

**TESTIMONY OF
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U.S. DEPARTMENT OF ENERGY
BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
REGARDING
LIQUEFIED NATURAL GAS APPLICATIONS AND EXPORTS
FEBURARY 8, 2024**

Chairman Manchin, Ranking Member Barrasso, and distinguished Members of the Committee, thank you for the opportunity to be with you today to discuss the Department of Energy (DOE)'s recent announcement regarding the public interest determination of liquefied natural gas (LNG) export applications.

Congress, through the Natural Gas Act, has given DOE the responsibility to evaluate whether authorizations for the export of LNG to non-free trade agreement (FTA) countries is consistent with the "public interest." Accordingly, DOE has long reviewed proposed exports using a variety of market, economic, national security, and environmental considerations – including greenhouse gas emissions like carbon dioxide (CO₂) and methane.

DOE, as an organization that is guided by science and data, periodically updates our environmental and macroeconomic studies that help guide the public interest determination for each individual application. The most recent macroeconomic analysis was finalized in 2018, just two years after the first export of U.S. LNG.

Since 2018, there have been truly transformative changes that need to be fully incorporated in our analysis. And, in turn, this updated analysis will allow us to better address a wide variety of key questions that need to be answered for us to make public interest determinations.

First, the amount of U.S. natural gas that is being exported has dramatically increased, and we need to answer how authorizing exports beyond these unprecedented volumes could impact affordability for U.S. consumers and competitiveness of U.S. manufacturing. Second, our understanding of CO₂ and methane's effect on climate change have only become sharper, and we need to further improve our analytical tools to answer a range of questions about LNG exports' climate and environmental consequences, both near and longer term. Third, increased deployment of clean energy is driving updated estimates of fossil fuel demand and usage over time; and we need to understand how the latest regional and global trends will impact our own energy security as well as that of our allies.

Accordingly, on January 26, 2024, DOE announced that we are undertaking a major review of our analysis that helps support the determination of when exports of LNG are in the public interest. While the update to our assessment process is being completed, DOE will pause determinations on all pending applications for export of LNG to non-FTA countries. (There is an exception to this pause for unanticipated and immediate national security emergencies.) Applications for exports to FTA countries are still automatically deemed in the public interest pursuant to the statutory language of the Natural Gas Act.

DOE will partner with our National Laboratories on this analysis, which, once updated, will be officially shared for public comment before it is finalized. We very much appreciate in advance all stakeholders – on all sides of this issue – in taking this public comment opportunity seriously and submitting your feedback.

It is also critical to underscore what this review is *not*. It is *not* a retroactive review of already authorized exports. It will *not* affect our ability to supply our allies. And it is *not* an unprecedented step. In fact, DOE has repeatedly updated our analyses to enable the Department to carry out our statutory responsibility to determine whether authorizations are in the public interest, including a time in the past when we also paused reviews while we updated our analysis.

This most recent analytical update is a necessary and prudent action that will ensure the most up-to-date macroeconomic and environmental analyses are being utilized for our public interest determinations, especially in light of transformational changes since 2018.

DRAMATIC LNG EXPORT INCREASES

The LNG market has changed dramatically over a very short number of years:

- In 2018 – when DOE’s economic analysis was last updated – U.S. LNG export capacity was less than 4 billion cubic feet per day (Bcf/d).
- Today, our export capacity has more than tripled to 14 Bcf/d, making the United States the world’s largest LNG exporter.
- By 2030, when another 12 Bcf/d of U.S.-sourced LNG export capacity that is already authorized and under active construction pursuant to final investment decisions is set to come on-line, we expect a total of up to 26 Bcf/d being exported from the United States.
- A grand total of 48 Bcf/d has already been authorized, which is nearly half of total current U.S. natural gas production (104.4 Bcf/d).

Let me underscore – the United States has already tripled our export capacity in just five years, becoming the world’s largest LNG exporter; our capacity may nearly double again by 2030; and total exports already authorized would nearly double that total again.

ECONOMIC IMPACTS, INCLUDING TO U.S. CONSUMERS AND MANUFACTURERS

To best inform our public interest determinations, our updated economic analysis aims to ensure that we are accurately capturing the full economic impacts of LNG exports to all American consumers and manufacturers.

There is no doubt that a substantial number of jobs have been created from these dramatic increases in LNG exports. There have also been substantial economic benefits to importing countries.

At the same time, we also need to examine questions about potential price impacts to all U.S. consumers and industry from LNG exports. In 2022, the Federal Energy Regulatory Commission (FERC)'s 2022-23 Winter Energy Market and Reliability Assessment predicted that "continued growth in net exports, including from liquefied natural gas (LNG) export facilities will place additional pressure on natural gas prices."¹ In the recent past, potential price impacts have also been reflected in requests from utilities across the country, who have filed regulatory requests to raise rates for natural gas, citing availability constraints as a result of higher global demand and U.S. exports.²

The Energy Information Administration (EIA)'s 2023 long-term outlook³ found that as the U.S. exports more LNG, global and domestic prices converge and that "higher LNG exports create a tighter domestic natural gas market (all else held equal), increasing domestic natural gas prices." The benchmark U.S. natural gas price averaged \$2.53 per million British thermal units (mmBtu) in 2023; benchmark prices in Europe and Asia were five to six times higher than U.S. prices.

Furthermore, natural gas prices have been relatively stable in the U.S. compared to European and Asian markets, where benchmark prices for natural gas have been about 50-100% more volatile. Rigorous analysis needs to consider how expanding U.S. natural gas export capacity to the level already permitted today and perhaps beyond could inject domestic natural gas markets with this kind of exposure to volatility and increasing prices, and how that could impact American households and manufacturers. We need to be particularly focused on potential cost increases for lower-income Americans who can least afford it.

We should also be mindful of how expanding LNG supply aligns with global gas demand. EIA's reference case for U.S. LNG exports in 2050 expects exports to be at 27.3 Bcf/d, which closely tracks the 26 Bcf/d of U.S. LNG export capacity already expected to be operational in 2030.⁴ According to S&P Global⁵, overall LNG supply growth from around the world could outpace demand growth over the next five years, leading to an increasing risk of an oversupplied market in the second half of this decade.

¹ [Report | 2022-2023 Winter Assessment | Federal Energy Regulatory Commission \(ferc.gov\)](#)

² [Natural-Gas Exports Lift Prices for U.S. Utilities Ahead of Winter - WSJ](#)

³ [EIA Annual Energy Outlook 2023 - U.S. Energy Information Administration \(EIA\)](#)

⁴ [EIA Annual Energy Outlook 2023 - U.S. Energy Information Administration \(EIA\)](#)

⁵ [S&P Global - LNG](#)

CLIMATE AND ENVIRONMENTAL IMPACTS – NEAR AND LONGER TERM

Since 2019 – when DOE last published estimates of the lifecycle greenhouse gas impacts of U.S. LNG exports⁶ – our understanding of the economic and human impacts from climate change has only sharpened:

- In 2019, there were 14 weather and climate disaster events with losses exceeding \$1 billion each across the U.S., costing Americans an estimated \$45 billion.⁷
- In 2023, there were 28 weather and climate disasters exceeding \$1 billion each, costing Americans over \$92.9 billion.⁸ 500 Americans lost their lives due to these disasters.
- Analysis by the Office for Management and Budget found that climate change could lead to Federal revenue losses of up to \$2 trillion per year.⁹

Our updated climate and environmental analysis will not only incorporate all the latest science and data on real-world impacts from climate change, but it is also specifically aimed to provide us greater tools to analyze the overall environmental impact of additional volumes of LNG exports over the short-, medium-, and long-term.

On the upstream side, we need to have a particular focus on methane leakage. Global methane emissions contributed over 30% of human-caused warming between 2010 and 2019.¹⁰ While some oil and gas companies have made significant progress in reducing methane leakage, overall U.S. methane emissions in the oil and gas sector still account for over 20% of U.S. methane emissions. As a point of reference looking ahead, methane emissions need to be reduced roughly a third by 2030 to limit the global warming increase to 1.5 degrees Celsius.¹¹

On the downstream part of the equation, we need better tools and analysis to understand the impact of additional volumes of U.S. LNG exports, both in the near-term, and, especially, over the long-term. It is particularly important to note that DOE authorizations of LNG exports to non-FTA countries are valid through 2050.

For a variety of reasons, including the unprecedented build-out of clean energy, the most recent International Energy Agency (IEA) reference scenario shows global demand for natural gas peaking this decade. In the IEA Announced Pledges Scenario (which assumes countries will achieve their various announced goals), global demand for natural gas decreases 4% by 2030 and 37% by 2050. In the IEA Net Zero Emissions scenario, global LNG demand falls 75% to 2050,

⁶ [2019 NETL LCA-GHG Report.pdf \(energy.gov\)](#)

⁷ [NationalReport \(weather.gov\)](#)

⁸ [2023: A historic year of U.S. billion-dollar weather and climate disasters | NOAA Climate.gov](#)

⁹ <https://www.whitehouse.gov/omb/briefing-room/2022/04/04/quantifying-risks-to-the-federal-budget-from-climate-change/>

¹⁰ [IPCC AR6 SYR LongerReport.pdf](#)

¹¹ [The evidence is clear: the time for action is now. We can halve emissions by 2030. — IPCC](#)

from 46 bcf/d to about 12 bcf/d. Both the Announced Policies and Net Zero scenarios see a glut of LNG capacity forming by the middle of this decade.¹²

Our analytical update will also evaluate how best to integrate environmental risks to the health of front-line communities. As we continue to solicit feedback from all stakeholders, we are particularly eager to hear from those communities most directly impacted by LNG export facilities. We also commit to collaborating and sharing information with our federal agency partners on this matter.

NATIONAL SECURITY IMPLICATIONS; SUPPORTING OUR ALLIES

Put simply, this temporary pause to update our analyses will not impact our ability to supply our allies with LNG. This pause on additional approvals does not interfere with current exports nor other projects already authorized or under construction. Recall that U.S. LNG exports are already expected to double by the end of this decade.

The European Commission has stated that this pause “will not have any short- or medium-term impact on the EU's security of supply¹³” (emphasis added). Since Russia’s invasion of Ukraine, the United States has exceeded all commitments of additional LNG supplies to Europe. Last year, over 60% of U.S. LNG exports went to Europe. We have also worked with our European allies to economize consumption and manage storage to ensure Russia cannot threaten their natural gas supplies. It is important to highlight that IEA’s most recent Medium-Term Gas Report shows that OECD Europe’s natural gas demand is forecast to decline 20% from 2021 to 2026.¹⁴

We also appreciate the importance of our exports to key allies in Asia such as Japan and the Republic of Korea,¹⁵ noting that they are among the top importing countries of U.S. LNG. A significant portion of their economies are dependent on imports, and we will continue to supply them with the energy that they need. LNG demand in the Republic of Korea is expected to peak by 2030 and demand in Japan has already peaked, as both countries make advances toward their net-zero climate targets.¹⁶

In making public interest determinations, we must also understand with more clarity the longer-term demand centers for LNG across the globe. Given this Committee’s past interest in these topics, it is informative to highlight that China’s demand for LNG is expected to increase 65% from 2024 to 2030. From 2021-2023, Chinese imports of LNG from global sources averaged over 9 Bcf/d, including 0.7 Bcf/d from the U.S.¹⁷

CONCLUSION

¹² [International Energy Agency – World Energy Outlook 2023](#)

¹³ [US LNG 'pause' to have no short-, mid-term impact on EU supply security: EC | S&P Global Commodity Insights \(spglobal.com\)](#)

¹⁴ [Medium-Term Gas Report 2023 - Including the Gas Market Report, Q4-2023 \(windows.net\)](#) (p.39)

¹⁵ Note that the ROK is an FTA partner of the United States.

¹⁶ [S&P Global – Demand Tracker](#)

¹⁷ [S&P Global – Long-term LNG Demand](#)

With all these transformational changes since 2018 – and in order to best answer the wide variety of questions raised by these transformations – DOE has a responsibility to assess proposed exports to non-FTA countries using the most complete, most updated, and most robust analysis possible. That is why we are undertaking the analytical update and pause announced on January 26.

The Department of Energy remains committed to keeping energy affordable for all Americans, strengthening energy security for us and for our allies, protecting against the worst impacts of climate change, and helping America lead the world into a clean energy future.

Thank you. I look forward to your questions.