

# Increasing LNG exports 'marginally positive' for US economy

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Increasing the United States' export of liquefied natural gas (LNG) above 12 billion cubic feet per day (Bcf/d) would allow the U.S. to continue to provide a competitive advantage for domestic natural-gas-intensive industries relative to their counterparts overseas, according to a new report presented to the U.S. Department of Energy from the Center for Energy Studies at Rice University's Baker Institute for Public Policy and Oxford Economics.

The study, "The Macroeconomic Impact of Increasing U.S. LNG Exports," was co-authored by Kenneth Medlock, senior director for the Center for Energy Studies.

"The dramatic growth in shale gas production in the United States has presented a number of opportunities and challenges for the U.S. economy," Medlock said. "To begin, shale gas production has lowered the domestic price of [natural gas](#) so that the United States now has among the lowest prices in the world and shifted the U.S. from emerging as a significant importer to a pending exporter of LNG. This has benefitted consumers and led to gains in competitiveness for U.S. manufacturers.

"Low natural gas prices in the United States negatively impact the profitability of domestic upstream activities, which has, in fact, been a primary driver of interest in exporting LNG as suppliers seek new demands in higher-priced markets. While selling natural gas at higher prices on the world market would increase profits for U.S. gas

producers, the price gap between the United States and the rest of the world will shrink, thereby eroding some of the benefits that have accrued to U.S. consumers and manufacturers. So the net balance of the gains and losses associated with trade are at the core of the analysis. In sum, the balance is positive for the U.S. economy."

For the report, the Center for Energy Studies used the Rice World Gas Trade Model to simulate alternative futures to assess natural gas production, demand and, more generally, the international gas market based on a range of projections of U.S. resource endowments. Oxford Economics addressed the macroeconomic impact of the center's market analysis.

A comprehensive set of scenarios was developed in the analysis - including U.S. natural gas recovery, international and domestic demand, and natural-gas supply opportunities in the rest of the world - to examine the impact on energy markets and the U.S. macroeconomy.

Key findings from the report include:

LNG exports are associated with a net increase in domestic [natural gas production](#).

Medlock said the study found that "the majority of the increase in LNG exports is accommodated by expanded domestic production rather than reductions in domestic demand, a result that reflects the very elastic long-run supply curve in North America."

As exports increase, the spread between U.S. domestic prices and international benchmarks narrows. In every case, greater LNG exports raised domestic prices somewhat and lowered prices internationally. The majority of the price movement (in absolute terms), however, occurs in Asia.

The overall macroeconomic impacts of higher LNG exports are marginally positive, a result that is robust under alternative assumptions. With external demand for U.S. LNG exports at 20 Bcf/d, the impact of increasing exports from 12 Bcf/d is between \$7 billion to \$20 billion annually from 2026 to 2040 in today's prices.

Medlock said that the impact from added LNG exports will not be felt until after 2025 due to the large amount of LNG supply that is coming online globally in the next few years. The global market simply cannot accommodate U.S. volumes in excess of 12 Bcf/d before 2025 in any of the scenarios considered. Accordingly, while international demand continues to increase, the market must first work through a large amount of available LNG supply before turning to U.S.-sourced LNG.

The reference case forecasts U.S. LNG exports of around 6.5 Bcf/d as there are abundant, competitive resources around the world that can be delivered to international markets via LNG or pipelines. Higher U.S. LNG exports require a variety of factors that limit the otherwise competitive production of natural gas outside of the U.S. Moreover, those factors must become increasingly restrictive to raise U.S. LNG exports over 12 Bcf/d.

Across all of the scenarios assessed, "the macroeconomic impacts of LNG exports are marginally positive," Medlock said. "Across the domestic cases, the positive impact of higher U.S. [gas production](#) exceeds the negative impacts of higher domestic [natural gas prices](#) associated with increased LNG exports. The overall macroeconomic impacts of increasing U.S. LNG exports to 20 Bcf/d from 12 Bcf/d are small, reflecting the small size of the natural gas sector and supporting industries relative to the over \$13 trillion U.S. economy."

**More information:** The full report is available at [energy.gov/sites/prod/files/20...of\\_lng\\_exports\\_0.pdf](#)

Provided by Rice University

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