EXCESSIVE LIQUIFIED NATURAL GAS (LNG) EXPORTS TO NFTA COUNTRIES ARE NOT IN THE PUBLIC INTEREST AND INCREASE NATURAL GAS AND ELECTRICITY PRICES TO CONSUMERS

JANUARY 30, 2019

OUTLINE

1. All DOE LNG export studies say exports increase natural gas prices.

2. The DOE has already approved volumes for export that are not in the public interest and plan to approve volumes equal to 52.8 billion cubic feet per day (Bcf/d). A volume equal to 71 percent of U.S. 2017 demand. The DOE has decided to let foreign countries determine the level of exports rather than limit export volumes that provide domestic consumers a safety net.

3. The DOE has never defined public interest under the NGA. All DOE studies confirm that LNG exports create winners and losers. The winners are the producers and exporters of natural gas. The losers are consumers and the economy.

4. DOE’s approval of LNG exports for 20 to 30 years is a firm legal commitment to foreign countries LNG buyers. Where is the commitment to protect U.S. consumers?

5. The international LNG market is not a free market. It is for this reason that it is sound public policy to place limits on export volumes to levels that assure LNG exports will not increase domestic prices or impact reliability.

6. DOE has not addressed vital short- and long-term risks to consumers and the economy that are core issues in considering whether an LNG export application is consistent with the public interest.

   a. Failure to consider pipeline and storage capacity risks for existing and future constraints (and at peak demand), and their cost and reliability impacts.

   b. Failure to consider resulting higher marginal prices for natural gas and electricity consumers.

   c. Failure to address cumulative demand versus availability of natural gas resources.

   d. Failure to consider the uncertain nature of technically recoverable natural gas resources.
e. Failure to consider future political decisions such as limit to acreage available for drilling, regulations on water or hydraulic fracturing that could increase costs that must be recovered in higher prices of natural gas, thereby increasing consumer risk.

f. Failure to consider that the majority of producers of natural gas do not have a positive cash flow business, which means prices have to go up.

g. Failure to consider that gas producing companies are consistently overestimating well production, which leads to higher natural gas resources estimates than are available for the future.

h. Failure to consider that foreign consumers of U.S. LNG exports are receiving the benefits of using our infrastructure that is paid for by U.S. consumers, without paying for it. Their use of this infrastructure increases our costs.

7. The United States Trade and Development Agency (USTDA) is using federal tax dollars (or taxpayer money) to fund and promote LNG exports to importing countries.

**COMMENTS**

1. **All DOE LNG export studies say exports increase natural gas prices.**

The DOE released a study entitled, “Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports”\(^1\) which illustrates that LNG exports would substantially increase U.S. natural prices. On page 54 of the study it states that “for all the reference supply scenarios in the more likely range, natural gas prices could be from $5.00 to $6.50 per MMBtu in 2040. These mid-range scenarios have a combined probability of 47%.” This is the highest probability the study gave any scenario. Since the Henry Hub price has most often been at roughly $3.00 MMBtu, the study confirms that natural gas prices could more than double causing domestic natural gas prices to rise to a level which would harm natural gas-dependent manufacturers and every homeowner. Consumers do not have an alternative. This is clearly not in the public interest.

The DOE released an earlier study in 2015 entitled, “The Macroeconomic Impact of Increasing LNG Exports”\(^2\) and it provides the same conclusions, but also explains that the price of goods will rise and that the manufacturing sector will be damaged, along with competitiveness and the trade balance. On page 24 it states, “Henry Hub prices are higher than they would otherwise be as U.S. LNG exports increase because producers increasingly exploit reserves with higher extraction costs. Higher natural gas prices will erode consumers’ purchasing power both directly and indirectly as the impact of higher domestic natural gas prices filters through the supply chains of other sectors causing the prices of other goods and services to rise. This will negatively

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impact consumption with the energy intensive sectors being most affected. Changes in relative natural gas prices across countries will impact U.S. competitiveness. If energy prices in the United States rise relative to energy prices in the rest of the world, this raises production costs for U.S. firms relative to international competitors. This erosion in U.S. competitiveness will weigh on the U.S. trade balance. The tradable energy intensive sectors such as chemicals and steel will generally be most exposed to shifts in industrial competitiveness."

LNG exports also increase price volatility. In a recent Forbes article it states, “Truth be told, however, while U.S. gas prices have been their most volatile in around a decade over the past 10 weeks, more and more LNG exports to meet growing needs abroad would mean more ups and downs in domestic prices. We know that as the most bullish domestic demand factor, U.S. LNG exports will put a floor under our own market. LNG exports will increasingly become a baseload demand market and are not going to be easy to simply shut off if our own prices rise.”

In May 2018, the Commodity Futures Trading Commission (CFTC) released a report entitled, “Liquefied Natural Gas Developments and Market Impacts.” The report states, “Given the magnitude of U.S. exports, there is also the potential that domestic natural gas markets could become subject to global supply-demand dynamics with the potential for increased volatility.” The report concludes that, “U.S. LNG export growth may put upward pressure on domestic (U.S.) natural gas prices and expose a heretofore relatively isolated North American market to global market dynamics.”

2. The DOE has already approved volumes for export that are not in the public interest and plan to approve volumes equal to 52.8 billion cubic feet per day (Bcf/d). A volume equal to 71 percent of U.S. 2017 demand. The DOE has decided to let foreign countries determine the level of exports rather than limit export volumes that provide domestic consumers a safety net.

The DOE has already approved LNG export volumes equal to 30 percent of 2017 U.S. demand for shipment to NFTA countries, and volumes equal to 75 percent of 2017 U.S. demand to FTA countries, for periods of 20 to 30 years. NFTA countries are the largest global LNG consumers. Importantly, the DOE will consider the approval of 13 other applications to export in 2019.

Why markets should not be used to justify levels of specific LNG export applications volumes of LNG exports is illustrated with U.S. crude oil and gasoline prices. In the first half of 2018, because the U.S. crude oil price was connected to the global market, U.S. gasoline prices rose to the highest levels in over four years. Global demand from other countries dictated demand and price versus the U.S. supply and demand. The net result is that the U.S. consumer was NOT benefiting from our vast crude oil resources. This can and will happen to natural gas if our low natural gas prices are connected to the high price of global LNG markets. Today’s low prices of

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natural gas are attributable to the fact that prices are determined by domestic supply and demand, not the global market.

This threat is not merely hypothetical, it happened in Australia. The Australian example shows that using markets to determine levels of LNG exports is not in the public interest. They are at least ten years ahead of the U.S. in exporting LNG. Australia has vast natural gas resources. Historically, the consumer prices have been around $3.00 MMBtu. Now, because of LNG exports, the Australian consumer pays the Asian LNG netback price. This means that the Australian consumer pays the high Asian LNG price, less transportation and liquefaction costs, which has resulted in Australian domestic consumer prices at $8, $9 and $10 MMBtu.

The Australian Competition and Consumer Commission started publication of LNG netback prices in order to boost price transparency. The Australian consumer netback prices have increased from 7.27 Gj in 2017 to 10.69 Gj YTD 2018, a 47 percent increase. In approving LNG export terminals, the Australian government let markets determine the volume of exports, which has now directly caused disastrous impacts to consumers and the manufacturing sector as jobs continue to decrease.

3. The DOE has never defined public interest under the NGA. All DOE studies confirm that LNG exports create winners and losers. The winners are the producers and exporters of natural gas. The losers are consumers and the economy.

Congress raised the concern of exporting to NFTA countries in the NGA and delegated the responsibility of addressing LNG export applications to the DOE. Pursuant to section 3 of the NGA 15 U.S.C. 717b exports of natural gas, including LNG, must be authorized by the DOE. Under NGA section 3(a) 15 U.S.C. 717b(a) applications that seek authority to export natural gas to NFTA countries are presumed to be in the public interest unless, after opportunity for hearing, the DOE finds that the authorization would not be consistent with the public interest.

The problem is that DOE has never defined public interest according to the Government Accountability Office report of September 2014. Despite the request of the Industrial Energy Consumers of America (IECA), a trade association that represents manufacturing companies in Washington, DC, the DOE has refused to do so. Instead, the DOE has conducted studies that conclude that exports create net economic benefits for the U.S and have approved every application to export.

On June 21, 2018 it states in the Federal Register, “In granting each application, DOE concluded that exports of U.S. LNG will generate net economic benefits to the broader U.S. economy and will provide energy security and environmental benefits to the global community (including emerging economies presently reliant upon more carbon intensive fuels).” As consumers, we

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7 Industrial Energy Consumers of America homepage, [www.ieca-us.org](http://www.ieca-us.org)

8 Federal Register/Vol. 83 No. 120/Thursday, June 21, 2018, page 28843
completely reject this definition. Instead, we support a Supreme Court definition of public interest. We believe that Congress had intended the public interest to be about the welfare of consumers (people) of natural gas.

The U.S. Supreme Court has stated that “in order to give content and meaning to the words ‘public interest’ as used in the Federal Power and Natural Gas Acts, it is necessary to look to the purposes for which the Acts were adopted. In the case of the Power and Gas Acts it is clear that the principal purpose of those Acts was to encourage the orderly development of plentiful supplies of electricity and natural gas at reasonable prices.”9 Furthermore, the Supreme Court also stated that the “primary aim” of the NGA is “to protect consumers against exploitation at the hands of natural gas companies.”10

To this point, in 2012, the DOE released a report entitled “Macroeconomic Impacts of LNG Exports from the United States.”11 The report illustrates how natural gas companies exploit U.S. consumers by exporting LNG. Figure 1 below is from page 8 of the report. You will note that the only entities that benefit from LNG exports are a small sliver of the U.S. economy, namely producers and exporters of natural gas, while everyone else, while 323 million citizens are negatively impacted.

Page 7 of the report states that, “Expansion of LNG exports has two major effects on income: it raises energy costs and, in the process, depresses both real wages and the return on capital in all other industries.” Please also note that for volumes of 12 Bcf/d of LNG exports, it only contributes $20 billion to the economy in 2020 and decreases each year thereafter, while the negative impacts to consumers increases through 2030 before it levels off.

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The vast majority of LNG is consumed by countries that do not have a free trade agreement with the U.S. It is inconsistent with the public interest to export LNG to NFTA countries.

Most U.S. shipped LNG is purchased by countries with which the U.S. does not have an FTA. From February 2016 to September 2018, 50.1 percent of U.S. LNG was shipped to NFTA countries. These are countries that discriminate against U.S. manufacturing and farm products. Yet, we are shipping them a non-renewable vital resource for which every American consumer does not have an alternative. And, the DOE LNG export studies make clear that exporting LNG lowers the price of natural gas, especially to Asian countries. Page 8 of the 2015 DOE LNG report it states, “In every case, greater LNG exports raise domestic prices and lower prices internationally. The majority of the price movement (in absolute terms) occurs in Asia.” Page 8 of this study also states that LNG exports creates declines in manufacturing and especially in energy-intensive industries, such as: chemicals, plastics, steel, aluminum, paper, refining, glass, cement, and food processing.

4. DOE’s approval of LNG exports for 20 to 30 years is a firm legal commitment to foreign countries LNG buyers. Where is the commitment to protect U.S. consumers?

The Federal Register states, “As a preliminary matter, DOE/FE wishes to allay concerns about the security of existing (or future) non-FTA export authorizations. In this policy statement, DOE/FE affirms its commitment to all export authorizations issued under the NGA, including long-term authorizations approving the export of LNG to non-FTA countries. As indicated above, DOE/FE

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currently has issued 29 final non-FTA export authorizations, based on a thorough consideration of the public interest under section 3(a) of the NGA.”13

“However, DOE does not foresee a scenario where it would rescind one or more non-FTA authorizations. The United States government takes very seriously the investment-backed expectations of private parties subject to its regulatory jurisdiction. In particular, DOE understands the far-ranging economic investments and natural gas supply commitments associated with these authorizations over their full term—affecting both U.S. and global interests. DOE emphasizes that it remains committed to the durability and stability of the export authorizations it has granted under the NGA, as well as to supporting the approved export of U.S. natural gas around the world.14

5. The international LNG market is not a free market. It is for this reason that it is sound public policy to place limits on export volumes to levels that assure LNG exports will not increase domestic prices or impact reliability.

Government limitations to LNG exports is in the public interest because natural gas is a non-renewable resource, U.S. consumers do not have an alternative, and the LNG market is not a free market. The LNG market buyers are countries—not companies or consumers (homeowners, farmers, businesses). The entities buying LNG are government backed state-owned enterprises (SOEs) and utilities who have automatic cost pass-through. Because they are countries, their responsibility is to ensure that sufficient supplies are purchased to keep the lights on at home and factories running. What this means is that, if necessary, they will pay any price, no matter how high, to supply their country’s needs. In the future times when there are limits to supply capacity, this could pit countries against the U.S. consumer. Many countries who buy LNG also subsidize their manufacturing sector by not passing through the real costs of the purchased LNG, and regulate the price.

In December 2018, LNG World News report stated, “The major LNG buyers – CNOOC, CPC, JERA, KOGAS, PetroChina, Sinopec and Tokyo Gas – together account for more than 50 percent of the global LNG market.”15 Four out of six are Chinese SOEs.

CNOOC (China National Offshore Oil Corporation, or CNOOC Group, is a major national oil company in China. It is the third-largest national oil company in the People’s Republic of China, after CNPC and China Petrochemical Corporation.)

CPC (China Petrochemical Corporation or Sinopec Group is the world’s largest oil refining, gas and petrochemical conglomerate, administered by SASAC for the State Council of the People’s Republic of China.)

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14 Federal Register/Vol. 83 No. 120/Thursday, June 21, 2018, page 28843
JERA (JERA Co., Inc.; Parent organizations: Tokyo Electric Power Company, Chubu Electric Power)

KOGAS (Korea Gas Corporation is a South Korean public natural gas company that was established by the Korean government in 1983. KOGAS has grown into the largest LNG-importing company in the world and operates four LNG regasification terminals and natural gas pipelines in South Korea.

PetroChina (PetroChina Company Limited is a Chinese oil and gas company and is the listed arm of state-owned China National Petroleum Corporation. It is China’s second biggest oil producer.

Sinopec (China Petroleum & Chemical Corporation, or Sinopec, is a Chinese oil and gas enterprise based in Beijing, China.

Tokyo Gas (Tokyo Gas Co., Ltd., founded in 1885, is the primary provider of natural gas to the main cities of Tokyo, Kanagawa, Saitama, Chiba, Ibaraki, Tochigi, Gunma, Yamanashi, and Nagano. As of 2012, Tokyo Gas is the largest natural gas utility in Japan.)

6. DOE has not addressed vital short- and long-term risks to consumers and the economy that are core issues in considering whether an LNG export application is consistent with the public interest.

   a. Failure to consider pipeline and storage capacity risks for existing and future constraints (and at peak demand), and their cost and reliability impacts.

The DOE, nor the Federal Energy Regulatory Commission (FERC), has completed a study to consider existing and future limitations in natural gas pipeline and storage infrastructure capacity and maximum deliverability capacity needed to supply the U.S. market at peak demand and export LNG. Peak demand occurs in winter and summer months. All of the DOE LNG export studies used to justify approval of LNG applications to export assume that pipeline and storage capacity will be adequate, despite the fact that constraints already exist and the ability to build-out new pipeline capacity is threatened by multiple legal and public opposition headwinds.

The question of whether there is adequate pipeline capacity at peak demand is extremely important because the majority of LNG export buying countries are located in the Northern Hemisphere. This means that they have winter when we do. Their highest demand for buying U.S. LNG is when U.S. consumers have peak demand. The largest LNG importing countries are China, South Korea, Japan, and the EU.

LNG exports reduce the availability of pipeline capacity to domestic consumers. As more and more LNG export terminals are operational, the pipeline capacity used to feed these terminals are no longer available to U.S. consumer. And, there is evidence that LNG export terminals that need bank financing to construct the export terminal are required to have firm natural gas pipeline capacity available at all times to load the LNG export ships. If this is true, it means that these companies are not releasing their firm pipeline capacity to the market when they do not need it, thereby reducing the availability of pipeline capacity to U.S. consumers.
There are recent past winters where, for example, natural gas-fired power generation units and manufacturing companies have been unable to get the gas they need to operate due to pipeline capacity limitations. For power generators, this creates a reliability issue for electric consumers. For manufacturing, cutting back or shutting down can cost tens of millions of dollars per day per facility. LNG exports can compound these events.

b. Failure to consider resulting higher marginal prices for natural gas and electricity consumers.

The DOE LNG export studies used to justify approval of LNG export applications never considered its impact on the marginal price of natural gas and electricity. This is important any time of the year, but especially at peak summer and winter demand periods. The net effect of not doing so results in lower forecasted prices under macroeconomic LNG export scenarios.

c. Failure to address cumulative demand versus availability of natural gas resources.

In March 2018, IECA released a report which compares the U.S. Energy Information Administration’s (EIA) AEO 2018 cumulative demand through 2050 to EIA’s estimates of technically recoverable natural gas resources in the lower 48. Doing so illustrates that this demand would consume 69 percent of all resources. And, EIA has LNG exports peaking at only 14.5 Bcf/d. A very conservative forecast. While over time resources have been increasing, forecasted demand is outstripping new resources growth. IECA did the same analysis using EIA AEO 2017 demand. That analysis concluded that 57 percent of all resources would be consumed. We anticipate that AEO 2019 will show substantially higher and faster consumption of available resources.

d. Failure to consider the uncertain nature of technically recoverable natural gas resources.

It is also important to keep in mind that technically available resources do not mean that they are economical to produce. To this point, the natural gas industry’s Potential Gas Committee’s most recent report of July 2017\(^\text{16}\) states that 58 percent of all natural gas resources are classified as either possible (new fields) or speculative (frontier fields), which adds more uncertainty that these resources may not produce low-cost natural gas. All DOE LNG export reports assume that this natural gas is economical to produce when no one really knows because no one has ever drilled a well in these new fields or frontier fields.

e. Failure to consider future political decisions such as limit to acreage available for drilling, regulations on water or hydraulic fracturing that could increase costs that must be recovered in higher prices of natural gas, thereby increasing consumer risk.

We have Presidential elections every four years that can change everything. As we have seen with some past Administrations, there were regulatory actions to limit access to federal lands for drilling and regulations to control drilling processes that increase the cost of production. A

new Administration could inflict all of these and more thereby increasing natural gas costs and prices. States have and will continue to take action to limit drilling. The DOE report used to justify LNG export applications do not consider these risks to consumers.

f. Failure to consider that the majority of producers of natural gas do not have a positive cash flow business which means prices have to go up.

In September 2018, the New York Times released a story entitled, “The Next Financial Crisis Lurks Underground.” It states that the fracking industry is on shaky financial ground and have not proved they can make money. The 60 biggest exploration and production firms are not generating enough cash from their operations to cover their operating and capital expenses. In aggregate, from mid-2012 to mid-2017, they had negative free cash flow of $9 billion per quarter.”17 This is not sustainable long-term. Wall Street is concerned about the indebtedness of producers. Investors demand certain ROE’s to continue to invest or lend money for drilling more wells. The fact that interest rates are also increasing puts further pressure on costs. Combined, this means that the price of natural gas must rise. DOE LNG studies do not address this fundamental issue.

g. Failure to consider that gas producing companies are consistently overestimating well production, which leads to higher natural gas resources estimates than are available for the future.

In January 2019, the Wall Street Journal released a story entitled, “Fracking’s Secret Problem—Oil Wells Aren’t Producing as Much as Forecast.”18 The story is equally telling because it provides hard facts that data analysis reveals thousands of locations are yielding less than their owners projected to investors, illusory picture of prospects. And, well production rates are used to forecast resource estimates used by the EIA and all others.

Thousands of shale wells drilled in the last five years are pumping less oil and gas than their owners forecast to investors, raising questions about the strength and profitability of the fracking boom that turned the U.S. into an oil superpower.

The Wall Street Journal compared the well-productivity estimates that top shale-oil companies gave investors to projections from third parties about how much oil and gas the wells are now on track to pump over their lives, based on public data of how they have performed to date.

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17 The Next Financial Crisis Lurks Underground, New York Times, September 1, 2018
18 “Fracking’s Secret Problem—Oil Wells Aren’t Producing as Much as Forecast,” Wall Street Journal, January 2, 2019, https://www.wsj.com/articles/frackings-secret-problem-oil-wells-arent-producing-as-much-as-forecast-11546450162?emailToken=a83066aebe513ddd3dfb2884e46f03a2E51ZQs+dQXSXmYA/3dmjTGk92FGrXVXm7YsOKKPrvQkyy3d8hn08JzR8FeUvGp7cHI/sdfpxuOdxzx1Bqz75JNXUgXx2GnxFLBsdMnCWF2IPz1zknNveMW3XGN8lad2VngyXbxzw79Pc8IaAMMoHQTQ3D%3D&reflink=article_email_share
“Two-thirds of projections made by the fracking companies between 2014 and 2017 in America’s four hottest drilling regions appear to have been overly optimistic, according to the analysis of some 16,000 wells operated by 29 of the biggest producers in oil basins in Texas and North Dakota.

“Collectively, the companies that made projections are on track to pump nearly 10% less oil and gas than they forecast for those areas, according to the analysis of data from Rystad Energy AS, an energy consulting firm. That is the equivalent of almost one billion barrels of oil and gas over 30 years, worth more than $30 billion at current prices. Some companies are off track by more than 50% in certain regions.

“There are a number of practices that are almost inevitably going to lead to overestimates.”

h. Failure to consider that foreign consumers of U.S. LNG exports are receiving the benefits of using our infrastructure that is paid for by U.S. consumers, without paying for it. Their use of this infrastructure increases our costs.

LNG exports use of U.S. infrastructure increasing the costs to all U.S. consumers. DOE has failed to consider these costs nor is this in the public interest.

7. The United States Trade and Development Agency (USTDA) is using federal tax dollars (or taxpayer money) to fund and promote LNG exports to importing countries.

We urge your support to stop the use of federal tax dollars to promote the export/import of U.S. LNG by the USTDA. This is corporate welfare and certainly not in the public interest. According to a news story entitled, “When it Comes to Natural Gas, US ‘Open for Business’”¹⁹ the USTDA has funded 13 projects in 20-plus countries.

According to the story, USTDA has received more than 40 gas-related proposals this year, including a floating gas processing unit on China’s east coast facility. Other spending included help to supply LNG to Morocco, Spain and Portugal, a gas-fired power plant in Egypt, and gas terminals in Honduras and Romania. If it is in the interest of those countries to import LNG, they should be willing and able to fund their own efforts.

In November of 2017, the USTDA, oil and natural gas industries, LNG export industries, and the U.S. Chamber of Commerce launched the “U.S. Infrastructure Exports Initiative.”²⁰ We mention this only to reinforce the extremely high level of momentum behind the push to export unlimited volumes of LNG globally for which U.S. consumers are unaware and unprotected.

For all of the above reasons, we urge you to urgently act to protect the interest of the public and our economy. It is the shale gas revolution that has created the manufacturing renaissance. And, we are about to ship away our economic advantage to other countries.

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The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with $1.0 trillion in annual sales, over 3,700 facilities nationwide, and with more than 1.7 million employees worldwide. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, brewing, independent oil refining, and cement.