reconsider Approval of New Natgas Export Applications*, AMERICA'S ENERGY ADVANTAGE (Jan. 9, 2014), http://www.americasenergyadvantage.org/blog/entry/aea-sends-letter-to-sec.-moniz-urging-him-to-reconsider-approval-of-new-nat.

12. *See* Robert W. Howarth et al., *Methane and the Greenhouse-Gas Footprint of Natural Gas Shale Formations*, CLIMATIC CHANGE, Mar. 2011.

13. Beren Argetsinger, Comment, *The Marcellus Shale: Bridge to a Clean Energy Future or Bridge to Nowhere? Environmental, Energy and Climate Policy Considerations for Shale Gas Development in New York State*, 29 PACE ENVTL. L. REV. 321, 329 (2011).

"fracking") process, and it requires the use of generators, compressors, high-powered mobile diesel engines, and condensate tanks.[14] These techniques lead to the emissions of methane, volatile organic compounds, and fine particulate matter.[15] The practice of "flaring," the burning of gas used to eliminate gas at exploration sites and to test production of the well, releases more than 60 pollutants into the air, including methane and cancer-causing benzene.[16] The fracking fluid, which is pumped into the earth to break up the rock and allow for the release of gas, includes a number of chemical additives.[17] These additives cause some of the most concern due to the proprietary, secretive nature of the formula and the unknown effects of the chemicals on human health and the environment.[18] The potential pollution effects are causing environmentalists to push back against both the expansion of the fracking process and gas company plans to begin shipping high quantities of natural gas in liquid form to other countries where more profit can be realized.[19]

Despite these environmental effects, natural gas production continues with a new focus on selling the valuable energy source to international markets. The movement towards exporting more natural gas is mostly due to the increased use and demand of LNG outside of North America, strong natural gas production in the United States, and relatively low natural gas prices in the United States compared to other global markets.[20]

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14. *Id.* at 336.

15. *Id.*

16. Henning Gloystein et al., *U.S. Shale Causes Rise in Waste Gas Pollution*, REUTERS, May 3, 2012, http://www.reuters.com/article/2012/05/03/us-energy-gas-flaring-idUSBRE8410US20120503.

17. CHESAPEAKE ENERGY, HYDRAULIC FRACTURING: FACT SHEET 2 (May 2012), *available at* http://www.chk.com/Media/Educational-Library/Fact-Sheets/Corporate/Hydraulic_Fracturing_Fact_Sheet.pdf. The additives Chesapeake Energy lists as making up two percent of fracking fluid are acid, anti-bacterial agent, breaker, clay stabilizer, corrosion inhibitor, crosslinker, friction reducer, gelling agent, iron control, pH adjusting agent, scale inhibitor, and surfactant. *Id.*

18. *See* Craig Segall, *Look Before the LNG Leap: Why Policymakers and the Public Need Fair Disclosure Before Exports of Fracked Gas Start*, SIERRA CLUB, 11, 42 (2012), *available at* http://www.sierraclub.org/naturalgas/downloads/LOOK-BEFORE-YOU-LEAP.pdf (citing well-site management, including flowback water, spills at the surface, leaks through well casings, and contaminant migration from the fracking site as the most pressing water contamination sources during the process).

19. *See, e.g.*, *Sabine Pass Liquefaction, LLC Sabine Pass Lng, L.P.*, 140 F.E.R.C. ¶ 61076 (Jul. 26, 2012) (Sierra Club bringing an action regarding a natural liquefaction project citing FERC's reluctance to consider the potential impacts of increased production of shale gas).

20. *Annual Energy Outlook 2012 Early Release Overview*, U.S. ENERGY INFO. ADMIN. 2 (2012), *available at* http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2012).pdf.

Transporting natural gas in liquid form is necessary when natural gas needs to be transported long distances outside of a pipeline network.[21] LNG is produced by removing impurities from natural gas and then liquefying the natural gas, which results in a form that is easier to transport to international markets.[22] The LNG is then loaded into double-hulled ships and shipped to a receiving port where it is converted back into its gas form.[23]

To export natural gas from the United States, natural gas companies must navigate some federal red tape. Any company proposing to site, construct, or operate LNG import/export facilities requires federal approval from the FERC[24] pursuant to Section 3 of the Natural Gas Act (NGA).[25] Any company seeking authorization to export LNG from the United States must file an application with the Department of Energy's Office of Fossil Energy (DOE/FE) for authorization, which is dependent on whether the proposed export is consistent with the public interest.[26]

Alongside the threat of environmental harm, some claim large-scale LNG exports could have detrimental economic consequences. U.S. Senator Ed Markey has been vocal against LNG exports, pointing to the potential loss of manufacturing jobs and wealth transfer from U.S. citizens to oil and gas companies.[27] The American Public Gas Association also opposes large-scale LNG exports, citing the likely increase in the price of domestic natural gas for homeowners and businesses around the country, loss of a chance for the country to become energy independent, and the return of coal as a dominant electric generation fuel.[28]

In order to combat this potential harm, environmental and political forces, motivated for different reasons, are pursuing action to limit LNG exports. Although attempts to stop LNG exports to protect the environment or the U.S. natural gas consumer's wallet may be well-intended, this article argues that this approach is unlikely to achieve the

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21. *See generally About U.S. Natural Gas Pipelines*, U.S. ENERGY INFORMATION ADMINISTRATION, http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/index.html (last visited Apr. 5, 2013).

22. *Liquefied Natural Gas*, OFFICE OF FOSSIL ENERGY, U.S. DEP'T OF ENERGY, http://energy.gov/fe/science-innovation/oil-gas/liquefied-natural-gas (last visited Feb. 19, 2014) [hereinafter *Liquefied Natural Gas*].

23. *Id.*

24. MICHAEL RATNER ET AL., CONG. RESEARCH SERV., R42074, U.S. NATURAL GAS EXPORTS: NEW OPPORTUNITIES, UNCERTAIN OUTCOMES 2 (2011), *available at* http://www.fas.org/sgp/crs/misc/R42074.pdf.

25. 15 U.S.C § 717b (1938).

26. *Id.*; *Liquefied Natural Gas*, *supra* note 22.

27. *Markey Press Release*, *supra* note 2.

28. *APGA Opposes the Large-scale Export of LNG*, AMERICAN PUBLIC GAS ASS'N (Jan. 2013), http://www.apga.org/i4a/pages/index.cfm?pageid=3746.

desired results and would instead divert attention and effort away from more promising reforms. Existing international trade agreements, such as the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA), will ultimately prevent any real restrictions on the export of LNG. As attempts to impose export restrictions will surely fail, focusing efforts on better regulation of natural gas extraction will be more fruitful to ensure safe operations in the natural gas industry. For parties attempting to protect the low prices of domestic natural gas, the inevitable approval of LNG exports leaves no options to prevent international purchasers from entering the U.S. market.

Part I of this article examines the current state of the natural gas industry in the United States and abroad, reviewing the current regulations applicable to siting and constructing LNG terminals and the regulations relating to the approval of LNG exports to international markets. Part II reviews the argument for restrictions or a ban on LNG exports from the United States. Part III warns of international trade law that may be violated as a result of restricting LNG exports. Part III also argues that attempts to restrict LNG exports are not likely to be valid under the GATT and other free trade agreements, and these efforts to restrict LNG exports will be ineffective in achieving the ultimate goal of politicians and environmentalists to prevent large-scale natural gas exports. Part IV offers proposals to achieve safe natural gas production that coincide with the inevitable approval of export licenses for LNG, and offers predictions and added factors that are important to understanding the greater impacts of the United States becoming a major exporter of LNG.

I. CURRENT STATE OF THE NATURAL GAS INDUSTRY

To understand the recent focus on LNG exports, it is important to begin with an examination of the U.S. natural gas industry and its regulation. This section provides some background information regarding the history of natural gas extraction in the United States and reviews the major federal statute regulating the extraction and the exportation of natural gas: the NGA.[29]

A. Natural Gas and Hydraulic Fracturing

Natural gas is made up of mostly methane and currently provides one-fifth of all the energy used in the United States, with a portion of the gas produced in the United States used in homes for heating, lighting,

29. Natural Gas Act, 15 U.S.C. § 717b (2012).

and cooking and almost half used by industry.[30] As with other fossil fuels, limits on use often correlate with the ability to extract the energy resource from the earth.[31]

Much of the controversy surrounding natural gas is connected to the horizontal drilling and hydraulic fracturing process, where drillers force high-pressure fluids into a shale formation to create cracks, or fractures, which improve the flow of gas and make unconventional gas resources, like shale gas, economically viable.[32] The prospect of extracting natural gas from shale formations in the United States can be traced to the early 1800s, with the first United States commercial natural gas well producing gas from shale in Fredonia, New York in 1821.[33] Hydraulic fracturing was first used to stimulate oil and gas wells in the late 1940s, and the development of downhole motors, important for directional drilling technology, accelerated in the early 1970s.[34] The combination of hydraulic fracturing and horizontal drilling technologies, used in the Barnett Shale of Texas in the 1990s,[35] has changed the natural gas game in the United States, and its further technological improvements has led the U.S. Energy Information Administration (EIA)[36] to predict that the United States will become a net exporter of LNG in 2016 and a net exporter of total natural gas (including via pipelines) in 2020.[37]

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30. *Natural Gas Introduction*, U.S. DEP'T OF ENERGY (Feb. 12, 2013), http://www.fossil.energy.gov/education/energylessons/gas/index.html.

31. *Id.* (explaining the difficulty in producing natural gas from certain known formations and the efforts to develop technology that will allow its economical production).

32. *Natural Gas Production*, U.S. DEP'T OF ENERGY (Feb. 12, 2013), http://www.fossil.energy.gov/education/energylessons/gas/gas_production.html.

33. U.S. DEP'T OF ENERGY, SHALE GAS: APPLYING TECHNOLOGY TO SOLVE AMERICA'S ENERGY CHALLENGES 3 (Mar. 2011), *available at* http://energyindepth.org/wp-content/uploads/2012/03/Shale_Gas_March_2011.pdf.

34. *Id.*

35. HALLIBURTON, U.S. SHALE GAS, AN UNCONVENTIONAL RESOURCE, UNCONVENTIONAL CHALLENGES 1 (2008), *available at* http://www.halliburton.com/public/solutions/contents/shale/related_docs/H063771.pdf.

36. The U.S. Energy Information Administration is the statistical and analytical agency within the U.S. Department of Energy that collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. *About EIA*, U.S. ENERGY INFORMATION ADMINISTRATION, http://www.eia.gov/about/ (last visited Apr. 8, 2013).

37. U.S. Energy Information Administration, *Annual Energy Outlook 2013 Early Release* 10–11 (Dec. 2012), *available at* http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2013).pdf; *see also EIA Report Estimates Growth of U.S. Energy Economy Through 2040*, OFFICE OF FOSSIL ENERGY, U.S. DEP'T OF ENERGY (Dec. 5, 2012), http://energy.gov/articles/eia-report-estimates-growth-us-energy-economy-through-2040.

The pipeline has prompted two main concerns from environmental groups, politicians, and others opposed to LNG expansion: (1) the environmental impacts stemming from an expansion in LNG exports, and (2) the potential increases in the domestic price of natural gas. For various reasons, opponents to LNG exports argue that an expansion would be against the "public interest," and DOE/FE approval of LNG exports to countries without a Free Trade Agreement (FTA) is conditional on whether such approval is in the "public interest."[38] They also argue that an expansion of LNG exports is likely to result in increased domestic fracking, which entails environmental effects not taken into account in National Environmental Policy Act (NEPA)[39] reviews for the siting, construction, and operation of an LNG facility; the approval of LNG export applications; or in the recent DOE study regarding the impacts of LNG exports.[40]

B. Natural Gas Act

The starting point for understanding why there is controversy surrounding LNG exports is the NGA. The NGA[41] of 1938 marks the first time the natural gas industry was subject to direct federal regulation.[42] Section 3 of the NGA requires approval by the Department of Energy (DOE) for the import and export of natural gas (including LNG) and requires approval by FERC for the siting, construction, and operation of LNG import and export facilities.[43] Pursuant to Section 3 of the NGA, the

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38. The countries that have a Free Trade Agreement with the United States are Australia, Bahrain, Canada, Chile, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, Mexico, Morocco, Nicaragua, Oman, Peru, and Singapore. *See Free Trade Agreements*, OFFICE OF THE U.S. TRADE REPRESENTATIVE, www.ustr.gov/trade-agreements/free-trade-agreements (last visited Mar. 6, 2013).

39. National Environmental Policy Act of 1969, 42 U.S.C. §4321 et seq. (1991).

40. *See generally Sabine Pass Liquefaction, LLC Sabine Pass Lng, L.P.*, 140 F.E.R.C. ¶ 61076 (July 26, 2012). "[The] April 16 Order rejected Sierra Club's assertion that the Liquefaction Project will induce the production of additional natural gas resources found in shale formations throughout the United States, thus requiring the Commission to consider the environmental impacts of such additional production. The Commission concluded that any potential impacts associated with additional production are not reasonably foreseeable as contemplated by the Council on Environmental Quality (CEQ) regulations implementing NEPA, and therefore were not considered in the EA. The April 16 Order found that, with the conditions imposed in the order, the Liquefaction Project was not inconsistent with the public interest." *Id.* at I(6-7).

41. Natural Gas Act, 15 U.S.C. § 717b.

42. *See Natural Gas Act of 1938*, U.S. ENERGY INFORMATION ADMINISTRATION, http://www.eia.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/ngact1938.html (last visited Apr. 7, 2013).

43. *Id.*

DOE/FE must determine whether approval of the proposal is in the public interest when approving applications to export LNG to nations that have not signed a Free Trade Agreement with the United States.[44]

In contrast, the DOE/FE lacks discretion in approving exports to nations that have signed a free trade agreement.[45] "Exportation of natural gas to a nation with which there is in effect a free trade agreement requiring national treatment for trade in natural gas" will be deemed to be consistent with the public interest, and applications for these exports will be granted by DOE/FE "without modification or delay."[46] This FTA "consistent with the public interest" presumption provision was likely adopted without taking into account that the United States would become a major natural gas exporter because it was adopted 20 years ago to speed up Canadian gas imports.[47] This automatic approval process effectively removes all discretion and power from the DOE in determining whether massive exportation of LNG is truly consistent with the public interest. If a company is granted approval for exporting LNG by the DOE, it must then obtain approval from FERC to operate or modify

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44. Natural Gas Act, 15 U.S.C. § 717b. The statute states,

> "[N]o person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so. The Commission shall issue such order upon application, unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest. The Commission may by its order grant such application, in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate, and may from time to time, after opportunity for hearing, and for good cause shown, make such supplemental order in the premises as it may find necessary or appropriate."

Id. "Commission" refers to the Federal Power Commission, which has since been dissolved and whose authority to authorize natural gas exports has been delegated to the Department of Energy, Fossil Energy. *See* Department of Energy Redelegation Order No. 00-002.04E (Apr. 29, 2011), *available at* https://www.directives.doe.gov/sdoa/delegations-documents/002.04E/view. The Federal Energy Regulatory Commission was separately delegated authority relating to the permitting, siting, construction, and operation of export facilities. *See* Department of Energy Delegation Order No. 00-004.00A (May 6, 2006), *available at* https://www.ferc.gov/industries/electric/indus-act/siting/doe-delegation.pdf.

45. *See* Natural Gas Act, 15 U.S.C. § 717b.

46. 15 U.S.C. § 717b(c).

47. *See* Segall, *supra* note 18, at 4. The Sierra Club is concerned that the Trans-Pacific Partnership, a possible trade agreement that includes major natural gas importers such as Japan, could allow automatic approval of LNG exports to these countries, which may not necessarily be consistent with the public interest. *Id.*

export terminals.[48] These facilities are multi-billion dollar projects, and many companies are planning to convert facilities previously used as LNG import facilities.[49]

There is some disagreement as to the extent to which the DOE/FE must take into account the environmental impacts of a proposed application for exports of LNG and what factors should be considered for determining what constitutes the "public interest."[50] A recent DOE study (examined in Part II) of the macroeconomic impacts of LNG exports suggests that increased exports result in a net benefit to the U.S. economy; however, the study is wholly devoid of environmental considerations.[51] FERC has also stated its position that the detrimental environmental impacts of increased fracking activity are not "reasonably foreseeable" as defined by the Council on Environmental Quality (CEQ) regulations for NEPA review.[52] Irrespective of how the DOE/FE defines the "public interest," under current U.S. domestic law the decision to restrict export licenses and LNG exports will hinge on this term.

II. WHY SHOULD WE LIMIT LNG EXPORTS?

The following section examines two of the chief arguments for restricting LNG exports: the negative environmental effects from increased fracking and the economic impacts.

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48. Michael Levi, The Hamilton Project, *A Strategy for U.S. Natural Gas Exports*, Policy Brief 2012-05 3-4 (June 2012) *available at* http://www.hamiltonproject.org/files/downloads_and_links/06_exports_levi.pdf.

49. *Id.*

50. *See Sabine Pass Liquefaction, LLC Sabine Pass LNG, L.P.*, 140 F.E.R.C. ¶ 61076 (July 26, 2012). Order denying Sierra Club's request for rehearing and stay of orders granting Sabine Pass Liquefaction, LLC and Sabine Pass LNG, L.P. authorization to site, construct, and operate facilities for the liquefaction and export of domestically produced natural gas at the existing Sabine Pass LNG terminal located in Cameron Parish, Louisiana. The Sierra Club argued that FERC "failed to consider the project's reasonably foreseeable indirect effect of inducing additional shale natural gas production and the associated environmental impacts," with FERC arguing that it is virtually impossible to estimate how much, if any, of the export volumes associated with the project will come from existing or new shale production. *Id.* FERC also argued that even if the inducement of shale development was determinable, any impacts which may result from future shale developments are not "reasonably foreseeable" as defined by the CEQ regulations. *Id.*

51. *See generally* NERA Economic Consulting, *Macroeconomic Impacts of LNG Exports from the United States*, http://www.fe.doe.gov/programs/gasregulation/reports/nera_lng_report.pdf (last visited Jan. 13, 2013).

52. *Sabine Pass Liquefaction, LLC Sabine Pass LNG*, L.P., 140 F.E.R.C. ¶ 61076 (July 26, 2012).

A. Potential Environmental Impacts of Increased LNG Exports

Sierra Club is one of the most prominent voices in opposition to the expansion of LNG export terminals and applications to export domestically-fracked natural gas.[53] The environmental group insists that authorization of facilities and exports will harm the public interest by increasing domestic prices and will also cause many environmental impacts.[54] One of the group's biggest concerns is that increasing natural gas exports will inevitably cause natural gas production to increase. The Secretary of Energy Advisory Board's Shale Gas Production Subcommittee issued a report in November 2011 recommending enhanced regulation and research because "if action is not taken to reduce the environmental impact accompanying the very considerable expansion of shale gas production expected across the country—perhaps as many as 100,000 wells over the next several decades—there is a real risk of serious environmental consequences causing loss of public confidence that could delay or stop this activity."[55]

Air pollution associated with shale gas production, including exploration, drilling, flaring, equipment operation, extraction, and vehicular traffic pollution, releases volatile organic compounds, nitrogen oxides, particulates from diesel exhaust, toxic air pollutants, and greenhouse gases.[56] The amount of water used in the drilling and fracking process generally ranges from two million to four million gallons per operation.[57] The fracking fluid, mostly water and sand, includes a number of additives that, while they amount to less than two percent of the fluid, pose major concerns for potential ground and surface water con-

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53. *See generally* Segall, *supra* note 18.

54. *Sierra Cl. Mot. to Intervene., Protest, and Comments In the Matter of Cheniere Marketing, LLC*, FE Docket No. 12-97-LNG, 1 (Dec. 26, 2012), *available at* http://www.fossil.energy.gov/programs/gasregulation/authorizations/Orders_Issued_2012/SC_MTI_Protest__Comments_12_26_12.pdf.

55. Secretary of Energy Advisory Board Shale Gas Production Subcommittee, U.S. Dep't of Energy, Second-Ninety Day Report 10 (Nov. 18, 2011), *available at* http://energy.gov/sites/prod/files/90day_Report_Second_11.18.11.pdf; *see also* Segall, *supra* note 18, at 7.

56. Ramón A. Alvarez & Elizabeth Paranhos, *Air Pollution Issues Associated with Natural Gas and Oil Operations*, Air and Waste Management Association (2012), *available at* http://www.edf.org/sites/default/files/AWMA-EM-airPollutionFromOilAndGas.pdf; *see also* Argetsinger, *supra* note 13, at 331; Gasland (Josh Fox, Int'l WOW Co. 2011), *available at* http://www.gaslandthemovie.com.

57. Office of Fossil Energy, U.S. Dep't of Energy, Modern Shale Gas, Development in the United States: A Primer at ES-4 (April 2009), *available at* http://energy.gov/sites/prod/files/2013/03/f0/ShaleGasPrimer_Online_4-2009.pdf [hereinafter *Modern Shale Gas*].

tamination.[58] This fracking fluid returns to the surface with the natural gas and some natural formation water, and after the fracking process the water is usually disposed of through underground injection, treatment and discharge, and recycling.[59]

In addition, there are often land and community impacts from the drilling, including well pads that can cover three acres and associated infrastructure that transforms rural areas into giant construction sites.[60] These land impacts can negatively affect property values, and the changed landscape is generally no longer suitable for wildlife habitat.[61] Scientists have also linked wastewater injection from drilling operations to a magnitude 5.7 earthquake in Oklahoma in 2011.[62] These environmental concerns are very serious, and it is generally accepted that an expansive LNG export policy will lead to more exploitation of shale gas formations.[63]

B. Potential Economic Impacts of Increased LNG Exports

Simple economics suggest an increase in demand for natural gas will necessarily raise the price of natural gas. Even so, the extent of a price increase of natural gas in the United States, or whether there will be any increase at all, is a hotly debated topic.[64] On December 5, 2012, the DOE/FE released a long-awaited report on the macroeconomic impacts of LNG exports that finds, under all studied scenarios, that the United States is projected to gain net economic benefits as the level of U.S. LNG

58. CHESAPEAKE ENERGY, *supra* note 17; *see also* Segall, *supra* note 18, at 11 (citing well-site management, including flowback water, spills at the surface, leaks through well casings, and contaminant migration from the fracking site as the most pressing water contamination sources during the process).

59. CHESAPEAKE ENERGY, *supra* note 17.

60. Segall, *supra* note 18, at 12.

61. *Id.* at 12–13.

62. Jason Palmer, *Oklahoma Earthquake Linked to Oil Extraction Wastewater*, BBC NEWS (Mar. 27, 2013), http://www.bbc.co.uk/news/science-environment-21952428.

63. *See* CHARLES EBINGER ET AL., EVALUATING THE PROSPECTS FOR INCREASED EXPORTS OF LIQUEFIED NATURAL GAS FROM THE UNITED STATES: AN INTERIM REPORT 1-15 (The Brookings Institution ed. 2012), *available at* http://www.brookings.edu/~/media/research/files/papers/2012/1/natural%20gas%20ebinger/natural_gas_ebinger_2.

64. *E.g.*, TOM CHOI & PETER J. ROBERTSON, DELOITTE CENTER FOR ENERGY SOLUTIONS AND DELOITTE MARKETPOINT LLC, EXPORTING THE AMERICAN RENAISSANCE: GLOBAL IMPACTS OF LNG EXPORTS FROM THE UNITED STATES 2 (2013), *available at* https://www.deloitte.com/assets/Dcom-Uruguay/Local%20Assets/Documents/Industrias/GlobalImpact%20feb13.pdf (predicting only a marginal increase in U.S. domestic prices, at about $0.15/MMBtu from 2016 to 2030).

exports increase.[65] The report claims that the "benefits that come from export expansion more than outweigh the losses from reduced capital and wage income to U.S. consumers, and hence LNG exports have net economic benefits in spite of higher domestic natural gas prices. This is exactly the outcome that economic theory describes when barriers to trade are removed."[66]

The DOE report has done little to satisfy the critics of LNG exports. Furthermore, what this "net economic benefit" will actually look like is another debate, with some predicting it will be a wealth transfer from the majority of Americans to the minority of wealthy corporations that own natural gas resources or LNG export infrastructure.[67] U.S. Senator Ron Wyden, the chairman of the Senate Energy and Natural Resources Committee, claims that the flaws of the study "are numerous and render this study insufficient for the [DOE] to use in any export determination . . . . The NERA study would need to be updated with new EIA projections, more realistic market assumptions, regional impacts of the proposed actual export terminals, and evaluations of the actual impacts on consumers and businesses of exporting LNG."[68] U.S. Senator Ed Markey, ranking member of the Natural Resources Committee, also finds serious problems with the DOE report, claiming that it used old data and underestimated growth that has already occurred in domestic natural gas demand.[69]

C. The Possible Upsides to LNG Exports for Environmentalists

Although increased production of natural gas appears to be the immediate effect of large-scale LNG exports, there may be some benefits to exporting LNG for the environmentally conscious. Arno Harris, the CEO of Recurrent Energy, a leading solar project developer, is making some waves in the renewable energy sphere by supporting LNG exports

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65. *See generally* W. DAVID MONTGOMERY ET. AL., NERA ECONOMIC CONSULTING, MACROECONOMIC IMPACTS OF LNG EXPORTS FROM THE UNITED STATES (Dec. 3, 2012), http://energy.gov/sites/prod/files/2013/04/f0/nera_lng_report.pdf.

66. *Id.* at 1.

67. Memorandum from the Sierra Club to the U.S. Dept. of Energy (Feb. 25, 2013), *available at* http://www.fossil.energy.gov/programs/gasregulation/authorizations/export_study/reply_comments/Sierra_Club02_25_13.pdf [hereinafter *Sierra Club Memorandum*].

68. Press Release, U.S. Senator Ron Wyden, Wyden Highlights Flaws in DOE Export Study (Jan. 10, 2013), *available at* http://www.wyden.senate.gov/news/press-releases/wyden-highlights-flaws-in-doe-export-study-.

69. Press Release, Natural Resources Committee Democrats, Markey Exposes Huge Flaws in Natural Gas Export Report (Dec. 17, 2012), *available at* http://democrats.naturalresources.house.gov/press-release/markey-exposes-huge-flaws-natural-gas-export-report.

and encouraging others to join him.[70] With cheap gas flooding the market, a major concern was the likely result of natural gas replacing renewable energy in the marketplace, but Harris sees the picture differently.[71] Harris argues that one big downside of cheap domestic natural gas is that the United States is now exporting coal to Europe, and the coal that is displaced by natural gas in the United States is being burned somewhere else in the world.[72] Exporting natural gas, Harris argues, would likely result in displacement of coal both domestically and abroad, resulting in lower net carbon emissions.[73] Secondly, Harris recognizes that cheap natural gas hinders the development of renewable energy, and LNG exports could help boost the price of gas in the United States, making solar and wind energy more competitive.[74]

For the environmentalist, a best-case scenario situation is a properly regulated fracking process coupled with huge exports of natural gas to make way for renewable energy in the United States because of higher domestic gas prices. Those parties concerned with rising prices of natural gas in the United States would not be happy with this outcome, and it is difficult to see a scenario where domestic prices of natural gas will not increase, even if the increase is small.[75] Once the United States begins exporting LNG on a large-scale, the margins between the United States and global markets for natural gas will likely narrow, making LNG exports less profitable, which in turn could mean a slow-down of these exports and an equalizing of global prices.[76] But this new price for natural gas will surely be higher than current prices.[77] This price increase will hurt the consumer the most, while the increases in price are likely welcomed by gas companies because it translates to higher profit.[78]

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70. Arno Harris, *Export Natural Gas to Accelerate Our Clean Energy Future*, CLEAN ENERGY FUTURE BLOG (Mar. 12 2013, 5:00 PM), http://arnoharris.typepad.com/cleanenergyfuture/2012/12/export-natural-gas-to-accelerate-our-clean-energy-future.html.

71. *Id.*

72. *Id.*; *see also* Carolyn Lochhead, *Solar Chief Argues for Natural Gas Exports*, POLITICS BLOG FROM THE SAN FRANCISCO CHRONICLE (Jan. 10, 2013), http://blog.sfgate.com/nov05election/2013/01/10/solar-chief-argues-for-natural-gas-exports/.

73. *See* Harris, *supra* note 70.

74. *Id.*

75. CHOI & ROBERTSON, *supra* note 64, at 2 (predicting a small increase in the average U.S. domestic gas price, about $0.15/MMBtu from 2016 to 2030, and that once the export markets soften, the margins between the United States and global markets will narrow and limit the LNG export volumes without government intervention).

76. *Id.*

77. *Id.*

78. *See generally Sierra Club Memorandum*, *supra* note 67.

III. INTERNATIONAL TRADE LAW

Natural gas is recognized as a commodity, like other energy products, and therefore is subject to obligations contained in Annex 1A to the World Trade Organization (WTO)[79] Agreement. Section 3 of the Natural Gas Act already provides some discretion for approval of exports. This discretion may on its own be inconsistent with obligations under the GATT because the extended period of time the DOE/FE takes to determine whether to allow LNG exports to non-FTA countries could be described as a restriction on the exports.[80] If legislation were passed banning LNG exports, although at this time it appears unlikely,[81] it would amount to a clear move against the idea of liberal free trade under the GATT. The following is an analysis of international trade agreements that would be violated if restrictions on LNG exports came to fruition. This article examines the most applicable provisions of the GATT and NAFTA in relation to LNG exports from the United States.

A. General Agreement on Tariffs and Trade

The GATT, a multilateral agreement regulating international trade, serves to reduce tariffs and other trade barriers, resulting in the liberalization of international trade.[82] The GATT was signed in 1947 and

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79. "The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to help producers of goods and services, exporters, and importers conduct their business." *What is the WTO?*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm (last visited Feb. 10, 2014).

80. GATT Articles XI:1 and XIII:1 impose disciplines on the use of export restrictions if such restrictions are not otherwise waived or justified by exceptions in other GATT articles. *See* Natural Gas Act, 15 U.S.C. § 717b (2012).

81. *See* Keep American Natural Gas Here Act of 2012, H.R. 4025, 112th Cong. (2012) (re-introduced as H.R. 1191 on Mar. 14, 2013). Representative Ed Markey introduced this bill in an effort to keep U.S. natural gas in the United States by requiring natural gas extracted from federal lands to be resold only to American consumers. The bill does not appear to have the support needed to pass. *See H.R. 1191: Keep American Natural Gas Here Act*, GovTrack, http://www.govtrack.us/congress/bills/113/hr1191 (predicting a one percent chance of the bill being enacted) (last visited Feb. 10, 2014).

82. Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154, 33 I.L.M. 1125 [hereinafter *Marrakesh Agreement*]. The preamble states its purpose of "entering into reciprocal and mutually advantageous arrangements directed to the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment in international trade relations." *Id.* The WTO includes 159 member countries and 25 observer governments. *Understanding the WTO: The Organization*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (last visited Feb. 10, 2014).

replaced by the WTO in 1995, but the original GATT text is still in effect under the WTO framework.[83] The signatory countries[84] entered into the agreement recognizing that cooperation in trade could help with "raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, developing the full use of the resources of the world and expanding the production of the exchange of goods."[85] The basic GATT rules are: States may not discriminate between "like products" from different countries (Article I), known as the "most favored nations" principle; States may impose tariffs on imports, but the tariffs may not exceed the limits specified in the GATT (Article II); States may not discriminate between "like products" that are imported and those domestically produced (Article III), known as the "national treatment" principle; and States may not impose "quantitative restrictions" on trade (Article XI).[86]

While the GATT rules generally encourage liberalization of trade, the treaty includes exceptions to those rules. Article XX[87] of the GATT

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83. *See generally Understanding the WTO: Basics*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm (last visited Feb. 10, 2014).

84. The initial countries to sign the GATT were Australia, Belgium, Brazil, Burma, Canada, Ceylon, Chile, China, Cuba, Czechoslovak Republic, France, India, Lebanon, Luxemburg, the Netherlands, New Zealand, Norway, the United Kingdom, and the United States.

85. General Agreement on Tariffs and Trade, Preamble, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT], *as amended by Marrakesh Agreement*, *supra* note 82.

86. ROBERT L. GLICKSMAN, ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 1093 (6th ed. Aspen Publishers 2011).

87. *See* GATT, *supra* note 85, at 37–38:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
>
> (a) necessary to protect public morals;
>
> (b) necessary to protect human, animal or plant life or health;
>
> (c) relating to the importation or exportation of gold or silver;
>
> (d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices;
>
> (e) relating to the products of prison labour;
>
> (f) imposed for the protection of national treasures of artistic, historic or archaeological value;
>
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

allows for an exception to the rules for "protect[ion] [of] human, animal or plant life or health" and "the conservation of exhaustible natural resources."[88] Article XX provides the exception "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."[89] The Preamble to the GATT also portrays an understanding of the need to protect and preserve the environment:

> Recognizing that [Members'] relations in the field of trade and economic endeavor should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.[90]

Countries using an environmental exception defense to justify restrictive measures on trade must show that (1) the restrictive measure produced a material contribution to the achievement of the measure's objectives; (2) the restrictive measure was the least restrictive measure within the meaning of Article XX(b); and (3) the restrictive measure was not arbitrary or unjustifiable nor was it a disguised restriction on international trade.[91]

B. NAFTA

NAFTA is a free trade agreement between the United States, Canada, and Mexico, creating the largest free trade area and linking 450 million people and $17 trillion worth of goods and services.[92] As of February 2013, pipeline exports to Canada and Mexico account for 98 percent of the total natural gas exports of the United States, and relatively

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88. *Id.* at 37; *see also* Aaron Ezroj, *Climate Change and International Norms*, 27 J. LAND USE & ENVTL. L. 69, 90–96 (2011) (reviewing the application of Article XX to environmental concerns).

89. GATT, *supra* note 85, at 38.

90. *Marrakesh Agreement*, *supra* note 82.

91. *See* Appellate Body Report, Brazil - Measures Affecting Imports of Re-treaded Tyres, WT/DS332/AB/R 101–102 (Dec. 3, 2007).

92. *North American Free Trade Agreement*, OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE, (Dec. 25, 2013 6:00 PM), http://www.ustr.gov/trade-agreements/free-trade-agreements/north-american-free-trade-agreement-nafta.

low natural gas prices in the United States increased the demand for natural gas in Mexico and led to a 24 percent rise in exports to Mexico in 2012.[93] Keeping in mind this existing demand for natural gas from Canada and Mexico, in addition to challenges under the GATT, NAFTA can also function as a barrier for restrictions on LNG exports from the United States. Articles 603 and 604 of NAFTA mirror GATT controls regarding quantitative restrictions on imports and exports of energy products, and these provisions prevent a country from imposing minimum or maximum import or export price requirements.[94] The provision also disallows a tax, duty, or charge on the export of energy products unless it is equally imposed domestically.[95] Parties may apply trade restrictions on energy products when such products "although traded with another NAFTA party, originates from or has a final destination [of] the territory of a non-party against which the party maintains the trade restrictions."[96]

Much of the criticism regarding NAFTA and energy trade focuses on the United States and its undying thirst for fossil fuels, which caused domestic Canadian prices to rise.[97] Mexico restricts exports of crude oil, natural gas, and petrochemicals to the United States, but this was a special exception carved out during the NAFTA negotiations due to the Mexican Constitution requiring state control of its energy sector.[98] With the capability of becoming a major natural gas exporter, the United States has changed roles—from natural gas importer to natural gas exporter. It is unlikely that the United States foresaw Articles 603 and 604 of NAFTA having an impact on its ability to export natural gas because the United States saw itself only as an importer of natural gas. These provisions should prevent the United States from implementing quantitative restrictions (such as a minimum-export prices), taxes, charges or duties, unless these provisions are applied to all parties equally, including goods consumed domestically.

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93. *U.S. Natural Gas Imports & Exports 2012*, U.S. Energy Information Administration, (July 23, 2013), http://www.eia.gov/naturalgas/importsexports/annual/#tabs-supply-2.

94. North American Free Trade Agreement, U.S.-Can.-Mex., art. 603, ¶ 2, Dec. 17, 1992, 32 I.L.M. 289 (1993) [hereinafter NAFTA] states: "The Parties understand that the provisions of the GATT . . . [prohibit] minimum or maximum export price requirements and, except as permitted in enforcement of countervailing and antidumping orders and undertakings, minimum or maximum import-price requirements"; *see also* Stacey L. Middleton, *How the Petroleum Addict Negotiates With the Dealer: Challenges to the Bush Administration's North American Energy Policy*, 11 CARDOZO J. INT'L & COMP. L. 177, 186–87 (2003) (explaining changes to cross-border trade regulations under NAFTA Chapter Six).

95. Middleton, *supra* note 94, at 187.

96. NAFTA, *supra* note 94, at art. 603, ¶ 3.

97. Middleton, *supra* note 94, at 178.

98. *Id.* at 186.

C. Export Restrictions Will Run Afoul of International Agreements

The following is an examination of how international trade law has historically impacted restrictions on domestic goods, and an exploration of how these cases may be instructive for the issue of restrictions on LNG export from the United States.

1. Historical Restrictions on Exports: Chinese Rare Earth Minerals and Alaskan Oil

The recent controversy over Chinese rare earth elements and the 1973 Trans-Alaskan Pipeline Authorization Act, described below, are very similar to current attempts to restrict LNG and are instructive of the likely outcome. The Chinese rare earth element example shows a country's attempt to restrict the export of its natural resources and the results of a challenge under international law. The banning of exports of Alaskan North Slope Oil resulting from the Trans-Alaska Pipeline Authorization Act of 1973 demonstrates the willingness of the United States to ban exports in certain situations while using the "public interest" standard to justify that decision.

a. Chinese Rare Earth Minerals Trade Quotas

Rare earth minerals are naturally occurring solids that contain the rare earth elements, lanthanides and yttrium, which are used in mature markets such as catalysts, glassmaking, lighting, and metallurgy.[99] Rare earth elements are chiefly mined and separated in China, so China is very important to world production.[100] The Chinese reluctance to reform its export policy regarding rare earth minerals provides a parallel situation to the LNG issue in the United States. China is estimated to be the source of over 97 percent of the global supply of rare earth minerals.[101] In recent years, China has been placing more restrictions on its rare earth exports, restructuring its rare earth mineral mining industry, and providing assistance to the industry in the form of subsidies.[102] China's production of rare earth minerals became a fragmented industry without an effective regulatory regime, leading to thousands of mines with poor

99. *See* Dr. Ritsuro Míyawaki, *Rare-Earth Minerals*, AccessScience (McGraw Hill Education, 2012), http://www.accessscience.com/content/rare-earth-minerals/757627; Thomas G. Goonan, Rare Earth Elements—End Use and Recyclability: U.S. Geological Survey Scientific Investigations Report 2011—5094 (2011).

100. Goonan, *supra* note 99.

101. Wayne M. Morrison & Rachel Tang, Cong. Research Serv., R42510, China's Rare Earth Industry and Export Regime: Economic and Trade Implications for the United States 1 (2012).

102. *Id.* at 1.

safety and environmental regulatory compliance.[103] At the same time, the overexploitation of China's rare earth minerals led to a sharp drop in prices.[104] China claims that the restrictions it implemented on exports are designed to stop the rapid depletion of its resource and to remedy the safety issues and environmental degradation of its mines.[105] On the other hand, skeptics, like the United States, insist the export restrictions are intended to provide competitive advantage to China's domestic downstream users over foreign companies, and/or to induce foreign companies to move their facilities to China.[106]

In September 2010, the United States took action through the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union, AFL-CIO CLC (USW) to address the export restraints in a Section 301 petition to the U.S. Trade Representative.[107] In its petition, the United States stated "China's reliance on WTO-inconsistent export restraints to dominate the world market in rare earth and other minerals not only nullifies and impairs benefits accruing to the United States under the WTO Agreement, it fundamentally distorts trade and competition in the green technology sector, among others."[108] In December 2010, the United States brought a WTO dispute resolution case against China, and in February 2011, China agreed to remove discriminatory subsidies.[109]

The similarities between China's rare earth export restrictions and the arguments to restrict LNG exports from the United States inform what the United States may expect if it allows further restrictions on LNG exports. WTO members likely to benefit the most from a robust LNG export regime in the United States, like Japan,[110] could potentially make the United States answer to international dispute settlement bodies for its protectionist measures.

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103. *Id.* at 11.

104. *Id.*

105. *See id.* at 11–12.

106. *See id.* at 1–2, 11.

107. USW, *Petition for Relief Under Section 301 of the 1974 Trade Act as Amended, China's Policies Affecting Trade and Investment in Green Technology* 23 (Sept. 9, 2010).

108. *Id.*

109. USTR, *2012 Trade Policy Agenda and 2011 Annual Report* 175 (March 1, 2012); *see also* MORRISON & TANG, *supra* note 101, at 84.

110. Tokyo Electric Power (TEPCO), reeling from Fukushima incident and looking for alternative forms of energy, has recently made plans to buy 800,000 tons of light liquefied natural gas from the United States. *Japan's TEPCO to Buy 800,000 Tonnes of LNG From the US*, GLOBAL POST, Feb. 6, 2013, http://www.globalpost.com/dispatch/news/afp/130206/japans-tepco-buy-800000-tonnes-lng-us.

b. 1973 Trans-Alaska Pipeline Authorization Act

Similar to the current situation, the United States was once before in a position where policymakers saw it as beneficial to keep homegrown fossil fuels at home. Congress authorized the Trans-Alaska Pipeline system in response to the energy crisis caused by the 1973 Arab oil embargo.[111] The authorization prohibited the export of Alaskan oil to ensure "energy independence"[112] and effectively put an export ban on Alaska North Slope oil so it could be consumed domestically.[113] The export ban was largely a result of the lobbying efforts of the U.S. maritime shipping industry, which saw an opportunity to enlarge its coastal tanker fleet.[114] Banning oil exports would have given an advantage to the maritime shipping industry because Section 27 of the Merchant Marine Act of 1920 required that cargo shipped between U.S. ports be moved by U.S.-flag vessels only.[115] The export ban was revoked in 1995,[116] without being challenged under GATT rules prohibiting export restrictions, after the DOE determined "there would be a significant number of benefits to the United States from allowing the export of [Alaska North Slope] crude" and President Clinton signed legislation permitting Alaska North Slope oil exports if they were found to be in the nation's best interest.[117]

Although this example does not show how anti-free-trade U.S. legislation may withstand a challenge under international trade agreements because no challenge was brought, it does demonstrate the willingness of the United States to approve such legislation based on a determination of what is in the public's interest. Lifting the ban had little effect on world oil prices, which stands in stark contrast to the potential impact of U.S. LNG exports on the world gas market.[118] Due to the expected impact on the world market from the export of U.S. LNG, it is

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111. Samuel A Van Vactor, *Time to End the Alaskan Oil Export Ban*, CATO POLICY ANALYSIS No. 227 (May 18, 1995), http://www.cato.org/pubs/pas/pa-227.html.

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. Alaska Power Administration Asset Sale and Termination Act of 1995, Pub L No 104-58, 109 Stat 557 (1995).

117. S. Rep. No. 104-78, at 6 (1995); *see also Ban Ends on Export of North Slope Crude*, L.A. TIMES, Apr. 29, 1996, http://articles.latimes.com/1996-04-29/business/fi-64073_1_alaska-north-slope-crude; Daniel C. Crosby, *Energy Discrimination and International Rules in Hard Times: What's New This Time Around, and What Can Be Done*, JOURNAL OF WORLD ENERGY LAW AND BUSINESS 15–16 (2012) (discussing the possibility of an export ban challenge).

118. Crosby, *supra* note 117, at 15–16; *Petroleum & Other Liquids*, U.S. ENERGY INFORMATION ADMINISTRATION, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=f000000__3&f=a (last visited Feb. 28, 2014) (showing the price of crude oil changing only a few dollars per barrel following the lift of the ban).

more likely that a country would bring a challenge under the GATT (or other international agreement) for restrictions on LNG exports.

2. The United States is Unlikely to Prevail in Justifying GATT Exceptions

As stated above, Article XX of the GATT allows for an exception from the GATT rules for "protect[ion] [of] human, animal or plant life or health" and "the conservation of exhaustible natural resources."[119] The GATT established three standards regarding the application of measures for justification when attempting to qualify for an exemption from the GATT rules: (1) there must be no "arbitrary" discrimination between countries where the same conditions prevail, (2) there must be no "unjustifiable" discrimination between countries where the same conditions prevail, and (3) there must be no "disguised restriction on international trade."[120] Article XX could arguably be used by the United States to justify a restriction on its export of natural gas, but there would be differences in approach for the proponents of restrictions on LNG exports. Furthermore, as exemplified in the following sections, the decisions by international dispute settlement bodies have greatly narrowed the scope of the Article XX exception.

GATT Article XX(g) allows the adoption of export restrictions relating to the conservation of "exhaustible resources," but this exception only applies to restrictions on exports that coincide with restrictions on domestic production or consumption.[121] If the United States relies on the Article XX(g) exception, it would create a division in the two major proponents for export restrictions: environmentalists, and those desiring to consume natural gas domestically. Environmentalists that are concerned with fracking activities would seemingly invite the idea of defining natural gas as an "exhaustible resource," which would likely result in restrictions on both domestic consumption of gas and exports of the resource. On the other hand, parties like the American Gas Association would balk at the thought of restrictions on domestic consumption, even though they are advocating for restrictions on exports. Using the Article XX(g) exception would not be an effective solution to restrict LNG exports for parties preferring to consume the natural gas domestically.

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119. *Id.*; *see also* Aaron Ezroj, *Climate Change and International Norms*, 27 J. LAND USE & ENVTL. L. 69 (2011) (reviewing the application of Article XX to environmental concerns).

120. GLICKSMAN, *supra* note 86, at 1093.

121. GATT, *supra* note 85, at 38. "[R]elating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption." *Id.*

An even bigger problem with an Article XX exception argument for the restriction on LNG exports is the previously unsuccessful attempts by the United States to use this defense before international dispute settlement bodies. If a WTO member state believes it was deprived of some benefit protected under GATT or other WTO provisions, it may call for consultations with the other member state.[122] If that fails, the complainant state may request the establishment of a Panel.[123] A party may appeal a final Panel Report to the standing Appellate Body.[124] The following are several examples of the international dispute settlement bodies' narrowing the application of the Article XX exception.

In *United States - Prohibition of Imports of Tuna and Tuna Products from Canada*, a GATT Panel refused to accept the exception because the U.S. import ban to conserve tuna stocks was not made in conjunction with restrictions on U.S. domestic production or consumption on all tuna and tuna products.[125] Canada argued that the import prohibition was discriminatory and inconsistent with GATT obligations, while the United States unsuccessfully argued that the import prohibition was justified under Article XX(g) of GATT, which provides an exemption for measures "relating to the conservation of exhaustible natural resources."[126] The Panel agreed that the prohibition was neither discriminatory nor a disguised restriction on international trade, and that tuna was indeed an "exhaustible natural resource," but the Panel found no equivalent restrictions on domestic production and consumption of tuna.[127] The DOE/FE's discretion to determine the "public interest" does not include the power to restrict domestic consumption of natural gas, which is necessary to meet the Article XX(g) exception, so there would need to be additional legislation passed in order to meet the GATT Article XX(g) conditions.

In *United States - Standards for Reformulated and Conventional Gasoline*, which resulted from the United States applying stricter rules on the chemical characteristics of imported gasoline, the Appellate Body rejected the Article XX defense because the stricter rules were an "unjustifi-

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122. WTO: Institutions and Dispute Settlement 435–83 (Karen Kaiser et al. eds., 2006).

123. *Id.*

124. *Id.*

125. GATT Panel Report, *United States - Prohibition of Imports of Tuna and Tuna Products from Canada*, BISD 29S/91, ¶ 4.9-4.12 (adopted Feb. 22, 1982), *available at* http://www.wto.org/english/tratop_e/dispu_e/80tuna.pdf [hereinafter *GATT Tuna Panel Report*].

126. *Id.* at ¶ 4.7, note 1; *see also* Nathalie Bernasconi-Osterwalder, Environment and Trade: A Guide to WTO Jurisprudence 87 (Earthscan 2006).

127. *GATT Tuna Panel Report*, *supra* note 125 at ¶¶ 4.8-4.12.

able discrimination" and "disguised restriction on international trade."[128] Similarly, in *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, the Appellate Body found "unjustifiable discrimination" and "arbitrary discrimination" in the differing application between WTO members.[129] Although these decisions did legitimize the policy of using the exception for environmental protection, they also demonstrate that restrictions on imports or exports will be highly scrutinized.

Furthermore, disguising objectives through carefully worded legislative language is futile because deciding bodies will examine all facts and surrounding circumstances to determine the true objective of the legislation. In *Canada - Measures Affecting Exports of Unprocessed Herring and Salmon*,[130] Canada's fishery legislation stated that "[n]o person shall export from Canada any sockeye or pink salmon unless it is canned, salted, smoked, dried, pickled or frozen."[131] The United States challenged this language, alleging that the true objective was promotion of the downstream processor sectors in Canada.[132] In determining if the measures could be justified under an Article XX(g) exception, the Panel found that the restrictive regulation "covered other fish varieties that were not subject to export prohibitions."[133] The Panel found that the prohibitions "could not be deemed to be primarily aimed at the conservation of salmon and herring stocks and at rendering effective restrictions on the harvesting of these fish."[134]

When a country elects to justify export restrictions using Article XX of the GATT, there must be a showing of the protections afforded by the exception. The most recent case on export restrictions is *China - Measures Related to the Exportation of Various Raw Materials* (*China - Raw Materials*),[135] where a panel was established to address complaints made by the

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128. Appellate Body Report, *United States - Standards for Reformulated and Conventional Gasoline*, 29, WT/DS2/AB/R (Apr. 29, 1996), *available at* http://www.worldtradelaw.net/reports/wtoab/us-gasoline(ab).pdf.

129. Appellate Body Report, *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 176, 184, WT/DS58/AB/R (Oct. 12, 1998), *available at* http://www.worldtradelaw.net/reports/wtoab/us-shrimp(ab).pdf.

130. *See* Panel Report, *Canada - Measures Affecting Exports of Unprocessed Herring and Salmon*, L/6268 – 35S/98 (Mar. 22, 1988), *available at* www.wto.org/english/tratop_e/dispu_e/87hersal.pdf [hereinafter *GATT Settlement Report*].

131. *Id.* at ¶ 2.2.

132. Baris Karapinar, *Exports Restrictions and the WTO Law: How to Reform the 'Regulatory Deficiency'*, 45 JOURNAL OF WORLD TRADE 1139, 1145 (2011) [hereinafter *Exports Restrictions*].

133. *Id.* at 1146.

134. *GATT Settlement Report*, supra note 130, at ¶ 4.7.

135. WTO Dispute Settlement, *China-Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R, (Jan. 28, 2013) *available at* http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds394_e.htm [hereinafter *China-Raw Materials*]; *see also* Baris

United States, the European Union (EU), and Mexico concerning China's export restrictions on selected minerals.[136] The Panel used Article XX to determine whether China could justify its export duties on specific products.[137] China argued that export restrictions were necessary for "scrap" products[138] and "energy-intensive, highly polluting, resource-based products"[139] to protect the health of its population.[140] The Panel held that there was no specific evidence that the export restrictions were part of a framework to protect human health and reduce pollution associated with the production and consumption of the raw material at issue.[141] The Panel also examined the availability of less-restrictive alternative means and found that China's admission that alternatives did exist supported the ruling that the imposed export restrictions were not justified.[142]

Applying *China - Raw Materials* to the current issue, it does not appear the United States could establish a convincing argument in support of export restriction on LNG exports. Using the possible increase in domestic prices of natural gas as justification for the restrictions would surely fail because this argument is protectionist. Article XX creates an exception for the "protect[ion] [of] human, animal or plant life or health," but it cannot be used to protect a domestic industry from international competition. In addition, arguing that the restrictions are an attempt to conserve a natural resource will also fail because there are no attempts to simultaneously restrict domestic consumption of natural gas. As stated above, Article XX(g) allows the adoption of export restrictions relating to the conservation of "exhaustible resources," but the exception only applies to restrictions on exports that coincide with restrictions on domestic production or consumption.[143] Environmental concerns with the fracking process, which is a controversial issue in itself, could be a more viable

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Karapinar, *China's Export Restriction Policies: Complying with 'WTO Plus' or Undermining Multilateralism*, 10 World Trade Review 398, 398–408 (2011) (providing extensive analysis of the China-Raw Materials Case).

136. The materials in question were bauxite, coke, fluorspar, magnesium, manganese, phosphate (yellow phosphorus), silicon (metal and carbide), and zinc. *Id.* at 390; *see also Exports Restrictions*, *supra* note 132, at 1147.

137. *See China-Raw Materials*, *supra* note 135.

138. These products included magnesium scrap, manganese scrap and zinc scrap. *Exports Restrictions*, *supra* note 132, at 1149.

139. Coke, magnesium metal, manganese metal and silicon carbide. *Exports Restrictions*, *supra* note 132, at 1149.

140. *See China–Raw Materials*, *supra* note 135.

141. *Id.*

142. *Id.*

143. GATT, *supra* note 85, at 38 ("[R]elating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.").

argument to justify an Article XX exception if the United States stops development of unconventional shale gas resources due to the dangers of fracking. However, this argument is not grounded in the current reality of the natural gas industry. The dangers of fracking are not strongly established,[144] and there are alternatives to restricting exports on LNG that could help remedy environmental concerns. One example of a possible less-restrictive alternative is increased regulatory oversight during the drilling and fracking process, which has the potential to remedy dangers to the environment.[145]

Many parties complain about the sluggish DOE regulatory approval of LNG export applications, but the delay of approvals, in itself, could trigger problems with the international trade agreements. Exerting pressure on a private sector, even if it consisted of delayed issuances of export licenses, could arguably be a form of export restrictions. In *Japan - Trade in Semi-Conductors*, the European Economic Community brought a claim under Article XI, which prohibits states from imposing "quantitative restrictions" on trade, regarding an arrangement between Japan and the United States for trade in semiconductors.[146] The arrangement involved preventative measures to avoid dumping[147] by Japanese companies in the U.S. market where Japan agreed to monitor costs and prices from going below designated company-specific levels.[148] The European Economic Community and third parties, including Australia, Hong Kong, Singapore, and Brazil, alleged that the measures led to an increase in prices of semiconductors and caused difficulty for their respective downstream industries that relied on imports from Japan.[149] The Panel held that the measure exerted various forms of pressure on the private sector that effectively eliminated the sale of selected semiconductors be-

144. *See generally Modern Shale Gas*, *supra* note 57 (outlining the precautions the Department of Energy believes can be addressed to maintain a safe fracking operation).

145. *See Beyond Natural Gas: Protecting Our Air, Water and Communities*, SIERRA CLUB (last visited Feb. 10, 2014).

146. Report of the Panel, *Japan - Trade in Semiconductors (Japan-Semiconductors)*, L/6309 (May 4, 1988), GATT B.I.S.D. (35th Supp.), *available at* www.wto.org/english/tratop_e/dispu_e/87semcdr.pdf [hereinafter *Japan-Semiconductors*]; *see also Exports Restrictions*, *supra* note 132 at 1144.

147. If a country exports a product at a price that is lower than the price it would normally charge in its domestic market, that country is said to be "dumping" that product and many governments will take action against dumping to defend their domestic industries. Opinions differ but it is generally seen as an unfair trading practice. *See Anti-dumping, Subsidies, Safeguards: Contingencies, etc.*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm8_e.htm, (last visited Feb. 10, 2014).

148. *Japan-Semiconductors*, supra note 146.

149. *Id.*

low the company-specific prices.[150] Foreshadowing what could possibly occur with respect to the LNG issue at hand, the Panel found that the undue delay in Japan's issuance of export licenses, which were non-automatic, constituted a form of export restriction and a breach of Article XI.[151]

If all other approaches fail, GATT Article XXV provides for a waiver of obligations if a country faces "exceptional circumstance" that is not otherwise provided for in the GATT agreement.[152] Because a waiver is only granted in "exceptional circumstances," it would be difficult for the United States to get the required approval by the WTO Members acting jointly.[153] It would also be difficult for the United States to argue that the LNG export situation is truly an "exceptional circumstance" because the situation is sufficiently covered by the existing GATT principles. The reputation of the United States before the international dispute settlement bodies could also be at risk if it were to defend restrictions on LNG. If the United States follows through with restrictions on export licenses, it risks losing credibility when bringing challenges to another country's protectionist efforts.

3. GATT Most-Favored-Nation Treatment

In practice, the Natural Gas Act provides for approval "without modification or delay" for FTA countries by automatically deeming them as supporting the "public interest."[154] GATT Article I Most-Favored-Nation (MFN) Treatment does not allow a country accorded with MFN status to be treated less advantageously than any other country with an MFN status by the exporting country.[155] Described as the "cornerstone" obligation of GATT, MFN prohibits discrimination among trading partners by establishing a special status of trade with one of the trade partners and not the others.[156] The DOE's discretion in approving export licenses to non-FTA countries (but countries that are accorded MFN) and the automatic approval for FTA countries seems to be at odds with the

150. *Id.* at 31.

151. *Id.*

152. GATT, *supra* note 85, at 344.

153. *See id.* The U.S. would need to secure a two-thirds vote of approval by the WTO Members acting jointly as the Contracting Parties. *Id.* There is no generally accepted definition or standard criteria to identify what circumstances are deemed exceptional. *See, e.g.*, Report of the GATT Working Party, United States-Caribbean Basin Economic Recovery Act, GATT B.I.S.D. 31st Supp. at 180 (1980).

154. Natural Gas Act, 15 U.S.C. § 717b(a), (c) (2012).

155. *See* GATT, *supra* note 85, at 2.

156. *Principles of the Trading System*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm (last visited Mar. 12, 2013).

MFN principle. For example, Australia is an FTA country that would receive automatic approval because it is assumed that this would be in the public interest, whereas Japan is a non-FTA country and DOE must determine whether approval of the export license would be in the public interest. While both of these countries are members of the WTO and should be afforded MFN Treatment, Australia is clearly experiencing special treatment through DOE's statutory discretion.

There are a number of exceptions to the MFN treatment obligation, such as setting up a free trade agreement that applies only to goods traded within the group, giving developing countries special access to a country's market, or raising barriers against products that are considered to be traded unfairly.[157] However, these exceptions do not appear to aptly represent the current reasons why DOE/FE would decide not to approve export licenses to non-FTA countries, while continuing to grant licenses to FTA countries.[158] The existing approval process has not been seriously challenged, but it does seem to be at odds with MFN treatment obligations. The potential new role of the United States as a major LNG exporter could bring to light previously dormant issues with the interaction of the NGA and international trade law.

4. NAFTA: Additional Prohibition on Restriction of Natural Gas Exports

In addition to WTO obligations, the United States also must navigate the specific provisions in NAFTA regarding energy and petrochemicals, which limits import and export restraints on these products.[159] As stated above, the NGA provides for automatic approval of export licenses for countries that have a free trade agreement with the United States because it is assumed that it is within the "public interest" to export to these countries.[160] Article 309 of NAFTA specifically prohibits member countries from restricting the exportation of any goods that are being exported to any other member country except in accordance with GATT Article XI.[161] Article 603.1 incorporates GATT language specifically referencing prohibitions/restrictions on trade in energy and basic petrochemical goods:

> Subject to the further rights and obligations of this Agreement, the Parties incorporate the provisions of the General Agreement on Tariffs and Trade (GATT), with respect to prohibi-

157. *Id.*
158. *Id.*
159. *See* NAFTA, *supra* note 94, at art. 603.
160. *See* Natural Gas Act, 15 U.S.C. § 717b(c) (2012).
161. NAFTA, *supra* note 94, at art. 309.

> tions or restrictions on trade in energy and basic petrochemical goods. The Parties agree that this language does not incorporate their respective protocols of provisional application to the GATT.[162]

NAFTA defines "restriction" to include "any limitation,"[163] so this appears to cover unconventional restrictions in addition to conventional restrictions, such as quotas, permits, and licenses.

If the United States applies restrictions on LNG exports, or if the DOE stalls in the approval of export licenses with FTA-countries, this would likely be a violation of NAFTA and other applicable free trade agreements. A purposeful ban on LNG exports would also be difficult due to the existing pipeline between the United States, Canada, and Mexico.[164] If the United States were to restrict exports of LNG, it would be possible for abundant U.S. natural gas to flow to Mexico and Canada and then be introduced to the greater international market through those countries.[165] Although this seems a reasonable way to circumvent a ban on LNG exports, United States companies would not easily benefit from those international LNG sales.[166]

IV. PROPOSED SOLUTIONS

It can be concluded that restrictions on LNG exports will not pass muster under international trade laws, but this is not necessarily the end of the story. This section provides suggestions to those parties with interests in restricting LNG exports and presents additional factors that should be considered to realize the broader picture of what LNG exports mean for the environment and the economy. Certain measures, including more stringent state regulation or federal regulation, can be taken to accomplish stated goals of export opponents, such as preventing environmental damage during the fracking process, but many of these measures require strong political will, which may be lacking in Congress.

A. Increased Oversight of the Drilling Process

An obvious solution to ensure protection of the environment is to implement stronger regulation of the hydraulic fracturing process at the state and federal level. Natural gas drilling is regulated almost entirely by the states, resulting in inconsistent and often insufficient protective

162. *Id.* at art. 603, ¶ 1.
163. *Id.* at art. 609.
164. Crosby, *supra* note 117, at 16.
165. *Id.*
166. *Id.*

measures.[167] One of the most troubling concerns with the hydraulic fracturing process is the proprietary chemicals used in the process that could enter drinking water through poor casing construction or spilling of the flowback wastewater. The Environmental Protection Agency (EPA)'s central authority to protect drinking water is found in the Safe Drinking Water Act (SDWA), and the protection of underground sources of drinking water is found in the Underground Injection Control (UIC) program of the SDWA, which regulates the subsurface emplacement of fluid.[168] Currently, "the underground injection of natural gas for purposes of storage" and "the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities" is specifically excluded under the UIC program.[169] This exclusion came under the Energy Policy Act of 2005 and became known as the "Halliburton Loophole."[170] Other exclusions are also present under the Clean Air Act and Clean Water Act.[171] Legislation to repeal the fracking exemption under the SDWA was introduced,[172] but Congress is unwilling to come to agreement on the issue. The environmental risks associated with the fracking process must be answered with appropriate regulation to ensure safety. This could come in the form of federal regulation of the hydraulic fracturing process to overcome the varying, and in some cases insufficient,

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167. *See Regulations By State*, FRACFOCUS: CHEMICAL DISCLOSURE Registry, http://fracfocus.org/regulations-state (last visited Mar. 9, 2013) (providing links to state regulations of the drilling process); *see also* Jody Freeman, *The Wise Way to Regulate Gas Drilling*, N.Y. TIMES, July 6 , 2012, at A26 (highlighting deficiencies in some state regulations such as allowing operators to store toxic wastewater from the fracturing process in open pits and risking surface or groundwater contamination).

168. *Regulation of Hydraulic Fracturing Under the Safe Drinking Water Act*, U.S. ENVT. PROT. AGENCY, http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_hydroreg.cfm (last update May 4, 2012) [hereinafter *Regulation of Hydraulic Fracturing Under the Safe Drinking Water Act*].

169. Safe Drinking Water Act, 42 U.S.C. § 300h(d)(1)(B); *see also Regulation of Hydraulic Fracturing Under the Safe Drinking Water Act*, *supra* note 168. These exclusions to underground Injection Control authority were added via the Energy Policy Act of 2005, although the use of diesel fuel during hydraulic fracturing is still regulated by the UIC program. *Id.*

170. *Fracking: Laws and Loopholes*, CLEAN WATER ACTION, http://cleanwater.org/page/fracking-laws-and-loopholes (last visited March 12, 2013) [hereinafter *Fracking: Laws and Loopholes*]; *but see* Jacquelyn Pless, *Fracking Update: What States Are Doing To Ensure Safe Natural Gas Extraction*, NATIONAL CONFERENCE OF STATE LEGISLATURE (July 2011), http://www.ncsl.org/issues-research/energyhome/fracking-update-what-states-are-doing.aspx (describing the efforts of states to safely regulate fracking).

171. *Fracking: Laws and Loopholes*, *supra* note 170; *see also* William J. Brady & James P. Crannell, *Hydraulic Fracturing Regulation in the United States: The Lasissez-Faire Approach of the Federal Government and Varying State Regulations*, 14 VT. J. ENVTL. L. 39 (2012).

172. Fracturing Responsibilities and Awareness of Chemicals (FRAC) Act of 2011, H.R. 1084, 112th Cong. (2011).

state regulation of the process. There could also be model legislation by a federal agency that state legislatures could use to improve their state rules on regulating hydraulic fracturing. The Bureau of Land Management has proposed a rule for regulating hydraulic fracturing on federal and Indian lands that would require: (1) disclosure to the public of chemicals used in hydraulic fracturing on public and Indian lands; (2) confirmation that wells used in fracturing operations meet appropriate construction standards; and (3) a requirement that well operators put in place appropriate plans for managing "flowback" water that returns to the surface.[173] This proposed rule could serve as a model for future state regulation of the hydraulic fracturing process.

LNG export applications are likely to continue to move forward, resulting in increased natural gas production, which may provide enough momentum to encourage a change of heart in Congress. A repeal of the SDWA exclusion to allow EPA oversight is crucial in developing a system to protect the nation's drinking water. Industry disclosure of the chemicals used in the fracking process is also necessary to ensure safe practices. Existing federal statutes, including the Toxic Substances Control Act; the Resource Conservation and Recovery Act, requiring Toxic Release Inventory reporting under the Emergency Planning and Community Right-to-Know Act; and the Federal Insecticide, Fungicide and Rodenticide Act could be used to regulate hydraulic fracturing fluids. However, it is unclear at this point whether all of the above listed statutes would be applicable because the chemicals in fracking fluid are often proprietary secrets, and, consequently, it is unknown what chemicals are being used.

The current system is simply inadequate due to the current fractured state regulatory regime, and the gas industry should be open to more uniform regulation of drilling. In its current state, a few bad operations could result in overregulation or an outright ban on drilling. A catastrophic event could force Congress to act, and the resulting regulation may be too strong-handed. The EIA estimates that strict environmental regulations on fracking would add just seven percent to the cost of gas production, so it appears smart regulation of fracking may not be a serious financial burden.[174] A uniform federal regulatory oversight for the

173. *Oil and Gas: Hydraulic Fracturing on Federal and Indian Lands*, 78 Fed. Reg. 34611 (June 10, 2013) (to be codified 43 CFR pt. 3169); Donald Baur et al., *BLM Issues Revised Proposed Fracking Regulations* (May 20, 2013), http://www.perkinscoie.com/files/upload/05_20_2013_EER_Update.PDF.

174. *See* INTERNATIONAL ENERGY AGENCY, IEA WORLD OUTLOOK SPECIAL REPORT ON UNCONVENTIONAL GAS, "GOLDEN RULES FOR A GOLDEN AGE OF GAS" 46 (2012).

industry can strike the balance for environmental protection and the continuance of responsible drilling.

B. Momentum of Proponents

On February 6, 2013, Congressman Mike Turner introduced the "Expedited LNG for American Allies Act," which would streamline the regulatory process to export natural gas to North Atlantic Treaty Organization (NATO) countries, Japan, and others.[175] Suspending judgment on whether this proposal would also violate international trade law, particularly the most favored nation principle, this bipartisan legislation makes claims to "help strengthen our strategic partnership with key allies, reduce the trade deficits and boost job growth right here at home."[176] It follows a companion bill introduced by U.S. Senator John Barrasso, titled "Expedited LNG for American Allies Act of 2013," which accomplishes many of the same goals as Turner's bill.[177]

These two bills seem to be more in line with the recent DOE commissioned report (by NERA Economic Consulting) that found increasing exports of natural gas would have a net positive effect on the economy.[178] The report stated that "[i]n all of the scenarios analyzed . . . the United States would experience net economic benefits from increased LNG exports. . . . Across the scenarios, U.S. economic welfare consistently increases as the volume of natural gas exports increased."[179] A report by the EIA released a year prior, also commissioned by the DOE, was more pragmatic in its conclusions: "increased natural gas exports lead to higher domestic natural gas prices, increased domestic natural gas production, reduced domestic natural gas consumption, and increased natural gas imports from Canada via pipeline."[180] It is still unclear how heavily the DOE will rely on the report and whether the Department will seriously consider the comments submitted that claim deficiencies in the

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175. Press Release, U.S. Congressman Mike Turner, Turner Introduces Expedited LNG for American Allies Act (Feb. 6, 2013), http://turner.house.gov/news/documentsingle.aspx?DocumentID=319118.

176. *Id.*

177. Press Release, U.S. Senator John Barrasso, Barrasso Bipartisan Bill Expedites LNG Exports for NATO Allies, Japan, and Others (Jan. 31, 2013), http://barrasso.senate.gov/public/index.cfm?FuseAction=PressOffice.PressReleases&ContentRecord_id=91e781a6-a662-3e05-2f6d-bd5c549dbe3c&Region_id=&Issue_id=.

178. NERA Economic Consulting, Macroeconomic Impacts of LNG Exports from the United States 6 (2012).

179. *Id.*

180. U.S. Energy Information Administration, Effects of Increased Natural Gas Exports on Domestic Energy Markets 6 (2012), *available at* http://www.fossil.energy.gov/programs/gasregulation/reports/fe_eia_lng.pdf.

report, but it brings up the question of whether the battle against LNG exports is over.

At a time when the economy is weak and the United States has the opportunity to capitalize on a hugely profitable resource, it is inevitable for proponents of LNG exports to overlook or downplay the potential environmental harm and negative economic effects that may follow. Discussing the possible consequences in abstractions could continue for a long time, but the final outcome will be felt throughout the United States and beyond.

CONCLUSION

The extent of the damage that hydraulic fracturing can have on the environment is still largely unclear, and the real effect of increased LNG exports on domestic gas prices is highly debated. Although the DOE appears to be moving towards approving more LNG export licenses for non-FTA countries, questions remain as to what is within the "public interest." But the unavoidable fact is that the United States is a party to international trade agreements to which it owes obligations to foster and support free trade. The available defenses to justify the United States acting contrary to its GATT and NAFTA obligations will be inapplicable in this situation. Regardless, restrictions on LNG exports will likely only be a short-term solution for those opposing the exportation of LNG. Preventing the flow of natural gas out of this country is a losing battle, and short of advocating for a break from international trade agreements, opponents' exertion of energy on the issue is best spent ensuring the safe extraction of natural gas and preparing for the potential increase in the price of domestic natural gas.