US LNG Capacity Additions Would Significantly Lower GHG Emissions Compared to Alternatives, New S&P Global Study Finds

Development of additional US LNG projects currently on hold or in the pre-Final Investment Decision stage would avoid carbon emissions by 2040 equivalent to more than twice the annual emissions from the entire car fleet in Los Angeles County

WASHINGTON, March 6, 2025 /PRNewswire/ -- The continued development of U.S. liquefied natural gas (LNG) export capacity would result in significantly lower global greenhouse gas emissions compared to the alternative energy sources that would be required to meet demand in their place, a new comprehensive study by S&P Global finds.

The study examined LNG projects that are currently on hold or in pre-Final Investment Decision stage that would represent a combined 40 million ton per annum (Mtpa) of capacity additions from 2028 to 2040.

This expansion of U.S. LNG exports results in global GHG emissions being 324 /780 M tCO2e (GWP100 / GWP20) lower over the 2028-2040 period—or 65 million tons per year—than they would be if demand were met by the likely alternative sources, the study finds.

The size of the net reduction in emissions would be equivalent to:

- More than twice the annual emissions of all the gasoline cars in Los Angeles County
- Total 2028-2040 emissions from all vehicles on the road in the United Kingdom
- A third of the reduction in EU energy-related emissions (GWP 20) over the past decade
- The CO_2 absorbed by 5.4 billion trees over 10 years

The net reduction in emissions is due to the lower GHG intensity of U.S. LNG compared to the average intensity of the combined energy sources that would replace it in global markets—85% of which would be made up by fossil fuels from non-U.S. sources, the study says.

"The continued expansion of U.S. LNG capacity enhances global energy security while avoiding higher global greenhouse gas emissions," said Eric Eyberg, Vice President, Gas and Power Consulting, S&P Global. "Forgoing this critical source of supply would see it replaced by sources that have a greater combined GHG intensity while also negating substantial economic and geopolitical benefits."

The study, *Major New US Industry at a Crossroads: A US LNG Impact Study – Phase 2* is the second installment of a major research project that leverages the combined expertise of the S&P Global Commodity Insights and S&P Global Market Intelligence divisions to provide a comprehensive and forward-looking assessment of the projected impacts of U.S. LNG exports.

Phase 1 of the study found that growth of U.S. LNG export capacity would support nearly half a million domestic jobs annually and contribute $1.3 trillion to U.S. gross domestic product through 2040 while having a negligible impact on domestic gas prices. Conversely, the Phase 1 study found that an annual average of 100,000+ jobs and more than $250+ billion in GDP contributions were at-risk if no new or currently paused U.S. LNG capacity were to come online.

The new Phase 2 study adds the environmental impact assessment of the continued development of U.S. LNG capacity, expands the previous economic analysis to include impacts at the State and Congressional-district level, and offers an antidote

to high energy prices in the Northeast of the United States.

State and Congressional-district Level Economic Impacts:

The economic impacts extend well beyond the seven core gas-producing states (Texas, Louisiana, New Mexico, Oklahoma, Pennsylvania, Ohio, West Virginia) with 37% of the total jobs (180,000+) and 30% of GDP contributions ($390 billion) occurring in non-producing areas through 2040. Overall, 90% of every dollar spent would remain within U.S. supply chain, according to the analysis.

At the U.S. congressional district level, the economic contributions would concentrate in districts with either investment in natural gas exploration and production, investment in liquefaction activities or businesses within the extended supply chains serving the LNG export industry, the study finds.

Debottlenecking the U.S. Northeast:

The new study also examines the potential impacts of removing bottlenecks in infrastructure across the U.S. Northeast region where—despite the existence of the Marcellus and Utica formations that have sufficient proved reserves to meet all U.S. demand for 17 years—pipeline constraints have resulted in gas prices in New York and Boston that are 15–40% higher than the national annual average, and 145% and 160% higher in the key winter heating month of January.

The study finds that expanding Northeast exit capacity by 6 billion cubic feet per day would generate substantial price impacts at the regional and national level driving consumer savings far exceeding the estimated $14 billion in capital costs necessary for the pipeline expansions, the study notes.

Northeast region:

- 20%-30% reduction in gas prices for Northeast markets
- $2.25/MMBtu and $1.23/MMBtu reductions for Boston and New York, respectively in peak months

National level:

- Lower the Henry Hub gas prices by an additional ~$0.20 per MMBtu
- $76 billion cumulative savings for consumers by 2040

About the Study:

Major New U.S. Industry at a Crossroads: A U.S. LNG Impact Study – Phase 2 is available at:
https://www.spglobal.com/en/research-insights/special-reports/major-new-us-industry-at-a-crossroads-us-lng-impact-study-phase-2

This study offers an independent and objective assessment of the global emissions impact of the U.S. LNG Industry built from a detailed bottom-up approach, at the asset and market level, technology by technology. It also includes a more detailed state and congressional districts level economic impact analysis and a case study on the benefits of increased pipeline capacity in the U.S. Northeast gas market. It represents the collaboration of S&P Global Commodity Insights and the Global Intelligence and Analytics unit within S&P Global Market Intelligence supported by the world's largest expert team of more than 1,400 energy research analysts and consultants continuously monitoring, modelling and evaluating markets and assets.

The study utilized the best satellite data sources available, including Sentinel-2, TROPOMI, and GHGsat, to quantify methane emission rates over large areas and identify event-based point sources. Where available, it has also leveraged high-quality overflight data from Insight M. The analysis and metrics developed during the course of this research represent the independent analysis and views of S&P Global. The study makes no policy recommendations. This research was supported by the US Chamber of Commerce.

S&P Global is exclusively responsible for all of the analysis, content and conclusions of the study.

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We are widely sought after by many of the world's leading organizations to provide credit ratings, benchmarks, analytics and workflow solutions in the global capital, commodity and automotive markets. With every one of our offerings, we help the

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