From: [redacted]
To: LNGStudy
Subject: 2012 LNG Export Study - Reply Comment
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Attachments: Sakmar Reply Comment DOE LNG Export Study February 24, 2013 FINAL.doc

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Please find attached my Reply to the Comments received in response to the DOE commissioned 2012 LNG Export Study.

Respectfully submitted,
Susan L. Sakmar

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February 24, 2013

Via Electronic Filing by email to: LNGStudy@hq.doe.gov.

U.S. Department of Energy (FE–34)
Office of Natural Gas Regulatory Activities
Office of Fossil Energy
P.O. Box 44375, Washington, DC 20026–4375.

RE: 2012 LNG Export Study – Reply Comment

Dear U.S. Department of Energy Representative:

I am currently a Visiting Assistant Law Professor, Andrews Kurth Energy Law Scholar at the University of Houston Law Center where I teach a law course on the legal, policy and environmental aspects of global shale gas development and the role of liquefied natural gas (LNG) in global gas markets. I am also the author of the forthcoming book ENERGY FOR THE 21ST CENTURY: OPPORTUNITIES AND CHALLENGES FOR LIQUEFIED NATURAL GAS (LNG)[1] which discusses the prospects for U.S. LNG exports in depth.

In addition to my focus on global gas markets, I have also been an adjunct law professor at the University of San Francisco Law School where I have taught a seminar on the World Trade Organization (WTO) for many years and am thus familiar with the international trade and WTO issues raised in a number of the comments submitted by the public. Prior to teaching, I was a commercial litigator in San Francisco and remain a member (inactive status) of the California Bar.

It is with this background that I submit the following Reply to the comments submitted in response to the Office of Fossil Energy (FE) of the U.S. Department of Energy (DOE) (hereinafter "DOE/FE") request for comments on the "2012 LNG Export Study" that was set forth in the December 11, 2012 Federal Register notice appearing at 77 Fed. Reg. 29894.

I. OVERVIEW OF THE U.S. REGULATORY APPROVAL PROCESS FOR U.S. LNG EXPORTS

A. Free Trade Agreement (FTA) v. Non-FTA Countries

At the outset, it is important to note that under existing U.S. law, export applications to export to most free trade agreement (FTA) countries are deemed to be in the public interest and such applications are quickly authorized by the Department of Energy, Office of Fossil Energy (DOE/FE).[2]

Most, though not all,[3] countries that have an FTA with the U.S. require national treatment for trade in natural gas, including Australia, Bahrain, Canada, Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Jordan, Mexico, Morocco, Nicaragua, Oman, Peru, Republic of Korea, Singapore and Panama.[4]

[1] Susan L. Sakmar, ENERGY FOR THE 21ST CENTURY: OPPORTUNITIES AND CHALLENGES FOR LIQUEFIED NATURAL GAS (LNG), forthcoming Spring 2013, Edward Elgar (Pub.), www.e-elgar.com.
[2] 15 U.S.C. § 717b (2006).
[3] For example, Costa Rica and Israel do not require national treatment for trade in natural gas. U.S. Dep't of Energy, *How to Obtain Authorization to Import and/or Export Natural Gas and LNG* (Sept. 26, 2012), http://www.fossil.energy.gov/programs/gasregulation/How_to_Obtain_Authorization_to_Import_an.html.
[4] *Id.*

With the exception of the Republic of Korea and possibly Chile, most of the FTA countries are not likely to be significant importers of LNG so the real prize for a company is the authorization to export LNG to any country, which the DOE/FE refers to as "non-FTA" countries. Applications for export authorization to non-FTA countries involve greater scrutiny and require a determination of whether the proposed exports are in the "public interest."

B. The "Public Interest" Test and 1984 Policy Guidelines

In evaluating whether a proposed export is within the public interest, the DOE/FE applies certain Policy Guidelines issued in 1984 that focus the analysis on:[5]

1. The domestic need for the natural gas proposed to be exported;
2. Whether there is a threat to the domestic security of supply; and
3. Other factors to the extent they are shown to be relevant to a public interest determination.

I note that various statements by representatives of the DOE/FE seem to have broadened the public interest inquiry to now include other considerations such as U.S. energy security, the impact of exports on the U.S. economy (GDP), consumers, industry, and jobs creation, U.S. balance of trade, international considerations, environmental considerations, and consistency with DOE's long-standing policy of promoting competition in the marketplace through free negotiation of trade agreements.[6] I presume that all of these issues would fall under "other factors" that should be considered by the DOE/FE to the extent they are relevant to the public interest determination.

C. Only One Project Has Received Non-FTA Approval – Sabine Pass

While the issue of LNG exports has only recently risen to the level of intense public interest and debate, this issue has actually been pending for over two years. On September 7, 2010, Cheniere Energy, through its subsidiary, Sabine Pass Liquefaction, LLC (Sabine Pass) filed an application seeking long-term, multi-contract authorization to export up to 16 million metric tons per annum (MTPA) of domestically produced LNG to any country with which the U.S. does not have a Free Trade Agreement (FTA).[7] On October 12, 2010, DOE/FE published a Notice of Application in the Federal Register[8] calling on interested persons to submit comments, protests, and/or motions or notices to intervene no later than December 13, 2010. Subsequently, DOE/FE received a number of comments and motions to intervene, all of which were considered by the DOE/FE.

Following a review of the record, the DOE/FE authorized Sabine Pass to export LNG to non-FTA countries and issued its *Opinion and Order Conditionally Granting Long-Term Authorization to Export Liquefied Natural Gas From Sabine Pass LNG Terminal to Non-Free Trade Agreement Nations*, DOE/FE Order No. 2961, May 20, 2011.[9] In that case, the DOE/FE acknowledged that Section 3(a) of the Natural

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[5] Policy Guidelines and Delegation Orders Relating to the Regulation of Imported Natural Gas, 49 Fed. Reg. 6,684 (Feb. 22, 1984).

[6] *The Department of Energy's Role in Liquefied Natural Gas Export Applications: Hearing Before S. Subcomm. on Energy and Natural Res.* (Nov. 8, 2011) (statement of Christopher Smith, Deputy Assistant Sec'y for Oil and Natural Gas Office of Fossil Energy, U.S. Dep't of Energy), http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=58b62501-e2e1-40aa-b024-8e45ab3d4569.

[7] Sabine Pass Liquefaction, LLC – FE Dkt. No. 10-111-LNG, available at http://www.fossil.energy.gov/programs/gasregulation.

[8] 75 FR 62512.

[9] Sabine Pass Liquefaction, LLC, FE Docket No. 10-111-LNG, *Opinion and Order Conditionally Granting Long-Term Authorization to Export Liquefied Natural Gas From Sabine Pass LNG Terminal to Non-Free Trade Agreement Nations*, DOE/FE Order No. 2961, May 20, 2011 (Hereinafter "Sabine Pass DOE/FE Order No. 2961")

Gas Act, 15 USC 717b(a), creates a rebuttable presumption that a proposed export of natural gas is in the public interest unless those who oppose the application overcome that presumption.[10] To date, the Order authorizing Sabine Pass to export LNG is the only order authorizing LNG exports to non-FTA nations.

At the time the DOE/FE issued the Order in the Sabine Pass case, there were only a few export applications pending and the issue of LNG exports had not yet attracted much attention. Nonetheless, in its Order, DOE/FE acknowledged that the "cumulative impact of these export authorizations could pose a threat to the public interest" such that "DOE is authorized, after opportunity for a hearing and for good cause shown, to take action as is necessary or appropriate for a hearing and for good cause shown, to take action as is necessary or appropriate should circumstances warrant it."[11]

II. THE DEBATE OVER LNG EXPORTS HEATS UP[12]

A. The November 2011 Senate Hearing

The debate over whether the U.S. should export LNG began to mount in late 2011 when concerns were raised that allowing LNG exports would lead to an increase in the domestic price of natural gas.[13] Exports are one of many factors that can have a bearing on the price of domestic gas since they represent an additional source of demand. At the same time, and over the long run, an increase in demand also tends to increase supply. The extent to which the price of natural gas interacts with its supply and demand has been a cause of much speculation in the U.S., leading to a U.S. Senate hearing in November 2011 to address the issues raised by the possibility of U.S. LNG exports.[14]

At the November 2011 Senate hearing, Chairman Bingaman noted in his opening remarks that the last time the Senate held a hearing on LNG was in 2005, when it was anticipated that the U.S. would need to *import* large quantities of LNG, whereas the current hearing was meant to discuss the role that LNG *exports* might play in the energy future of the U.S. There were two main objectives of the Senate hearing. The first was to understand the laws and regulations that govern LNG exports generally since those laws were put into place assuming the United States would be an importing country, not an exporting country.

The second objective was to understand how LNG exports might affect the domestic market for natural gas. While the implications of increased gas exports for U.S. job creation and balance of payments could be very positive, Chairman Bingaman also noted that U.S. energy security requires reliable and affordable energy *prices*, not just reliable *supply*. Since U.S. gas prices are considerably lower than prices than those in much of the world, Chairman Bingaman questioned how the U.S. could "ensure that our export policy is consistent with our continued ability to reap the benefits of our newfound abundance of natural gas?"[15]

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[10] Sabine Pass DOE/FE Order No. 2961 at 27-28.
[11] Sabine Pass DOE/FE Order No. 2961 at 32-33.
[12] Susan L. Sakmar, *Politics and US LNG Export Project Heat Up*, Natural Gas & Electricity Journal, Sept. 18, 2012, http://www.naturalgaselectricitynews.com/sample-articles/politics-and-us-lng-export-projects-heat-up.aspx
[13] *See, e.g.*, Benjamin Lefebvre, *Should the U.S. Export Natural Gas?*, Wall St. J., Sept. 16, 2012, at R10, available at http://online.wsj.com/article/SB10000872396390444226904577561300198957854.html (featuring debate on potential price increases by two energy analysts).
[14] *LNG Export Approvals, Market Impact: Hearing Before S. Subcomm. on Energy and Natural Res.* (Nov. 8, 2011) (opening statement of Chairman Bingaman), available at
http://www.energy.senate.gov/public/index.cfm/democratic-news?ID=242b6b91-cb66-49f5-a4bb-8b2dc54d89e1
[15] *Id.*

B. The Impact of U.S. LNG Exports on U.S. Natural Gas Prices

At the Senate Subcommittee hearing, several Senators expressed concern about the impact LNG exports could have on domestic natural gas prices, including U.S. Senator Ron Wyden (D-OR)[16] who noted the following:

> [I]t's very understandable why North American natural gas producers would want to build LNG export terminals so they can sell natural gas to Asia and other overseas markets at four or five times the prices here. What's less clear is how this is going to be beneficial for our businesses and our consumers who are going to have to compete with these prices?

In response to questions about the price increase that DOE/FE would find acceptable, the DOE/FE acknowledged the analysis was complicated and when the DOE/FE makes a public interest determination, it considers a range of factors such as the impact on jobs, balance of trade, and the impact on price. Since some of the factors are influenced by price itself, the DOE/FE explicitly recognized the importance that price holds.[17]

In order to address the potential cumulative impact of granting the pending export applications, the DOE/FE indicated that it had commissioned two pricing studies that, taken together, "will address the impacts of additional natural gas exports on domestic energy consumption, production, and prices, as well as the cumulative impact on the U.S. economy, including the effect on gross domestic product, jobs creation, and balance of trade, among other factors."[18]

C. What Do The Pricing Studies Show?

In January 2012, the U.S. EIA released the first pricing study analyzing the impact of U.S. LNG exports on the domestic energy market.[19] As requested by the DOE/FE, the EIA's study reviewed the impact of specified scenarios of natural gas exports on U.S. energy markets, focusing on consumption, production, and prices.[20] The study was not intended to give an estimate of what LNG exports would likely be in the future, but to assume that the levels of exports would be either six billion cubic feet per day (Bcf/d) or twelve Bcf/d, discounting other possible scenarios.[21] In summary, the U.S. EIA concluded that, "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."[22]

On the issue of the impact of exports on U.S. natural gas prices, the EIA noted that U.S. natural gas prices are expected to increase even before considering the possibility of additional exports.[23] Nonetheless, increased natural gas exports are expected to lead to higher domestic natural gas prices, although the

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[16] Senator Wyden has also submitted a comment (#20) to the NERA Study.
[17] *The Department of Energy's Role in Liquefied Natural Gas Export Applications: Hearing Before S. Subcomm. on Energy and Natural Res.* (Nov. 8, 2011) (statement of Christopher Smith, Deputy Assistant Sec'y for Oil and Natural Gas Office of Fossil Energy, U.S. Dep't of Energy), http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=58b62501-e2e1-40aa-b024-8e45ab3d4569.
[18] *Id.*
[19] U.S. Energy Info. Admin., Effect of Increased Natural Gas Exports on Domestic Energy Markets (Jan. 2012), *available at* http://www.eia.gov/analysis/requests/fe/pdf/fe_lng.pdf.
[20] *Id.* at 1.
[21] *Id.*
[22] *Id.* at 6.
[23] *Id.*

precise amount depends on the ultimate level of exports and the rate of phasing in increased exports.[24] For example, under the low-slow scenario, it is assumed that six Bcf/d of exports are phased in at a rate of one Bcf/d per year over six years.[25] Under this scenario, the wellhead price impacts peak at about 14% ($0.70/Mcf) in 2022, but the wellhead price differential falls below 10% by about 2026.[26] Although the impact of LNG exports varies depending on the assumptions about resource availability and economic growth, the basic assumption remains the same: "higher export levels would lead to higher prices, rapid increases in exports would lead to sharp price increases, and slower export increases would lead to slower but more lasting price increases."[27]

In contrast to the potentially severe impacts on price found in the EIA study, an independent assessment done by Deloitte MarketPoint LLC found that any price increase resulting from U.S. LNG exports would be quite minimal.[28] In May 2012, the Brookings Institution released a report analyzing the various pricing studies that have been conducted so far on the impact of U.S. LNG exports on the domestic price of natural gas.[29] As indicated by the Brookings analysis, while the exact pricing impact of U.S. LNG exports is open to debate, there is general consensus that LNG exports will lead to an increase in the domestic price of natural gas.

D. Congressional Bills to Limit LNG Exports

While the delay in the DOE/FE approval process for pending LNG export applications has caused market uncertainty for projects awaiting approval, it has also allowed more time for other opponents to voice concerns about the impact of U.S. LNG exports. For example, U.S. Representative Ed Markey (D-Mass.) introduced two bills in the last Congress[30] with the stated purpose of protecting U.S. consumers from increased natural gas prices and ensuring that America's natural gas stays in America.[31] The first bill, the "North America Natural Gas Security and Consumer Protection Act"[32] would have precluded the Federal Energy Regulatory Commission from approving new LNG export terminals. The second bill, the "Keep American Natural Gas Here Act,"[33] would have required natural gas extracted from federal lands to be resold only to American consumers. Subsequent to the approval of Cheniere's Sabine Pass project, Congressman Markey issued a press release continuing to express his concern that U.S. LNG exports would increase domestic prices for natural gas, harming individual and industrial users of natural gas.[34] Congressman Markey has raised these same concerns in his comments submitted in response to the

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[24] *Id.*
[25] *Id.* at 8.
[26] *Id.*
[27] *Id.* at 9.
[28] Deloitte MarketPoint LLC and the Deloitte Ctr. for Energy Solutions, *Made in America: The economic impact of LNG exports from the United States* (Dec. 2011), *available at* http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/Energy_us_er/us_er_MadeinAmerica_LNGPaper_122011.pdf
[29] Charles Ebinger et al., Brookings Institution Energy Security Initiative, *Liquid Markets: Assessing the Case for U.S. Exports of Liquefied Natural Gas* (May, 2012), *available at* http://www.brookings.edu/research/reports/2012/05/02-lng-exports-ebinger.
[30] These Bills did not pass in the last Congress and are discussed here for illustrative purposes and background information.
[31] Press Release, Natural Res. Committee, Markey Introduces Legislation to Keep American Natural Gas in America (Feb. 14, 2012), http://democrats naturalresources house.gov/press-release/markey-introduces-legislation-keep-american-natural-gas-america.
[32] H.R. 4024, 112th Cong., 2nd Sess. (2012), http://www.govtrack.us/congress/bills/112/hr4024.
[33] H.R. 4025, 112th Cong., 2nd Sess. (2012), http://www.govtrack.us/congress/bills/112/hr4025.
[34] Press Release, Congressman Ed Markey, Markey: Sabine LNG Export Facility Approval Would Help Export U.S. Manufacturing Jobs (Apr. 17, 2012), http://markey.house.gov/press-release/markey-sabine-lng-export-facility-approval-would-help-export-us-manufacturing-jobs.

NERA Study.[35]

Congressman Markey is not alone in his view that "America should exploit her competitive advantage with lower natural gas prices to create jobs in the United States."[36] Leaders from other industries have also called on the U.S. to use its cheap natural gas to convert to products for export, as opposed to exporting the natural resource itself. For example, the CEO of Dow Chemical has argued that U.S. LNG exports should be limited since there is up to eight times more value in using America's abundant and cheap natural gas as the raw material to create high-value products that can be exported, as opposed to simply exporting the natural gas itself.[37]

E. Environmental Opposition to Shale Gas Development

In additional to political opposition to U.S. LNG exports, there is also environmental opposition to LNG exports on the basis that such exports will necessitate additional shale gas development. For example, the Sierra Club has opposed a number of LNG export projects and has argued that the environmental impacts associated with natural gas production must also be considered in determining whether U.S. LNG exports are in the "public's interest."[38] While the Sierra Club contends that all environmental impacts from natural gas production need to be considered, they have highlighted particular environmental concerns pertaining to hydraulic fracturing and shale gas development.[39] In summary, the Sierra Club maintains that DOE's approval for LNG exports could have "major environmental impacts through the [United States], and especially in the Northeast, where [U.S. LNG exports] will intensify Marcellus Shale extraction activities."[40]

The Sierra Club's opposition to LNG export projects coincides with its intensified effort to ensure that, as coal fired power plants are retired, they are not replaced with natural gas power plants.[41] To that end, the Sierra Club recently announced that it is launching a new "Beyond Gas" campaign that represents a significant expansion of the group's on-going efforts against other major fossil fuels and is modeled after the decade-old "Beyond Coal" campaign that sought to phase out coal fired power plants.[42] According to the Sierra Club, it will seek to "prevent new gas plants from being built wherever we can."[43]

For now, it remains to be seen whether the environmental opposition to U.S. LNG exports will intensify.[44] However, some reports have acknowledged that since the case for U.S. LNG exports depends

[35] Comment # 6, U.S. Representative Edward Markey (Mass.)
[36] Kate Winston, *Senators question price impact of LNG exports*, Platts Energy Week, Nov. 9, 2011, http://www.wusa9.com/news/local/story.aspx?storyid=174167.
[37] Christopher Helman, *Dow Chemical Chief Wants to Limit U.S. LNG Exports*, Forbes, Mar. 8, 2012, http://www.forbes.com/sites/christopherhelman/2012/03/08/dow-chemical-chief-wants-to-limit-u-s-lng-exports/ (citing Dow Chemical CEO Andrew Liveris).
[38] Sierra Club's Motion to Intervene, Protest, and Comments, *Dominion Cove Point LNG, LP*., FE Docket No. 11-128-LNG, (Feb. 6, 2012), http://www.fossil.energy.gov/programs/gasregulation/authorizations/2011_applications/Motion_to_Intervene_Sierra_Club_02_06_12.pdf.
[39] *Id.* at 22–24.
[40] *Id.* at 47.
[41] Amy Harder, *War Over Natural Gas About to Escalate*, Nat'l Journal, May 3, 2012, http://www.nationaljournal.com/energy-report/war-over-natural-gas-about-to-escalate-20120503.
[42] *Id.*
[43] *Id.*
[44] Most recently, there is at least some indication that the opposition to LNG exports is intensifying with a number of groups urging the administration to carefully consider all risks before permitting American gas exports. *See, "Time Out" on LNG Exports Sought from Obama Administration*, New York Times, Feb. 13, 2013 (available at http://www.lngworldnews.com)

on the continued development of shale gas, the public's concerns over the environmental impacts of shale gas development must be resolved.[45]

F. Supporters of LNG Exports

Some policymakers and business leaders have urged the U.S. to approve the export licenses and have expressed the view that the market should dictate whether U.S. LNG exports happen or not.[46] For example, at the November 2011 Senate hearing, Senator Lisa Murkowski (R-Alaska), indicated she is inclined to let the market sort out the issue, stating "our proper course won't be sweeping legislation or layers of new regulation. Instead, it will be to ensure a degree of comfort that our newfound energy security can be maintained under current export rules."

It should be recognized that the fact that Congress failed to take up this issue as raised in the November 2011 Congressional hearing, now means the DOE/FE is facing an increasingly difficult decision of how to decide whether LNG exports are in the "public's interest."

III. CURRENT STATUS OF LNG EXPORT APPLICATIONS

A. Status of Non-FTA Applications

Whereas only a few export applications were pending back in May 2011 when the DOE/FE issued its Order in the Sabine Pass Liquefaction case, there are now numerous applications pending with proposed exports to non-FTA countries of 24.80 Bcf/d, or approximately 180 million metric tons per annum (mtpa).[47] Qatar, currently the world's largest LNG exporter achieved what was widely viewed as a milestone in the LNG industry of achieving production capacity of 77 mtpa.

The DOE/FE has indicated it will process applications in the order in which applicants have received approval from the Federal Energy Regulatory Commission (FERC) to use the FERC pre-filing process, followed by other pending DOE applications. Regardless of how DOE/FE proceeds, the pending export applications represent significant quantities of natural gas such that if all of the pending export applications were approved and if all, or even half, of the proposed projects move forward through final investment decision (FID), the U.S. could be the world's largest LNG exporter within the next decade.

B. FTA Projects and the Alaska LNG Project

In addition to the pending non-FTA applications, the DOE/FE has already approved approximately 27 Bcf/d of LNG exports to FTA countries, or approximately 196 mtpa.[48] While most of these projects may not proceed to final investment decision (FID) on the basis of FTA approval alone, some companies have indicated they would consider moving a project forward on FTA approval only so it is possible that

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[45] *See* Ebinger, *supra* note 31, at 9–10.
[46] Tennille Tracy, *U.S. Gas Exports Put on Back Burner*, Wall St. J., May 31, 2012, at B3, http://online.wsj.com/article/SB10001424052702304821304577436470209675022 html.
[47] Applications Received by DOE/FE to Export Domestically Produced LNG from the Lower-48 States (as of January 30, 2013), available at http://fossil.energy.gov/programs/gasregulation/reports/summary_lng_applications.pdf. In terms of natural gas/LNG conversions, 2.2 Bcf/d is approximately 16 MTPA of LNG. (Sabine Pass Order No. 2961 at p. 2, noting that Sabine Pass sought to export 803 billion cubic feet per year, or 2.2 billion cubic feet per day (Bcf/d) which was the equivalent of 16 million metric tons per annum (mtpa) of LNG.
[48] Applications Received by DOE/FE to Export Domestically Produced LNG from the Lower-48 States (as of January 30, 2013), available at http://fossil.energy.gov/programs/gasregulation/reports/summary_lng_applications.pdf.

some of these projects will proceed regardless of non-FTA approval.

I also note that an LNG export project has been proposed for Alaska by a consortium of companies, including BP, ConocoPhillips, ExxonMobil, and TransCanada. On February 15, 2013, executives from the four companies submitted a letter to Alaska's Governor Sean Parnell on the status of the proposed export project indicating that the concept selection phase for the Alaskan LNG project has been completed.[49] The proposed Alaskan LNG project would be a significant (15-18 mtpa, $45-$65 billion) LNG export project for Alaska and the United States should it move forward.[50]

IV. THE ISSUES RAISED IN THE COMMENTS IN RESPONSE TO THE NERA STUDY

On December 5, 2012, the DOE/FE released the study done by NERA Economic Consulting on the "Macroeconomic Impacts of LNG Exports from the United States," (hereinafter "NERA Study" or "NERA Report"). The prospect of the U.S. becoming one of the world's largest LNG exporters raises significant implications for the U.S. in terms of energy security, economic benefits, environmental impacts, and even potentially issues of intergenerational equity since natural gas is an "exhaustible" or finite natural resource.

I have reviewed almost all of the comments submitted to the DOE/FE and made publicly available on the DOE's website. By the DOE/FE's own estimate, there were over 30,000 initial comments submitted with many of the comments submitted by members of the same organization as part of an on-line initiative sponsored by that organization.[51] The comments can be broken down into the following three main categories with a summary of some of the key arguments provided for background and context:[52]

A. LNG Exporters and Energy Companies Support Unlimited LNG Exports

A number of comments submitted by LNG exporters and energy companies expressed wide ranging support for the NERA Study which was generally viewed as favorable for LNG exports. In particular, LNG exporters as well as a number of other energy companies and policy makers from shale producing states and/or states where proposed LNG export projects are pending voiced support for the NERA Study. For example, Cheniere Energy[53] endorsed the conclusions reached in the NERA Study that under all scenarios considered, the United States will benefit economically from the international sale of LNG. (Cheniere at p. 2) Cheniere believes that trade in natural gas is no different than the trade of other goods and that by removing barriers to trade, the U.S. economy will benefit. (Cheniere at p. 2) Cheniere also notes that while the general conclusions reached in the NERA Study are accurate, several of the assumptions were incomplete and served to actually understate the potential benefits to the U.S. economy that will result from LNG exports. (Cheniere at p. 2). After discussing the assumptions (Cheniere p. 3-7), Cheniere urges the DOE/FE to "expeditiously and without limitation authorize" the applications to export LNG to non-FTA countries. (Cheniere at p. 8)

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[49] A copy of the letter is available at Governor Parnell's website, http://gov.alaska.gov/parnell_media/resources_files/letter021513.pdf.

[50] Several comments from various entities in Alaska were submitted that correctly pointed out that the Alaska LNG project is currently not one of the projects currently under review by the DOE/FE and that the approval process for Alaskan projects is slightly different and requires a Presidential finding.

[51] I note that whereas the DOE/FE has indicated there are over 30,000 comments, there appear to be many more than that since the Sierra Club alone has submitted 77,044 comments (see Comment # 393)

[52] The summary of the comments is not intended to be exhaustive but rather, is intended to provide an overview of the key arguments raised in support of and in opposition to LNG exports. This summary is based on the comments I found most helpful and should not be used in place of the reader reviewing all of the comments and making an independent analysis of those comments.

[53] Comment # 118, Patricia Outtim on behalf of Charif Souki, Chairman and CEO, Cheniere Energy, Inc.

The American Petroleum Institute (API)[54] also submitted a comment in support of the findings of the NERA Study and arguing for the expeditious approval of the pending LNG export projects. According to the API, the evidence in the NERA Study "overwhelmingly showed that LNG exports will create jobs, increase GDP, contribute to an improvement in the trade deficit and increase the overall welfare of Americans – in other words, the evidence shows that LNG exports are in the public interest." (API at p. 15). The API also noted that the evidence was such that the opponents of exports cannot meet their burden of proof necessary to overcome the rebuttable presumption in favor of exports. (API at p. 15)

1. International Trade Issues and WTO Arguments

A number of comments in support of LNG exports raised issues related to free trade with some noting that the DOE/FE's failure to approve LNG exports would give rise to a violation of the U.S.'s obligations under the WTO. Whether this is legally sound is open to debate and I caution that procedurally and legally, this is not an issue the DOE/FE should take up. I also note that the DOE/FE rejected similar arguments in the Sabine Pass case. In its application, Sabine Pass requested the DOE/FE to review its request to export LNG to WTO countries under the same standard of review applicable to FTA countries and specifically requested that that DOE/FE conduct its review under the standards set froth in section 3(c) of the NGA, 15 U.S.C. 717b(c) instead of section 3(a) of the NGA, 15 U.S.C. 717b(a).[55]

In making its request, Sabine Pass contended that U.S. trade policy, as well as U.S. obligations under the WTO, required the "automatic export authorization process" applicable for export of LNG to FTA Countries and therefore sought DOE/FE's immediate approval to export LNG to WTO countries.[56] In support of its argument, Sabine Pass submitted Annex 1A to the WTO Agreement and "a compendious legal memorandum" entitled "A Review of International Trade-Related Legal Obligations and Policy Considerations Governing U.S. Export Licenses for Liquefied Natural Gas" (Aug. 23, 2010).[57] Despite Sabine Pass's extensive briefing of the trade issues, the DOE/FE found that Sabine Pass's request for review under section 3(c) was "not supported by law or policy."[58] The DOE/FE stated that section 3(a) of the NGA, not section 3(C) was the appropriate legal provision to decide an application to export LNG to any nation other than FTA countries. Since Sabine Pass had not pointed to any legislation authorizing or requiring a different result, the DOE/FE had no authority to grant Sabine Pass's request for section 3(c) review.[59] On October 21, 2010, DOE/FE issued an opinion and order denying Sabine Pass' request that their export application be reviewed under section 3(c) of the NGA and ordered that the application be reviewed under section 3(a) of the NGA, which requires the "public interest" analysis.[60]

I also note that while most proponents of free trade assume that the WTO provisions would apply to trade in energy, there has never, in fact, been a formal Trade Round launched on Energy Trade. My research reveals that this is for a number of reasons including the fact that when the WTO came into being in 1995, most of the major energy exporters, such as Saudi Arabia, were not members of the WTO.[61]

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[54] Comment # 134, Erik Milito, Group Director, Upstream & Industry Operations, American Petroleum Institute (API*). See also*, Comment # 95, Bill Cooper, President, The Center for Liquefied Natural Gas.
[55] Application at 2-3.
[56] Application at 23-29.
[57] Sabine Pass Liquefaction, LLC, FE Docket No. 10-111-LNG, *Opinion and Order Denying Request for Review under Section 3(c) of the Natural Gas Act*, Oct. 21, 2010, at 3, available at http://www.fossil.energy.gov/programs/gasregulation/authorizations/Orders_Issued_2010/Sabine10_111dkt html.
[58] Opinion and Order at 6.
[59] Opinion and Order at 7.
[60] Opinion and Order at 8.
[61] Susan L. Sakmar, *Bringing Energy Trade Into the WTO: The Historical Context, Current Status, and Potential Implications for the Middle East Region,* 18 Indiana Int'l & Comp. L. Rev. 89 (2008), available at http://ssrn.com/abstract=1995896.

Moreover, not only were the key U.S. laws at issue here written when the U.S. was expected to be a major *importer* of LNG but they were also written prior to the establishment of the WTO in 1995! In light of the fact that the Policy Guidelines the DOE is obligated to follow were established in 1984, it is unlikely that any WTO issues were even contemplated, although it is possible that some issues broadly related to free trade and international trade were considered.

In addition, and something overlooked by most commentators and proponents of free trade, the WTO has repeatedly recognized that "exhaustible natural resources" are accorded different treatment under the WTO's Article XX exception for trade measures designed to protect "exhaustible natural resources." Despite the abundance of natural gas currently being enjoyed by the U.S., natural gas would no doubt be considered an "exhaustible natural resource" under the WTO.

In summary, while the U.S. and its agencies should always be mindful of its obligations under international trade law, it would seem that the proper course of action in this case is the one that the DOE/FE has already taken in the Sabine Pass case which is to review the pending export applications under the "public interest" test set forth in section 3(a) of the NGA and pursuant to the Policy Guidelines.

B. Environmental Groups and Members of the General Public Oppose LNG Exports Since It Will Lead to More Shale Gas Development and "Fracking"

The majority of the comments submitted came from environmental organizations and the general public. These groups expressed concerns that LNG exports would actually weaken the U.S. "economy as a whole, while transferring wealth from the poor and middle class to a small group of wealthy corporations that own natural gas resources. This wealth transfer comes along with significant structural economic costs caused by increased gas production, which destabilizes regional economies and leave behind a legacy of environmental damage."[62]

In general, the environmental opposition to LNG exports stems from more generalized opposition to shale gas development on the basis that "intensifying gas production for export will also intensify the air and water pollution problems, public health threats, and ecological disruption associated with gas production."[63] According to these groups, the DOE/FE would be acting "arbitrarily and capriciously" if it relied on the NERA report because the NERA report failed to consider the environmental impacts, and associated economic costs of gas production.[64]

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[62] Comment # 189, Craig Segall, Staff Attorney, Sierra Club Environmental Law Program. The Comments filed on behalf of the Sierra Club and its members are listed as representative of the comments filed in general from environmental groups and individuals opposed to LNG exports. Because the Sierra Club submitted comments on behalf of thousands of its members (see #393 – Sierra Club submits 77,044 comments on behalf of 77,044 individuals), I am using the Sierra Club brief as a representative illustration of the comments submitted by environmental groups and individuals.

It should be noted, however, that other environmental organizations also opposed the NERA Study and LNG exports on the basis that LNG exports require a "substantial expansion of domestic shale gas production." As such, decisions on LNG exports should be delayed until more is know about the risks of hydraulic fracturing. (See Comment # 125, Environmental Working Group, Dusty Horwitt, Senior Counsel, Briana Dema, Pam Solo and Jill Wiener).

[63] Id. at p. 2.
[64] Id., citing 5 U.S.C. s 706(2)(A) and *Motor Vehicle Mftrs. Ass'n v. State Farm Mut. Auto. Ins. Co*. 463 U.S. 29, 43 (1983).

C. Industrial Users of Natural Gas Argue Against "Unfettered" LNG Exports

The middle ground or most balanced approach appears to come from industrial users of natural gas, such as Alcoa,[65] Dow Chemical,[66] and the Industrial Energy Consumers of America (IECA).[67] These companies do not appear to oppose LNG exports in principal but rather, caution against allowing "unfettered" LNG exports, which might lead to unintended price spikes or shocks. For example, in its comments, Alcoa, an aluminum manufacturing company that employs 26,000 people in the U.S. contends that it "favors a balanced approach to energy policy, developing domestic and international markets while avoiding distortions that increase domestic price and/or price volatility."[68]

These companies have raised numerous issues and deficiencies with the NERA study including, but not limited to:

1. The NERA study does not properly compare the economic benefits of exporting natural gas to using it as a domestic job creator. This deficiency vastly underestimates the benefit of investment in manufacturing to the US domestic economy. (Alcoa at p. 2)
2. The manufacturing "renaissance" that is underway in the U.S. was not considered by NERA, including $95 billion of newly announced capital projects. (IECA at p. 3-6).
3. The NERA study inappropriately uses an outdated forecast of demand as projected in the Energy Administration Annual Energy Outlook (EIA/AEO 2011). (Alcoa at p. 2, Dow at p. 2).
4. If demand is understated, then the impact of price is understated, rendering the conclusions of the NERA Study fatally flawed. (IECA at p. 3)[69]
5. The NERA study improperly addresses the economic impact of Energy Intensive Trade Exposed (EITE) businesses (Alcoa at p. 2)
6. The NERA study fails to acknowledge how "unfettered" LNG exports will harm the middle class and incorrectly asserts that declines in both wage income and income from capital investment will be offset by gains households will realize in their various investments in natural resource companies. This is incorrect since, according to Alcoa, few middle-income households that depend upon income from wages have significant income from investments in natural gas resource companies. (Alcoa at p. 3)
7. The NERA Report is fundamentally flawed and incomplete due to numerous alleged defects in modeling demand, supply and price effects. (Dow at p. 5,6, 9-25)
8. The NERA Report should have been subjected to peer review (Dow at p. 7) and proprietary economic models, such as that used by NERA, should not be used for public policy decisions. (IECA at p. 12)

In addition to the number of defects alleged in the NERA Report, Dow also argues that neither the NERA Report, nor any other macroeconomic assessment of LNG exports, can address the range of public policy issues that should be considered by the DOE/FE in deciding the public interest. (Dow at p. 4). Accordingly, and in light of the significant public policy issue raised, Dow argues that the DOE/FE should conduct a full administrative proceeding, including public hearings, from which the government will then be able to establish the appropriate criteria for the making the statutorily required public interest

[65] See Comment #106, Yvette Colon, on behalf of Rick Bowen, President Energy, Alcoa.
[66] See Comment # 174, Peter A. Molinaro, Vice President, North America Government Affairs, The Dow Chemical Company.
[67] See Comment #323, Marnie Satterfield, on behalf of Paul N. Cicio, President, Industrial Energy Consumers of America (IECA).
[68] See Comment #106, Yvette Colon, on behalf of Rick Bowen, President Energy, Alcoa.
[69] See Comment #323, Marnie Satterfield, on behalf of Paul N. Cicio, President, Industrial Energy Consumers of America (IECA).

determination. (Dow at p. 42)

D. Application of The Public Interest Test

In evaluating whether to approve additional export applications, the DOE/FE is bound by Section 3(a) of the Natural Gas Act, the 1984 Policy Guidelines, and other factors to the extent they are shown to be relevant to a public interest determination. Based on various statements by representatives of the DOE/FE, these factors might include U.S. energy security, impact on the U.S. economy (GDP), consumers, and industry, jobs creation, U.S. balance of trade, international considerations, environmental considerations, and consistency with DOE's long-standing policy of promoting competition in the marketplace through free negotiation of trade agreements.[70]

In considering the totality of the comments submitted by the public in response to the NERA Study, it is evident that the public at large is divided as to whether or not LNG exports are in the "public's interest." I note that may of the comments submitted raised excellent points and concerns and these should factor in to the DOE/FE's public interest analysis. Of the many concerns raised, there are two primary concerns that stand out.

The first is the potential impact unfettered LNG exports will have on the domestic price of gas to the possible detriment of manufacturers planning investments based on low priced natural gas and domestic consumers of natural gas. This concern has been raised by a number of key policy makers including Senator Wyden and Congressman Markey, both of whom have suggested that the NERA Study is flawed because it understates demand expected to come from a number of sources including (1) industrial users and the manufacturing industry, (2) the power generation industry as natural gas for power generation replaces coal for power generation, and (3) increased demand for natural gas as a transportation fuel.[71]

The second primary concern is the uncertainty surrounding the environmental impact of hydraulic fracturing and increased shale gas development. These concerns have been raised by a number of environmental organizations such as the Sierra Club. I also note that the DOE/FE has previously taken administrative notice of the ongoing EPA Hydraulic Fracturing Study, which is investigating the possible impacts of hydraulic fracturing on drinking water resources.[72]

In addition to these two key concerns, I also note that the U.S. has very little experience with LNG exports and a history of getting natural gas wrong. For example, just a mere five years ago, it was expected that the U.S. would be the world's largest LNG importers with policy makers arguing in favor of building many more LNG import terminals. Those predictions turned out to be wrong and resulting in U.S. import terminals sitting largely idle until the prospect for U.S. LNG exports was envisioned.

Given the limited history of U.S. LNG exports, which only includes one small export facility, Kenai LNG, in Alaska, I urge the DOE/FE to consider experiences in other countries that may be instructive. In this regard, the experience of Australia might serve as a cautionary tale of the unintended consequences of

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[70] *The Department of Energy's Role in Liquefied Natural Gas Export Applications: Hearing Before S. Subcomm. on Energy and Natural Res.* (Nov. 8, 2011) (statement of Christopher Smith, Deputy Assistant Sec'y for Oil and Natural Gas Office of Fossil Energy, U.S. Dep't of Energy), http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=58b62501-e2e1-40aa-b024-8e45ab3d4569.

[71] See Comment # 20, U.S. Senator Ron Wyden (OR), Letter to U.S. Department of Energy Secretary Steven Chu, Initial Comment on the LNG Export Study, Jan. 10, 2013 and Comment #6, U.S. Representative Edward Markey (Mass.), Letter to U.S. Department of Energy Secretary Steven Chu, Initial Comment on the LNG Export Study, Dec. 14, 2013

[72] See Sabine Pass DOE/FE Order No. 2961 at p. 31.

rapid and substantial LNG exports.[73] Mr. Andrew Liveris, an Australian native and CEO of Dow Chemical has also suggested that Australia's experience should be considered, warning that Australia's method had allowed exports to occur to the detriment of local users, causing the manufacturing sector to collapse in that country.[74]

V. RECOMMENDATIONS FOR ADVANCING THE EXPORT APPROVAL PROCESS

While the above comments and analysis support my recommendation that the DOE/FE should proceed with some caution in approving additional export applications, this does not mean that the DOE/FE should not proceed at all or that the DOE/FE should cap or limit LNG exports. Rather, I suggest that some additional LNG export approvals are warranted in light of the presumption in favor of exports, the large supply base of natural gas, and the relative difficulty in actually constructing and/or financing an LNG export facility which makes it unlikely that all approved projects would actually be built.

Moreover, I am mindful of the fact that the delay in the approval process has created significant and growing market uncertainty amongst the numerous companies seeking to export as well as many of the U.S.'s trade partners, such as Japan.[75] I am also mindful that further delay may well be construed as giving Cheniere something more than the "first mover" advantage they clearly deserve for being the first to recognize the potential market opportunity for exports. Certainly neither of these things is in the "public's interest" and thus my recommendations are primarily directed at how the process can reasonably be advanced while protecting the "public's interest," as opposed to what the "sweet spot" might be in terms of the amount or volume of LNG exports that the DOE/FE should ultimately approve.

Based on the foregoing comments and analysis, I respectively offer the following recommendations and suggestions as DOE/FE seeks to fulfill its mandate to protect the "public's interest" while processing additional LNG export applications in a reasonable and prompt manner:

1. Immediately re-start the approval process by approving a limited number of export applications in an amount not likely to have a significant impact on the domestic price of natural gas or the "public's interest." In this regard, there are numerous studies that are publicly available, most of which are mentioned above, including the DOE's own pricing study, that may provide some guidance as to what this number or amount might be.

2. Immediately develop a fair and transparent process and procedure that details how the DOE/FE will fulfill its stated obligation to "monitor the cumulative impacts" of approving additional export applications. This process should be as detailed as possible and also have some sort of set timeframe for action so that companies can plan accordingly.

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[73] See, "Large scale export of East Coast Australian natural gas: Unintended Consequences," Prepared by the National Institute of Economic and Industry Research and available on the Plastics and Chemicals Industries Association website at https://www.pacia.org.au/reports/large_scale_export_of_east_coast_australia_natural_gas_-_unintended_consequences. This report found that for every $1 of benefit gained by LNG export $24 of benefits was lost in the contraction of the gas-dependent industries.

[74] *Liveris slams Australia's handling of gas exports*, The Business Spectator, Feb. 13, 2013, available at http://www.businessspectator.com.au/bs.nsf/Article/Liveris-slams-Australias-handling-of-gas-exports-pd20130214-4VRM9?opendocument&src=rss

[75] In the course of the two years I have been following this issue, which includes attending most of the major global gas conferences and extensive research for my LNG book, I have personally witnessed the shift in thinking from the prospect of U.S. LNG exports being unlikely and quite frankly, something of a joke, to the present reality where the entire world now appears to be eagerly lining up to import our cheap(er) natural gas.

3. In line with the above recommendation, the DOE/FE might also consider phasing in the approval of projects over a certain period of time so as to minimize the potential impacts on price and/or as more information becomes known about natural gas supply, demand and the potential environmental impact of hydraulic fracturing and shale gas development.

I also offer the following comments based on my experience with both the industry and environmental organizations as well as my own opinion that we may now have reached the point in the process where further delay and indecision may actually be causing more harm than whatever outcome the DOE/FE might eventually reach. No matter what the DOE/FE ultimately decides, I have faith that if our American gas producers, which are by far the best in the world, are called on to produce a lot more gas they will. I also have faith that our environmental organizations, which now employ some of the best attorneys I know, will ensure that those gas producers do so in a manner that does not jeopardize the health, safety and environment of the American public.

Lastly, I have faith in our American democratic system that if in the future we find that we made the wrong decision, the American public will push its elected officials to fix whatever problems arise. And while this will undoubtedly lead to a lot of pushing and shoving, "Americans can always be counted on to do the right thing, after they have exhausted all other possibilities."[76]

Respectfully submitted,

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