UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Macroeconomic Impacts of LNG Exports Studies	))))

COMMENTS OF SEMPRA LNG

I. Introduction

As provided in the Notice issued on December 29, 2015 by the Office of Fossil Energy ("FE") of the Department of Energy ("DOE"),[1] Sempra LNG submits the following comments on the 2015 LNG Export Study prepared, on behalf of the DOE, by the Center for Energy Studies at Rice University's Baker Institute and Oxford Economics ("CES Study").[2] The CES Study examines the total economic and natural gas price impacts of increasing U.S. exports of liquefied natural gas ("LNG") from 12 billion cubic feet per day ("Bcf/d") to 20 Bcf/d. The CES Study finds that higher levels of LNG exports have positive overall macroeconomic impacts, and concludes that any negative impacts of higher LNG exports to energy-intensive sectors of the economy are offset by positive impacts elsewhere. Sempra LNG supports the conclusions of the CES Study, and notes that similar studies have also found positive impacts of increased LNG exports.

II. The Commenting Parties

Sempra LNG, through subsidiary entities and in partnership with affiliates of three of its terminal service customers, owns and operates the Cameron LNG Terminal, located in Cameron

[1] Macroeconomic Impacts of LNG Exports Studies, 80 Fed. Reg. 81,300 (Dec. 29, 2015).
[2] Center for Energy Studies at Rice University's Baker Institute and Oxford Economics, *The Macroeconomic Impact of Increasing US LNG Exports* (Oct. 29, 2015) (released by DOE on Dec. 29, 2015).

and Calcasieu Parishes, Louisiana, and is developing the Port Arthur LNG project, located in Port Arthur, Texas.

Cameron LNG has obtained long-term authorizations from DOE/FE allowing it to export up to 620 Bcf per year of LNG to countries with which the United States has or does not have a free trade agreement ("FTA") requiring national treatment for trade in natural gas. Cameron LNG also has received authorization to export an additional 152 Bcf/year of LNG to FTA countries, and currently has pending before DOE/FE an application requesting authorization to export an additional 152 Bcf/year of LNG to non-FTA countries. These authorizations are based on capacity being developed at Cameron LNG's Liquefaction Trains 1-3. Cameron LNG also has pending before DOE/FE additional applications seeking authorization to export up to 515 Bcf/year of LNG to FTA and non-FTA countries, which relate to an expansion of the Cameron LNG Terminal consisting of construction of Liquefaction Trains 4 and 5. Cameron LNG plans to commence operations and begin exports of LNG in 2018.

Port Arthur LNG has pending before the DOE/FE applications seeking authorization to export up to 517 Bcf/year of LNG to FTA and non-FTA countries. Exports from Port Arthur are expected to commence in 2021.

Sempra LNG welcomes the CES Study's conclusions that increased LNG exports will have an overall positive effect on the U.S. economy, and notes that these findings are consistent with other recent studies that also have found positive economic impacts of increased LNG exports. Below, Sempra LNG summarizes the benefits catalogued by the CES Study and discusses similar benefits that other studies have found. Sempra LNG encourages DOE to consider all of the macroeconomic benefits of increased LNG exports as it assesses the public interest of individual LNG export applications.

III. The CES Study Recognizes Benefits of Increased LNG Exports.

The CES Study recognizes the benefits of increasing LNG exports from 12 Bcf/D to 20 Bcf/D. According to the CES Study, these benefits include:

- An increase of between 0.03 and 0.07 percent of GDP from 2026–2040, or $7–$20 billion annually in today's prices
- A 4 percent increase in U.S. natural gas production through 2040
- An increase of $7.7 billion in profits to the U.S. energy sector in today's prices through 2040 (0.03 percent of GDP), 95 percent of which is distributed to households
- An increase of between 9,600 and 35,200 jobs to the U.S. economy

The CES Study identifies what it considers to be certain negative, but small, economic effects of increased LNG exports, which include:

- An increase in U.S. natural gas prices at Henry Hub, from $2.40/MMBtu in 2015 to $3.98/MMBtu in 2040
- Small declines in output from certain U.S. energy-intensive manufacturing sectors, such as glass, cement, and chemicals

The CES Study finds that any negative impacts to output from the manufacturing sector are "very small" compared to expected sector growth by 2040. The CES Study finds that any adverse effects are more than offset by the extra stimulus to the U.S. economy from greater LNG exports.

In summary, the CES Study concludes that there are net macroeconomic benefits of increased U.S. LNG exports. Sempra LNG agrees with the CES Study's finding of positive economic impacts of increasing U.S. LNG exports from 12 Bcf/d to 20 Bcf/d, and encourages DOE/FE to account for these economic benefits in evaluating pending and future applications for LNG export authorization. As explained below, Sempra LNG notes that these findings are consistent with results of other studies that have found benefits of increased LNG exports.

IV. The CES Study Is Consistent with Other Studies Finding Benefits of Increased LNG Exports.

The CES Study is consistent with a broader body of research indicating the positive economic effects of increased LNG exports. Past studies commissioned by the DOE have consistently found that macroeconomic benefits increase commensurate with increased LNG exports. In 2012, DOE commissioned a study by NERA Economic Consulting ("NERA Study") of economic impacts of LNG exports.[3] The NERA Study examined a range of scenarios, including scenarios with unlimited LNG exports, and found that in each scenario, the United States would experience net economic benefits from increased LNG exports.[4] The NERA Study further found that the net economic benefits became greater with higher levels of exports.[5] Similarly, the results of the 2014 study conducted by the U.S. Energy Information Administration, also commissioned by the DOE, projected that additional LNG exports of up to 20 Bcf/d would result in higher levels of economic output.[6]

Sempra LNG has commissioned IHS Energy and IHS Economics ("IHS") to conduct an independent evaluation ("IHS Study") of the U.S. macroeconomic impacts attributable to the capital expenditures and incremental production associated with increasing LNG exports from 12 Bcf/d to 20 Bcf/d. IHS is a leading provider of information, analytics, and insight to support the decision-making process of business and government across several industries. IHS has research and consulting staff across the globe, and covers energy markets worldwide. Like the CES Study, the IHS Study concludes that increased LNG exports will yield positive benefits to the U.S. economy. These benefits include:

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[3] NERA Economic Consulting, *Macroeconomic Impacts of LNG Exports from the United States* (Dec. 3, 2012).
[4] *Id*. at 6.
[5] *Id*. at 12.
[6] Energy Information Administration, *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets* at 12 (Oct. 29, 2014).

- Addition of $35 billion to the U.S. GDP in 2030, $59 billion in 2035, and $28.7 billion in 2040, amounting to an average increase of 0.15 percent per year. These figures include direct, indirect, and induced benefits

- The addition of 179,000 more U.S. jobs each year, on average, from 2026 to 2040. This figure is 0.11% greater than the IHS Study's forecast of employment without the benefit of increased LNG exports, and includes direct, indirect, and induced benefits

- An increase in the Consumer Price Index by an average of 0.26 percent, due to economic growth resulting from the additional LNG exports

- An increase of average annual real disposable income per household of $171 between 2026-2040, with the increase peaking at $264 per household in 2036

- An increase in real labor income of $10.2 billion in 2030, $18.2 billion in 2035, and $5.1 billion in 2040, including direct, indirect, and induced effects

- An average increase in federal tax receipts of 0.52 percent between 2026 and 2040

Sempra LNG urges DOE/FE to consider these benefits in its assessment of whether higher levels of LNG exports are in the public interest.

V. Conclusion

Sempra LNG welcomes the CES Study's conclusion that increasing domestic LNG exports from 12 Bcf/d to 20 Bcf/d would produce net macroeconomic gains for the U.S. Collectively, the CES Study, IHS Study, and past studies commissioned by the DOE provide a robust body of evidence supporting the extensive public benefits of increased LNG exports. Sempra believes that these studies support for allowing the market to determine the level of LNG exports.

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