

From: [clegato](#)
To: [LNGStudy](#)
Subject: Reply Comments of CarbonX Energy Company, Inc.
Date: Monday, February 25, 2013 4:16:48 PM
Attachments: [Reply Comments To DOE on LNG Study 2-25-13.pdf](#)

Attached please find the Reply Comments on LNG Study of CarbonX Energy Company, Inc.

Sincerely,

Carmen D. Legato

This Message contains information that may be confidential or privileged. Should you receive this communication in error kindly delete it without reading.

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**UNITED STATES OF AMERICA
BEFORE THE
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL FUELS**

In Re: Invitation To Comment On)	Pursuant to the Notice, Comments to be
LNG Export Study)	incorporated in all dockets for Applications
)	to Export LNG; Freeport LNG Expansion,
)	L.P. and FLNG Liquefaction, LLC FE,
)	Docket No. 10-161-LNG, et. al

**REPLY COMMENTS ON LNG EXPORT STUDY OF
CARBONX ENERGY COMPANY, INC.**

Pursuant to the Request for Comments on the LNG Export Study, 77 Fed. Reg. 73627 (Dec. 11, 2012, Notices), CarbonX Energy Company, Inc. (“CarbonX Energy”) respectfully submits these reply comments and requests that they be incorporated into the record in each of the dockets in which applications are pending for consideration of authorization to export LNG. CarbonX states as follows:

I. COMMUNICATIONS

Any communication regarding these comments should be addressed to:

Carmen D. Legato,
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II. A BRIEF REPRISÉ OF THE CASE AGAINST LNG EXPORTS MADE IN THE COMMENTS.

In its Initial Comments, CarbonX Energy showed that the EIA's most recent long-term forecast of U.S. production capability shows that U.S. production is incapable of supporting the 26 Tcf that EIA projects as demand in 2035 plus the 17 Tcf of CNG/LNG needed to substitute for gasoline and 7 Tcf to substitute for diesel fuel in motor transport.¹ We showed that, using the EIA data, the U.S. would need to import LNG to satisfy demand even if CNG backed out gasoline for a relatively small amount of gasoline compared to Pakistan's 77 percent penetration rate of CNG in the market for motor fuel. Consequently, a decision to authorize exports for 25 years commits the U.S. to continued dependence on imported oil for the next 25 years. We also showed the vast public policy consequences to diverting natural gas from domestic use as, among other things, use as a motor fuel.

1. Every recession between 1974 and 2004 was caused or exacerbated by an oil price shock. The windfall profits earned by oil companies during the price run-ups are only 20 percent of the reduction in GDP. These shocks devastate the economy, close factories, notably and most prominently, automobile factories which are a major source of re-employment during the economic recovery. The rapid demand growth in developing countries and heightened instability in oil producing regions increases the historically significant risks of perturbations affecting oil markets; Comments at 6-12.

2. During the recessions, unemployment benefits increase dramatically creating enormous pressure on the goal of balancing budgets. The wages lost resulting from oil induced recessions are not recovered for many years after the recession's end;

3. For these reasons, the most important energy goal of the U.S. is not to produce more oil, which has no effect on recession, but to back out oil from the economy. Substituting natural gas for gasoline and diesel could accomplish this goal. No other strategy offers as much promise to do so; *Id.*²

¹ Comments at 13-16

² See also David Sandalow, *Freedom From Oil* (McGraw Hill 2008).

4. The technology to use CNG in autos is mature and experience in other countries demonstrates that the goal to back out oil is readily attainable. Indeed, Pakistan in a matter of several years achieved a 77 percent rate of substituting CNG for gasoline. Comments at 10-13.

5. In addition CNG in motor transport reduces GHG by 30 percent. Exporting LNG increases GHG by 30 percent (due to Liquefaction and trans-oceanic transport) compared with domestic use and forgoes the 30 percent reduction of GHG by substituting for gasoline. Worse yet, using the EIA supply data and a reasonable penetration rate in motor transport makes it clear that the U.S. will be importing LNG during the period of proposed export licensing thereby adding an additional 30 percent of GHG for imports. The export of LNG will commit the U.S. to significantly increase world GHG production and to do so needlessly with no offsetting benefits. Comments at 16-18.

6. Substituting CNG for gasoline reduces smog creating pollutants by 60 to 90 percent thereby significantly reducing health care costs for respiratory problems and diminishing federal health care expenses for Medicare and Medicaid. Comments at 18-20.

7. The effect and we believe the purpose of the major oil companies in promoting LNG exports is to eliminate CNG as a competitive threat to their established gasoline and diesel fuel refining and distribution businesses. Eliminating that competition is contrary to U.S. competition policy and disserves energy and environmental policies. Comments at 20-26.

III. CONTRARY TO SEVERAL COMMENTS WE HAVE PROVIDED CREDIBLE DATA TO OVERCOME THE REBUTTABLE PRESUMPTION OF § 3 OF THE NGA.

The argument that we have not introduced any “study” to support our position is incorrect. Indeed, our position rather than being supported by a paid and non-transparent study is based on publicly available and vetted data, as follows:

1. As to the supply of natural gas, including shale gas, we rely on the EIA AEO for supply through 2035;
2. The potential market of 24 Tcf/year for gasoline and diesel uses government statistics and an arithmetic conversion using government conversion factors. Comments at notes 42-44 and accompanying text.

3. The benefits of CNG to promote energy independence and environmental goals are heavily advertised on the DOE and EPA websites.

The goal to back out oil from the economy is the reason for DOE's existence and has been restated as the cornerstone of energy policy in virtually every Congressional Hearing on energy policy.

4. The successful use and penetration of CNG in other countries, notably Pakistan, is reported by the IEA.

IV. THE PROPRIETARY STUDIES MUST BE IGNORED.

A number of commenters suggest that the supply data used in the EIA and NERA forecasts are conservative compared to a number of other studies. Almost all of these studies, however, were commissioned by companies having a direct interest in LNG exports. They all have in common economic self-interest, coupled with a lack of transparency as to assumptions and a proprietary economic model. For these studies to be considered, it would be necessary for DOE, either to (i) create an on-the-record adjudicatory proceeding in which there would be an opportunity for discovery and questioning of the authors as to their methodology, source data and most importantly, their assumptions as well as disclosure of the parameters in their "proprietary" black-box economic models; or (ii) create a blue-ribbon panel of experts that lack a financial self-interest to peer review the studies. Because neither of these procedures has been utilized, the non-governmental forecasts must be disregarded.

Furthermore, many commenters quote estimate of reserves, proven or probable and incorrectly extrapolate annual production capability. As the EIA well knows, however, there is a quite a difference between reserves and production capability. The

latter must take into account the production decline curves, the costs of production and whether reserves are sufficiently aggregated or recoverable economically, among other factors. Essentially, the estimates of proven reserves are useless and confounding in determining the annual production capability.

Finally, one study performed by Standard and Poor's, shows that there is relatively little surplus in domestic supply and that a small increase in domestic demand without substantial LNG exports would absorb the excess demand and allow prices to recover the long run marginal cost of production. What is different about this analysis is that it was not commissioned by a company or companies with an economic interest that is consistent with either allowing or disallowing exports.

V. THE FUNDAMENTAL ERRORS OF THE NERA AND EIA WITH REGARD TO THE FORECAST OF DEMAND ARE ONE AND THE SAME.

Subsequent to receiving the Comments on the NERA Study, the DOE announce that it would rely not just on the NERA Study but also on the previous EIA analysis and comments filed in these dockets. NERA used the EIA data on demand (which was based upon 2009 demand data) in its Study. Hence the Comments on the use of the 2009 data and the limitations arising from the Long Run Equilibrium Model used by NERA which we addressed in our initial comments apply equally to the EIA Analysis. There are two fundamental problems with using the 2009 data coupled with the supply data.

First, using a snap-shot of demand in a single year as a basis to forecast long-term demand growth and potential supply surplus to that growth is inherently wrong. What is known about the factors affecting demand for 2009 makes using it particularly egregious.

Demand during a financial crisis and the worst recession since the Great Depression is bound to understate long-term demand. Second, the natural gas supply reflected a secular change resulting from technological innovation. It is well known that the price elasticity of demand is relatively small in the short-run though significant in the longer-term, reflecting the capital intensive nature of equipment and other choices necessary to utilize natural gas. It is a particularly egregious methodological shortcoming to match a demand that has not had time to respond given the known price-elasticity data concerning response time with a new supply curve resulting from a secular change that already has responded. The nature of the market is that the price-signal from the supply innovation is transmitted by production surplus and then the demand reacts to that within the response time governing the elasticity for that commodity.

VI. THE COMMENTERS RELIANCE ON PUTATIVE ECONOMIC BENEFITS ACTUALLY UNDERCUTS THE CASE FOR EXPORTS.

A. Benefits of Increased Production.

Many commenters posit the benefits to the economy of increased production of natural gas. We need not comment on the quantification of the economic benefit associated with increased production. The increased production associated with domestic use of natural gas is precisely the same as that destined for export. As shown previously, the domestic transport market could consume 24 Tcf of natural gas on top of 26 Tcf for other uses and a supply forecast of only 33 Tcf.

B. Benefits of Liquefaction Facilities.

The arguments of commenters regarding the benefits of constructing liquefaction facilities also are misplaced. If those facilities were not built, the capital associated with them would instead be used to build pipeline and distribution capacity in the U.S. to

utilize the increased domestic supply and also for CNG and LNG fueling stations, chemical production facilities and to the increased uses of natural gas domestically. In fact, there is far greater risk that the capital invested in liquefaction facilities would be stranded. The proponents of export all claim that the delivered price after regasification of natural gas to be exported would be less than the price of oil. Given that the cost of liquefaction, cryogenic shipment and regasification would be a very substantial component of the price, and that foreign participation in those functions would be very significant, the benefits to the U.S. economy of exports would be far less than the capital associated with domestic consumption. First, the percentage of the delivered regasified price that is attributable to liquefaction, cryogenic shipment and regasification is high. Second, the contracts all call for the cryogenic shipment and regasification to be foreign owned and sourced. Third, many of the consortia for liquefaction facilities include substantial foreign participation. For example, Exxon-Mobil announced it is teaming with Qatar and Japanese trading companies and users are participating in several projects. By contrast, the domestic use of the gas entails investments of pipe and compression that would be made and owned by U.S. pipeline and distribution companies and it is more likely that the CNG and LNG refueling stations would be built and owned by U.S. companies.

C. Benefits Arising From The Balance of Trade Payments.

The Comments of the Energy Policy Research Foundation argue that to the extent that domestic resources will sell above the cost of production (including processing costs) to foreigners would result in a wealth transfer to the U.S. The problem with this is that it is counter-factual. As noted above, a significant portion of the total value chain is for

components that would be either largely or totally foreign owned. Some of the sponsors, such as Shell, are significantly foreign owned. These cost components are substantial. For example in its Comments, Shell estimated that at today's prices Henry Hub gas would cost \$10/MMBtu landed in Tokyo Bay. Aside from the diminished portion of the value chain, however, there is a further limit on the potential for natural gas to reap above-market prices. Virtually all of the commenters state that the price of natural gas after regasification would not exceed the price of oil. Given that the cost of transporting gas is very high compared to transporting oil, the net-back price would always be much lower for gas than for oil. Another factor is that the world has much more natural gas than it does oil and that gas is more evenly distributed and proximate to centers of consumption than is oil. The cost of production of gas internationally is lower than for oil. Therefore, there is greater potential for gas to trade internationally at a finished price below oil prices. All of these factors make it unlikely that U.S. producers would receive a price in international markets above the cost of production.

The low net back price to U.S. producers relative to oil must be contrasted with the high rents collected from U.S. consumers in oil markets. As shown in our Comments, 70 percent of proven reserves are controlled by OPEC nations which seek by collective agreement to establish quotas that maximize price. Oil trades at a price that on an energy equivalent basis is higher than all of the forecasters and commenters argue would be the finished price of the gas to be exported. Additionally, the cost of transport of the gas is far higher than it is for oil. These two factors make it inevitable that wealth transfers from U.S. consumers to oil producing nations will be far greater than any wealth transfer potential from gas importing nations to the U.S. As shown in our comments, the benefit

to the balance of payments of using natural gas domestically and backing out imported oil would be more than five times greater than it would be by exporting natural gas. It is precisely this reason that induced the U.S. Department of Defense to build CNG fueling stations in Afghanistan and why Pakistan achieved a 77 percent substitution of natural gas for gasoline.

D. The Comments Fail To Account For The Energy Security Costs of LNG.

The Comments do not explain why using natural gas in motor transport is infeasible or should not be the centerpiece of short-term energy policy. The Comments of the Energy Policy Research Foundation argue that the increased use of natural gas for motor transport should be eliminated, instead doing a straight line progression from demand for the past several years. Doing so, as noted, fails to deal with the secular shift in supply and the fact that a corresponding change in demand will occur if the U.S. gives the industry the time to adapt to the new supply curve by investing the necessary capital. It does not account for the fact that the GGE price of CNG is 40 percent of gasoline, that fleet owners are clamoring for CNG vehicles and that auto manufacturers desire to build more OEM CNG vehicles. It is incumbent upon DOE to explain why the U.S. cannot perform as well as the Government of Pakistan (“GOP”) which with 3.2 percent of U.S. GDP achieved a 77 percent penetration rate of CNG in motor transport. The DOE must examine its budget in relation to its success in weaning the U.S. from its dependence on oil and then carefully examine the GOP’s methodology for achieving a 77 percent penetration rate and then explain why the U.S. can’t compete with Pakistan.

E. Global Environmental Benefits.

Some Commenters³ contend that LNG would reduce global GHG. As shown in our initial comments this is not the case. The liquefaction and transport functions are energy consumptive and result in a 30 percent increase in GHG. As shown in our initial comments, there is abundant and growing supply more proximate to Asian markets which could supply most markets by pipeline without the added GHG emissions. For island nations, like Japan, there are fewer emissions associated with shorter haul alternative sources. Furthermore, the decisions of importing countries are not GHG neutral. The decision of Japan to close nuclear facilities is one of the most damaging decisions globally in combatting GHG growth. Instead of exporting LNG, the U.S. should be encouraging Japan to use its existing nuclear plants. And if the U.S. believes fracking is on balance environmentally beneficial (accounting for or controlling fugitive methane emissions) than it should encourage Germany to permit fracking rather than encouraging a GHG intensive LNG trade.

F. The Free Trade Arguments Are A Red Herring.

Many of the Commenters argue that free trade principles either require or support authorizing exports of LNG. First, the argument that either the WTO or U.S. policy requires DOE to authorize exports is legally deficient. The Amendment to § 3 of the NGA distinguishing between FTA and Non-FTA nations with respect to imports and exports post-dates the WTO. By its terms it establishes the relevant consideration of free trade, defining a different procedure and result for Applications involving FTA and Non-FTA nations. The DOE is not given authority to treat non-FTA nations the same as FTA nations. Indeed, the fact that Congress itself has explicitly covered this area makes it

³ E.g., Comments of Cameron Natural Gas Company.

clear that DOE cannot effectively excise the requirement of a public interest determination for non FTA nations. The argument that DOE either must or should grant the exports on the basis of free trade principles or treaties would effectively supplant the explicit Congressional determination and effectively repeal § 3 of the NGA as amended.

The free trade arguments also are misplaced because natural gas and oil are substitutes. There is no free market in oil. Rather 70 percent of the world oil reserves are controlled by a cartel which as the FTC found would be a criminal price-fixing conspiracy if not for sovereign immunity. About 90 percent of the world's proven reserves are controlled by sovereign states and the state-owned companies of which conduct their business in the best interests of their citizens.⁴ The U.S. economy has been devastated by oil price shocks arising from embargoes, insurrection and wars as well as challenged by the more normal times between such recessions in which it pays enormous rents to OPEC and to non-OPEC producers which follow the OPEC prices. In fact, the U.S. owned oil companies themselves march in lock-step with OPEC. The very oil companies which repeatedly testify that when oil prices skyrocket they must charge the OPEC price now wish to claim that there is or can be a free-market in gas which is a substitute for the oil, the price of which is decided according to what would be a criminal price-fixing conspiracy if amenable to U.S. antitrust law. If the U.S. wished to surrender its economic vitality in this manner why would we even need a Department of Energy or have an energy policy? There is in the U.S. a market for energy. About 71 percent of the oil is for transportation in much or all of which natural gas is a readily achievable substitute. Now we are told by the oil companies whose windfall profits accrue beneath the OPEC umbrella—No, no America, you can't use your bounty of natural gas to back

⁴ See, e.g., Sandalow note 2, *supra* at 42.

out oil to render your economy more immune to oil price-shocks and their recessionary consequences. America, you must bow further to the power of OPEC and other nations the state-run oil companies of which benefit from OPEC's price setting; America, you must ship this natural gas away to ensure a field for oil marketing free of competition.

Balderdash! Free trade in energy arises from bilateral agreements. Even with our closest trading partners the U.S. acknowledges their self-interest regarding energy.

Under NAFTA, Mexico has reserved the entire field of energy. The EIA forecasts that Canadian exports to the U.S. will disappear because the supplies will be needed domestically. This arises from a Canadian law that subjects exports to a determination of whether the proposed exports are surplus to foreseeable domestic requirements.

The U.S. cannot remake the world energy market into the idyllic free market that the oil companies would pretend exists. Even in natural gas, the U.S. is not the "Saudi Arabia of natural gas." Using CIA statistics, the share of the world gas market is 25 percent of the Saudi share of the world oil market. These most recently available statistics postdate the U.S. shale boom and pre-date the transmission of the technology underlying that boom to other shale rich countries including China. The U.S. is compelled neither by energy treaties nor the WTO to treat natural gas separately from oil and prohibited from using its gas domestically to substitute for oil—as many nations do and as the DOD is using U.S. taxpayer funds is doing for Afghanistan.

The pretext of free trade, ironically, is a subterfuge to distract attention from the fundamentally anticompetitive actions of the oil companies which are seeking to export vast quantities of domestic gas to prevent it from competing with gasoline and diesel fuel. Rather than to reward this anticompetitive gambit, the DOE, should request the FTC or

DOJ to study the competitive consequences for U.S. energy markets of the requests being made by the oil companies to export natural gas.

For these reasons and those stated in its initial comments, CarbonX Energy Company respectfully requests the Department of Energy to deny the applications to export gas from the lower 48 States to non-FTA countries. DOE should request the DOJ or FTC to investigate the effect on competition in motor fuels of applications to export, and it should defer for at least four years, consideration of exports in order to permit the U.S. market to build facilities necessary to consume additional quantities of natural gas before determining that it is surplus to U.S. requirements.

Respectfully submitted,



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President

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**UNITED STATES OF AMERICA
BEFORE THE
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY**

In Re: Invitation To Comment
Regarding LNG Export Study

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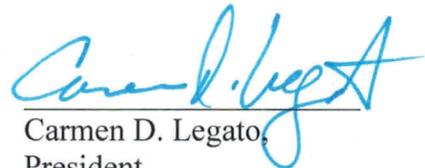
Pursuant to the Notice to be incorporated
in all dockets for Applications to Export
LNG, Freeport LNG Expansion, L.P. and
FLNG Liquefaction, LLC FE,
Docket No. 10-161-LNG, et. al

VERIFICATION

ARLINGTON, VA

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Pursuant to 10 C.F.R. § 590.103(b) (2012) and 28 U.S. Code Sec. 1746, I, Carmen D. Legato, verify under penalty of perjury that I am authorized to execute this verification, that I have read the foregoing reply comments of CarbonX Energy Company, Inc. of February 25, 2013 and that all facts stated herein are true and correct to the best of my knowledge, information, and belief.



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**UNITED STATES OF AMERICA
BEFORE THE
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Pursuant to the Notice to be incorporated
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LNG,
LNG, Freeport LNG Expansion, L.P. and
FLNG Liquefaction, LLC FE,
Docket No. 10-161-LNG, et. al

CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE

Pursuant to 10 C.F.R. § 590.103(b) (2012), I, Carmen D. Legato, hereby certify that I am
a duly authorized representative of CarbonX Energy Company, Inc., and that I am authorized
to sign and file with the Department of Energy, Office of Fossil Energy, on behalf of CarbonX
Energy Company, Inc., the foregoing Reply Comments on LNG Export Study in the above-
captioned proceeding.

Dated at Arlington, Virginia this 25th day of February, 2013.



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