



Comments of the Institute for Energy Economics and Financial Analysis to the U.S. Department of Energy Office of Fossil Energy and Carbon Management regarding FECM Docket No. 23—109—LNG, the Southern LNG Company, L.L.C. request to increase exports by 28.25 Bcf per year, and the economic impact of such domestically.

December 20, 2023

The Institute for Energy Economics and Financial Analysis (IEEFA), a nonprofit organization focused on research and analysis of global energy markets and trends, provides the following comments to address the inadequate examination of economic and energy policy questions related to the export of liquified natural gas (LNG) as proposed by the Southern LNG Company. Specifically, our comments are intended to address information that, to our knowledge, the U.S. Department of Energy Office of Fossil Energy and Carbon Management (DOE/FECM) has not considered in its interpretation of what is “not inconsistent with the public interest.”¹

The Southern LNG Company, LLC (a wholly owned subsidiary of Kinder Morgan) is requesting authorization from DOE to export an additional 28.25 billion cubic feet (Bcf) per year via its existing Elba Island LNG terminal, which would raise its authorized export capacity per year from 130 Bcf/y to about 158.25 Bcf/y. IEEFA recommends denying this request because the additional LNG exports will cause higher domestic energy prices, which is clearly not in the public interest.

U.S. Consumers Remain Pinched By Global Energy Price Shocks Long After Market Conditions Subside

While inflation has eased across some of the U.S. economy, home heating remains a sore spot. Bloomberg reports that natural gas and electricity bills have gone up 29% and 25%, respectively, since the beginning of 2020, even though wholesale prices for U.S. natural gas mirror prices before the Russian invasion of Ukraine.²

Many residential utilities are charging their customers near-record fees for gas. As of August, the most recent month for which comprehensive national data is available, residential gas prices had just started to ease, but remained well above their average for the previous decade. In 10 states, residential gas prices were at record levels during August 2023.

Notably, those states included West Virginia and Ohio—the epicenter of Appalachia’s gas production boom—and provide concrete evidence that producing large amounts of gas locally doesn’t always keep utility bills down.

Utilities and regulators have been quite explicit about the role gas exports have played in boosting costs for their customers. Such conditions also prompted the Federal Energy Regulatory Commission (FERC) to warn in late 2022 that “continued growth in net exports,

¹ 15 U.S.C. § 717b(a).

² Bloomberg. Just How Bad Is the US Cost-of-Living Squeeze? We Did the Math. November 27, 2023. <https://www.bloomberg.com/graphics/2023-inflation-economy-cost-of-living/>

including from liquefied natural gas (LNG) export facilities, will place additional pressure on natural gas prices.”³

Influence of LNG Exports Over Local Gas Prices Is Unanimously Supported

Three studies are used by DOE and FERC to consider the cumulative economic impacts of exporting domestically produced LNG. They are the 2014 Energy Information Administration (EIA) LNG Export Study, the 2015 LNG Export Study, and the 2018 LNG Export Study by the Department of Fossil Energy and Carbon Management.^{4,5,6} All three studies acknowledge that growth of LNG exports will result in higher domestic natural gas prices. Incongruent assumptions exist in these studies, however, that downplay the nature of this inflation.

The studies do not consider current market conditions, with a number of LNG export construction projects already under way and increasingly oversupplied LNG market conditions looming. Through September 2023, the United States was exporting 11.6 Bcf/day via LNG carriers.⁷ Sites under construction along with authorized plans to build new or expand existing terminals point to a doubling of current LNG export levels by 2028.

The studies were conducted while natural gas prices were falling due to oversupplied conditions. The oversupplied conditions stemmed from the industry’s adoption of hydraulic fracturing (fracking). As fracking became more common, traders began referring to the possibility of low prices caused by excess supply as “lower for longer.” As the excess supply increased, the phrase evolved to “lower forever.”

Examples of Industry Reporting LNG Export Volumes Influencing Domestic Prices

The June 8, 2022, Freeport LNG explosion is an example of domestic natural gas prices reacting to lower LNG export levels. The effect of removing Freeport’s feed gas demand of about 2 Bcf/day caused the natural gas futures market to fall by 16% on the news.⁸

Statements by natural gas utilities Spire and Rocky Mountain Power point to increasing LNG exports supporting higher natural gas prices. Spire on its website told customers that “recent international events impacting the global supply of natural gas mean it costs more for Spire to

³ FERC. Winter Energy Market and Reliability Assessment: 2022-2023. October 20, 2022. <https://www.ferc.gov/media/report-2022-2023-winter-assessment>

⁴ EIA. Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets. October 29, 2014. <https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf>

⁵ Center for Energy Studies. The Macroeconomic Impact of Increasing U.S. LNG Exports. October 2015. <https://www.bakerinstitute.org/research/macroeconomic-impact-increasing-us-lng-exports>

⁶ NERA Economic Consulting. Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports. June 7, 2018. [https://www.energy.gov/sites/prod/files/2018/06/f52/Macroeconomic LNG Export Study 2018.pdf](https://www.energy.gov/sites/prod/files/2018/06/f52/Macroeconomic_LNG_Export_Study_2018.pdf)

⁷ DOE Office of Fossil Energy and Carbon Management. LNG Monthly 2023. November 15, 2023. <https://www.energy.gov/fecm/articles/lng-monthly-2023>

⁸ CNBC. Natural gas plummets as Freeport delays facility restart following explosions. June 14, 2022. <https://www.cnbc.com/2022/06/14/natural-gas-plummets-as-freeport-delays-facility-restart-following-explosion.html>

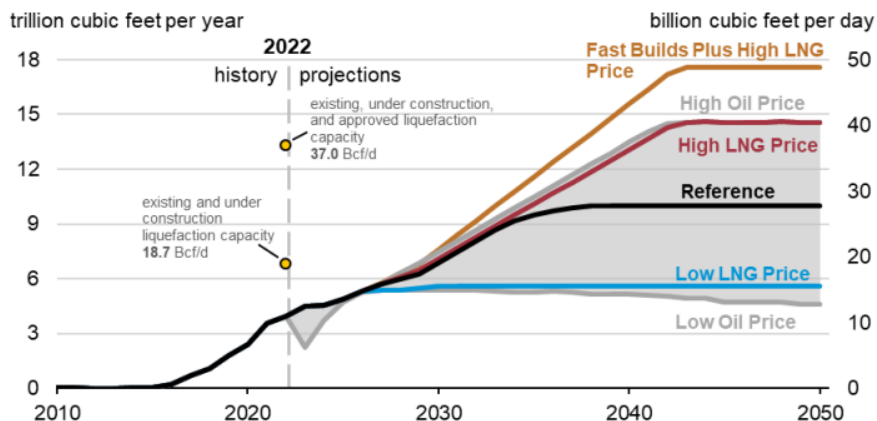
purchase natural gas for our customers.”⁹ Similarly, public testimony by Ramon J. Mitchell of Rocky Mountain Power to the Wyoming Public Service Commission elaborated on why natural gas prices have increased since June 2020. Mr. Mitchell said that “the primary driver is the conflict in Ukraine which has decreased European availability of natural gas, previously sourced from Russian imports. With decreased European supply, the associated European demand has turned to U.S. domestic supply to fill the gap and the increased competition over domestic supply has driven regional natural gas fuel prices upwards ...”¹⁰

Similar Conclusions and Similar Mistakes

A May 2023 analysis by the U.S. Energy Information Administration (EIA) also concurs with conclusions that rising LNG exports tend to raise local prices for natural gas. The EIA observed, “[M]odel results showed that higher LNG exports results in upward pressure on U.S. natural gas prices and that lower U.S. LNG exports results in downward pressure.”¹¹

Figures 1 and 2 were taken from the EIA’s Annual Energy Outlook 2023 Issues in Focus report.¹² In Figure 1, which provides various LNG export scenarios, each scenario through 2027 incorporates the U.S. LNG export projects that were either operating or under construction as of August 2022.

Figure 1: U.S. Liquefied Natural Gas (LNG) Exports, AEO2023



Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2023 (AEO2023)* and *LNG Capacity Tracker*

Note: Existing, under construction, and approved LNG capacities are baseload capacities. Shaded regions represent maximum and minimum values for each projection year across the AEO2023 Reference case and side cases.

⁹ Spire. Understanding your bill. Website visited November 8, 2023.

<https://www.spireenergy.com/understanding-your-bill>

¹⁰ Rocky Mountain Power. Application of Rocky Mountain Power for the authority to increase its retail electric service by approximately \$140.2 per year or 21.6 percent and to revise the energy cost adjustment mechanism. March 2023.

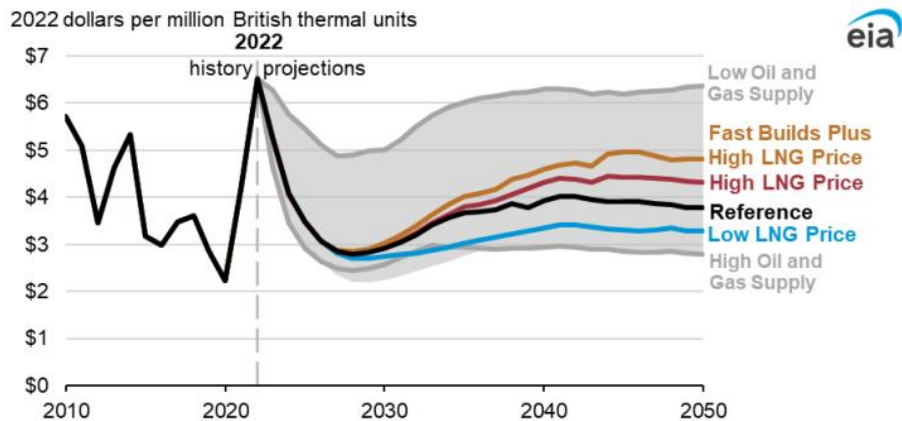
https://www.rockymountainpower.net/content/dam/pcorp/documents/en/rockymountainpower/rates-regulation/wyoming/filings/docket-20000-___-er-23/3-1-23-application---direct-testimony/10_Ramon_J_Mitchell_Direct_Testimony_and_Exhibits.pdf

¹¹ EIA. AEO2023 Issues in Focus: Effects of Liquefied Natural Gas Exports on the U.S. Natural Gas Market. May 2023. https://www.eia.gov/outlooks/aeo/IIF_LNG/pdf/LNG_Issue_in_Focus.pdf

¹² *Ibid.*

Figure 2 provides the price projections coinciding with each scenario. EIA developed both the LNG export capacity and natural gas spot price projections using its National Energy Modeling System (NEMS).

Figure 2: Natural Gas Spot Price at the Henry Hub, AEO2023



Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2023* (AEO2023)
 Note: Shaded regions represent maximum and minimum values for each projection year across the AEO2023 Reference case and side cases.

All scenarios follow the assumptions that greater export levels yield higher domestic spot gas prices and vice versa. But the old sentiment surrounding low natural gas prices due to excess domestic supply may be a rooted fixture in the recent EIA projections, too. Anchoring to this old assumption may help explain how, over a 28-year span, future natural gas prices do not exceed 2022 prices in the EIA’s projections. This is hard to fathom, though, considering historically since 1998 domestic natural gas prices have surged by more than 50% over the prior year’s average in five out of 25 years.

The EIA also is modeling a harsh slump in domestic natural gas prices after 2022 through 2028, but it projects that LNG export levels will grow rapidly over the same time span. And between 2022 and 2050, the reference case projections have natural gas prices falling by more than 10% per annum four times and prices never increasing by more than 10% over the previous year—another anomaly compared to historical patterns.

The EIA is also modeling an annual growth rate of negative 1.8% through 2050 for domestic natural gas prices. The inconsistency between how the EIA’s modeling and projections behave (with domestic natural gas prices falling while LNG exports rise), and how the EIA and other economists agree the market behaves (where there is a direct relationship between export levels influencing local prices) is baffling. Were this incongruity explained by oversupplied market conditions, then that assumption begs the question: “Why are more U.S. LNG export terminals necessary?”

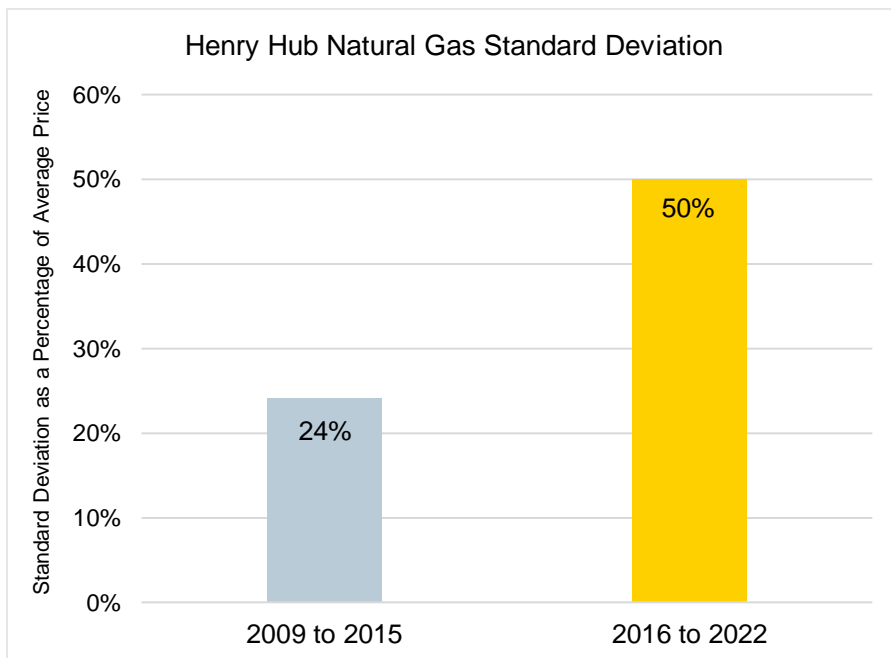
Collectively, these dichotomies are a definitive example of the EIA downplaying the influence of the competition for resources, in this case natural gas, and its effect on domestic spot prices. Neither DOE nor the EIA should be using analysis that begins with a contradiction to its own assumptions as a condition for modeling future supply and demand for either natural gas or LNG exports.

Price Volatility Levels Are Tied to LNG Export Levels

Lessons learned from Australia, one of the world's top three exporters of LNG, could provide a clear analog of what consumers in the U.S. should expect as LNG exports increase. Higher LNG exports in Australia have led to increased volatility in domestic gas prices.^{13, 14}

A comparison of domestic long-term natural gas price action illustrates this pattern, which is presently occurring in the United States. Exposing the U.S. local natural gas markets to global prices, through the initiation of LNG exports, causes local price fluctuations to respond to global conditions.

Figure 3: Natural Gas Price Volatility Pre- and Post-LNG Export Commencement in U.S.

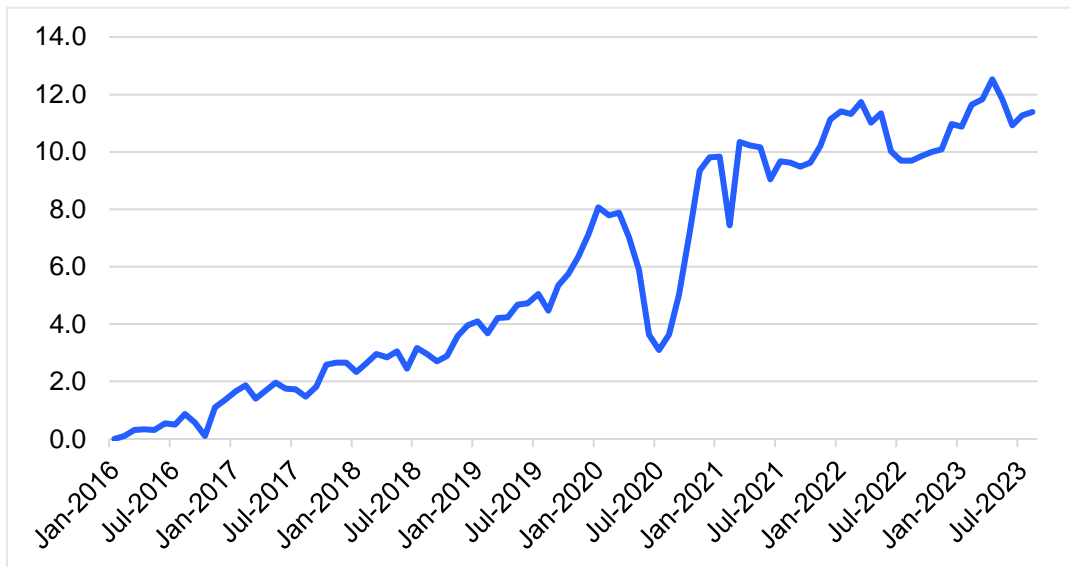


Source: EIA.

¹³ Baker Institute. Why Natural Gas Price Caps in Australia are Poor Policy. February 7, 2023. <https://www.bakerinstitute.org/research/why-natural-gas-price-caps-australia-are-poor-policy>

¹⁴ IEEFA. LNG exports may spell trouble on horizon for U.S. consumers. April 24, 2023. <https://ieefa.org/resources/lng-exports-may-spell-trouble-horizon-us-consumers>

Figure 4: Ramp of U.S. LNG Exports Over Time (Bcf/day)



Source: EIA.

Between 2009 and 2015 (the seven years before the United States began its current practice of exporting LNG), volatility for Henry Hub natural gas prices measured 24% standard deviation based on the average spot price for the corresponding period. In the subsequent seven years, as LNG exports ramped up, U.S. natural gas prices experienced volatility that doubled to 50% of the average spot price. Simply put, the trade-off for exporting LNG is the importation of global price swings.

Exporting LNG Hurts Future Electric Vehicle Sales

A stance favoring higher domestic natural gas prices is effectively a prescription DOE writes by its authorization of additional LNG exports—a prescription that is at odds with DOE’s objectives of supporting the growth of electric vehicle usage across the domestic fleet.

The single largest fuel source used for generating U.S. electricity is natural gas. Inflated natural gas prices lead to inflated electricity bills, which then lead to higher costs to operate electric vehicles. Decisions to add LNG export capacity will suppress the economic benefits of driving electric vehicles (i.e., lower operating costs). The result is slower growth for an industry DOE has stated is very important to its goals to decarbonize the transportation sector. By signing off on LNG exports, DOE is undermining the impact of billions of dollars it is spending to stimulate and promote the growth of the EV industry.

Conclusion

The studies DOE relies on to support the position that LNG exports align with public interest all predict that greater exports yield higher prices for natural gas domestically through the more potent linkage to global markets. The magnitude of the impact on domestic households, however, appears either downplayed or completely overlooked.

U.S. ratepayers should brace themselves for more volatility. For decades, domestic gas markets have been largely insulated from global price movements. There simply was no way for price contagion abroad to spread to local gas markets without exports.

Today, LNG exports tie us to the volatility of international markets and their higher prices. A cold snap in Asia, unrest in the Middle East, or another key gas pipeline failure abroad could cause a surge in demand for U.S. LNG exports, which would then put upward pressure on U.S. gas prices. Protecting the public by preventing the situation from getting worse is simple: DOE should curtail new gas export projects.