UNITED STATES OF AMERICA

DEPARTMENT OF ENERGY

OFFICE OF FOSSIL ENERGY

ENERGÍA COSTA AZUL, S. de R.L. de C.V.	)))	FE DOCKET NO. 18-144-LNG

OPINION AND ORDER GRANTING LONG-TERM AUTHORIZATION TO RE-EXPORT U.S.-SOURCED NATURAL GAS IN THE FORM OF LIQUEFIED NATURAL GAS FROM MEXICO TO NON-FREE TRADE AGREEMENT COUNTRIES

ECA MID-SCALE PROJECT

DOE/FE ORDER NO. 4364

MARCH 29, 2019

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FREQUENTLY USED ACRONYMS

AEO	Annual Energy Outlook
Bcf/d	Billion Cubic Feet per Day
Bcf/yr	Billion Cubic Feet per Year
CPP	Clean Power Plan
DOE	U.S. Department of Energy
ECA	Energía Costa Azul, S. de R.L. de C.V.
EIA	U.S. Energy Information Administration
EPA	U.S. Environmental Protection Agency
FE	Office of Fossil Energy, U.S. Department of Energy
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse Gas
LCA	Life Cycle Analysis
LNG	Liquefied Natural Gas
Mcf	Thousand Cubic Feet
MMBtu	Million British Thermal Units
mtpa	Million Metric Tons per Annum
NEPA	National Environmental Policy Act
NERA	NERA Economic Consulting
NETL	National Energy Technology Laboratory
NGA	Natural Gas Act
Tcf/yr	Trillion Cubic Feet per Year

I. INTRODUCTION

On September 27, 2018, Energía Costa Azul, S. de R.L. de C.V. (ECA) filed an Application,[1] as supplemented,[2] with the Office of Fossil Energy (FE) of the Department of Energy (DOE) under section 3 of the Natural Gas Act (NGA).[3] ECA states that it is submitting the Application "in connection with [the] development of one of two sets of proposed Energía Costa Azul liquefaction and export terminal facilities."[4] The Application in this proceeding pertains to the "ECA Mid-Scale Project." The application for the "ECA Large-Scale Project" is pending in FE Docket No. 18-145-LNG,[5] and is discussed below.

In the Mid-Scale Application, ECA requests authorization to export domestically produced natural gas from the United States to Mexico, and after liquefaction in Mexico, to deliver and consume the liquefied natural gas (LNG) in Mexico and/or to re-export[6] the LNG as follows:

> (i) To use approximately 21 Bcf/yr (0.06 Bcf/d) in Mexico as "fuel for pipeline transportation or LNG liquefaction;"[7]

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[1] Energía Costa Azul, S. de R.L. de C.V., Application for Long-Term, Multi-Contract Authorizations to Export Natural Gas to Mexico and to Export Liquefied Natural Gas From Mexico to Free Trade Agreement and Non-Free Trade Agreement Nations (ECA Mid-Scale Project), FE Docket No. 18-144-LNG (Sept. 27, 2018) [hereinafter ECA App.].

[2] ECA supplemented the Application on February 13, 2019. *See* Energía Costa Azul, S. de R.L. de C.V., Project Update – Information Regarding Permitting and Commercial Developments, FE Docket No. 18-144-LNG (Feb. 13, 2019) [hereinafter Project Update].

[3] The authority to regulate the imports and exports of natural gas, including liquefied natural gas, under section 3 of the NGA (15 U.S.C. § 717b) has been delegated to the Assistant Secretary for FE in Redelegation Order No. 00-006.02, issued on November 17, 2014.

[4] ECA App. at 4.

[5] The ECA Large-Scale Project will be composed of separate LNG liquefaction facilities at the same site, capable of producing LNG in a volume equivalent to approximately 1.3 Bcf/d. *See* ECA App. at 5 n.5 (stating that the ECA Mid-Scale and Large-Scale Projects are "distinct and independent," and thus "should be processed independently by the DOE/FE").

[6] For purposes of this Order, "re-export" means to ship or transmit U.S.-sourced natural gas in its various forms (gas, compressed, or liquefied) subject to DOE/FE's jurisdiction under the NGA, 15 U.S.C. § 717b, from one foreign country (*i.e.*, a country other than the United States) to another foreign country.

[7] ECA App. at 4 n.3 (stating that 161 Bcf/yr of the requested 182 Bcf/yr total is intended for re-export as LNG, such that 21 Bcf/yr would be "consumed in Mexico" for these purposes).

(ii) To use approximately 161 Bcf/yr of natural gas (0.44 Bcf/d) in the ECA Mid-Scale Project, where the U.S.-sourced natural gas will be liquefied, then re-exported, as LNG by vessel to:

(a) Any country with which the United States has, or in the future enters into, a free trade agreement (FTA) requiring national treatment for trade in natural gas (FTA countries),[8] and

(b) Any other country with which trade is not prohibited by U.S. law or policy (non-FTA countries).[9]

Thus, for purposes of this Order, ECA requests a non-FTA authorization for "only the volume being re-exported from Mexico as LNG (161 Bcf/y)."[10]

According to ECA, the natural gas will be exported to Mexico at the United States-Mexico border via existing and, potentially, future cross-border natural gas transmission pipelines.[11] ECA is developing the ECA Mid-Scale Project to be located north of Ensenada in Baja California, Mexico, approximately 31 miles south of the San Diego-Tijuana/San Ysidro border between the United States and Mexico.[12] Once constructed, the ECA Mid-Scale Project will be capable of receiving, processing, and liquefying the U.S.-sourced natural gas, storing the resulting LNG, and loading the LNG onto ocean-going LNG carriers for re-export to other countries.[13]

On January 25, 2019, DOE/FE granted the FTA portion of both ECA's Mid-Scale and Large-

[8] 15 U.S.C. § 717b(c). The United States currently has FTAs requiring national treatment for trade in natural gas with Australia, Bahrain, Canada, Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Jordan, Mexico, Morocco, Nicaragua, Oman, Panama, Peru, Republic of Korea, and Singapore. FTAs with Israel and Costa Rica do not require national treatment for trade in natural gas.
[9] 15 U.S.C. § 717b(a); *see also* ECA App. at 3-4.
[10] ECA App. at 4 n.3.
[11] *See id*. at 3, 5-6.
[12] *See id*. at 4-5.
[13] *See id*. at 5.

Scale Applications in DOE/FE Order Nos. 4317[14] and 4318,[15] respectively. As relevant here, under DOE/FE Order No. 4317, ECA is authorized to export natural gas to Mexico by pipeline and to re-export the resulting LNG from its proposed Mid-Scale Project to FTA countries, in a total volume of 182 Bcf/yr.[16] Concurrently with this Order, DOE/FE is issuing DOE/FE Order No. 4365, which grants the non-FTA portion of ECA's Large-Scale Application in a volume equivalent to 475 Bcf/yr of natural gas (1.3 Bcf/d).[17] The Appendix to the Order shows the four LNG export orders issued by DOE/FE to ECA to date.

ECA requests the non-FTA authorization in this proceeding for a period of 20 years, commencing on the earlier of the date of first export or seven years from the date the authorization is granted. Additionally, ECA requests the authorization on its own behalf and as agent for other entities that hold title to the LNG at the time it is re-exported as LNG.[18]

On October 26, 2018, DOE/FE published a Notice of the non-FTA portion of ECA's Mid-Scale Application in the *Federal Register* (Notice of Application).[19] The Notice of Application called on interested persons to submit protests, motions to intervene, notices of intervention, and comments by December 26, 2018. No protests or comments in opposition to the Application were filed, and therefore the non-FTA portion of the Application is uncontested.[20]

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[14] *Energía Costa Azul, S. de R.L. de C.V.,* DOE/FE Order No. 4317, FE Docket No. 18-144-LNG, Order Granting Long-Term, Multi-Contract Authorization to Export Natural Gas to Mexico and to Other Free Trade Agreement Nations (ECA Mid-Scale Project) (Jan. 25, 2019).

[15] *Energía Costa Azul, S. de R.L. de C.V.,* DOE/FE Order No. 4318, FE Docket No. 18-145-LNG, Order Granting Long-Term, Multi-Contract Authorization to Export Natural Gas to Mexico and to Other Free Trade Agreement Nations (ECA Large-Scale Project) (Jan. 25, 2019).

[16] *See Energía Costa Azul, S. de R.L. de C.V.,* DOE/FE Order No. 4317, at 12-13.

[17] *Energía Costa Azul, S. de R.L. de C.V.,* DOE/FE Order No. 4365, FE Docket No. 18-145-LNG, Opinion and Order Granting Long-Term Authorization to Re-Export U.S-Sourced Natural Gas in the Form of Liquefied Natural Gas from Mexico to Non-Free Trade Agreement Countries (ECA Large-Scale Project) (Mar. 29, 2019).

[18] *Id*. at 4.

[19] *Energía Costa Azul, S. de R.L. de C.V.,* Application for Long-Term, Multi-Contract Authorization To Export Natural Gas to Mexico and to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations; Notice of Application, 83 Fed. Reg. 54,097 (Oct. 26, 2018).

[20] DOE finds that the requirement for public notice of applications in 10 C.F.R. Part 590 is applicable only to non-FTA applications under NGA section 3(a).

DOE/FE has reviewed the non-FTA portion of ECA's Application under NGA section 3(a), and for the reasons discussed below, authorizes the re-export of U.S.-sourced natural gas in the form of LNG in the requested volume of 161 Bcf/yr of natural gas. Because the source of LNG for the FTA order (DOE/FE Order No. 4317) and this Order are the same Mid-Scale Project, the approved FTA and non-FTA volumes are not additive. DOE/FE is issuing this Opinion and Order subject to the additional conditions set forth below.

Additionally, the volumes approved in this Order and Order No. 4365—0.44 and 1.3 Bcf/d of natural gas, respectively—bring DOE/FE's cumulative total of approved non-FTA exports of LNG and compressed natural gas to 26.48 Bcf/d of natural gas.[21]

II. BACKGROUND

A. DOE's LNG Export Studies

1. 2012 EIA and NERA Studies

In 2011, DOE/FE engaged EIA and NERA Economic Consulting (NERA) to conduct a two-part study of the economic impacts of U.S. LNG exports, which together was called the "2012 LNG Export Study." The first part, performed by EIA and published in January 2012, assessed how specified scenarios of increased natural gas exports could affect domestic energy markets. Specifically, EIA examined how prescribed levels of natural gas exports (at 6 Bcf/d and 12 Bcf/d) above baseline cases could affect domestic energy markets.

The second part, performed by NERA under contract to DOE, evaluated the macroeconomic impact of LNG exports on the U.S. economy. NERA used a general equilibrium macroeconomic model of the U.S. economy with an emphasis on the energy sector and natural gas in particular. The 2012 NERA Study projected that, across all scenarios studied—assuming

[21] *See infra* § VII.D.

either 6 Bcf/d or 12 Bcf/d of LNG export volumes—the United States would experience net economic benefits from allowing LNG exports.

In December 2012, DOE/FE published a notice of availability of the 2012 LNG Export Study in the *Federal Register* for public comment.[22] DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.[23]

2. 2014 and 2015 LNG Export Studies

By May 2014, in light of the volume of LNG exports to non-FTA countries then-authorized by DOE/FE and the number of non-FTA export applications still pending, DOE/FE determined that an updated study was warranted to consider the economic impacts of exporting LNG from the lower-48 states to non-FTA countries.[24] DOE announced plans to undertake new economic studies to gain a better understanding of how higher levels of U.S. LNG exports—at levels between 12 and 20 Bcf/d of natural gas—would affect the public interest.[25]

DOE/FE commissioned two new macroeconomic studies. The first, *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets*, was performed by EIA and published in October 2014 (2014 EIA LNG Export Study or 2014 Study).[26] The 2014 Study assessed how specified scenarios of increased natural gas exports could affect domestic energy

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[22] *See* 2012 LNG Export Study, 77 Fed. Reg. 73,627 (Dec. 11, 2012), *available at*: http://energy.gov/sites/prod/files/2013/04/f0/fr_notice_two_part_study.pdf (Notice of Availability of the LNG Export Study).

[23] *See, e.g.*, *Freeport LNG Expansion L.P., et al.*, DOE/FE Order No. 3282, FE Docket No. 10-161-LNG, Order Conditionally Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas to Non-Free Trade Agreement Nations, at 56-109 (May 17, 2013).

[24] Because there is no natural gas pipeline interconnection between Alaska and the lower 48 states, DOE/FE generally views those LNG export markets as distinct. Accordingly, DOE/FE focuses on LNG exports from the lower-48 states for purposes of determining macroeconomic impacts.

[25] *See* U.S. Dep't of Energy, Office of Fossil Energy, Request for an Update of EIA's January 2012 Study of Liquefied Natural Gas Export Scenarios, *available at*: http://energy.gov/fe/downloads/request-update-eia-s-january-2012-study-liquefied-natural-gas-export-scenarios (May 29, 2014) (memorandum from FE to EIA).

[26] U.S. Energy Info. Admin., *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets* (Oct. 2014), *available at*: https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf.

markets. At DOE's request, this 2014 Study served as an update of EIA's January 2012 study of LNG export scenarios and used baseline cases from EIA's *Annual Energy Outlook 2014* (AEO 2014).[27]

The second study, *The Macroeconomic Impact of Increasing U.S. LNG Exports*, was performed jointly by the Center for Energy Studies at Rice University's Baker Institute and Oxford Economics under contract to DOE/FE (together, Rice-Oxford) and published in October 2015 (2015 LNG Export Study or 2015 Study).[28] The 2015 Study was a scenario-based assessment of the macroeconomic impact of levels of U.S. LNG exports, sourced from the lower-48 states, under different assumptions including U.S. resource endowment, U.S. natural gas demand, international LNG market dynamics, and other factors. The 2015 Study considered export volumes ranging from 12 to 20 Bcf/d of natural gas, as well as a high resource recovery case examining export volumes up to 28 Bcf/d of natural gas. The analysis covered the 2015 to 2040 time period.

In December 2015, DOE/FE published a Notice of Availability of the 2014 and 2015 LNG Export Studies in the *Federal Register*, and invited public comment on those Studies.[29] DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.[30]

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[27] Each Annual Energy Outlook (AEO) presents EIA's long-term projections of energy supply, demand, and prices. It is based on results from EIA's National Energy Modeling System (NEMS) model.

[28] Center for Energy Studies at Rice University Baker Institute and Oxford Economics, *The Macroeconomic Impact of Increasing U.S. LNG Exports* (Oct. 29, 2015), *available at*: http://energy.gov/sites/prod/files/2015/12/f27/20151113_macro_impact_of_lng_exports_0.pdf.

[29] U.S. Dep't of Energy, Macroeconomic Impacts of LNG Exports Studies; Notice of Availability and Request for Comments, 80 Fed. Reg. 81,300, 81,302 (Dec. 29, 2015).

[30] *See, e.g.*, *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 3792, FE Docket No. 15-63-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Sabine Pass LNG Terminal Located in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations, at 66-121 (Mar. 11, 2016).

3. 2018 LNG Export Study

a. Overview

At the time DOE commissioned the 2018 LNG Export Study in 2017, 25 non-FTA applications were pending before DOE/FE.[31] In light of both the volume of LNG requested for export in those pending applications and the cumulative volume of non-FTA exports then-authorized (equivalent to 21.35 Bcf/d of natural gas), DOE/FE determined that a new macroeconomic study was warranted.[32] Accordingly, DOE/FE, through its support contractor KeyLogic Systems, Inc., commissioned NERA to conduct the 2018 LNG Export Study. DOE published the 2018 LNG Export Study on its website on June 7, 2018,[33] and concurrently provided notice of the availability of the Study, as discussed below.[34]

Like the four prior economic studies, the 2018 Study examines the impacts of varying levels of LNG exports on domestic energy markets. However, the 2018 Study differs from DOE/FE's earlier studies in the following ways:

(i) Includes a larger number of scenarios (54 scenarios) to capture a wider range of uncertainty in four natural gas market conditions than examined in the previous studies;

(ii) Includes LNG exports in all 54 scenarios that are market-determined levels, including the three alternative baseline scenarios that are based on the projections in EIA's *Annual Energy Outlook 2017* (AEO 2017);[35]

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[31] *See* U.S. Dep't of Energy, Study on Macroeconomic Outcomes of LNG Exports; Notice of Availability of the 2018 LNG Export Study and Request for Comments, 83 Fed. Reg. 27,314 (June 12, 2018) (identifying 25 docket proceedings) [hereinafter 2018 Study Notice].

[32] Additionally, as of the date of the 2018 Study, DOE/FE had authorized a cumulative total of LNG exports to FTA countries under section 3(c) of the NGA in a volume of 59.33 Bcf/d of natural gas. These FTA volumes are not additive to the authorized non-FTA volumes.

[33] *See* NERA Economic Consulting, Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports (June 7, 2018), *available at*: https://www.energy.gov/sites/prod/files/2018/06/f52/Macroeconomic%20LNG%20Export%20Study%202018.pdf [hereinafter 2018 LNG Export Study or 2018 Study].

[34] *See* 2018 Study Notice.

[35] U.S. Energy Info. Admin., *Annual Energy Outlook 2017* (with projections to 2050) (Jan. 5, 2017), *available at*: https://www.eia.gov/outlooks/aeo/pdf/0383(2017).pdf.

(iii) Examines unconstrained LNG export volumes beyond the levels examined in the previous studies;

(iv) Examines the likelihood of those market-determined LNG export volumes; and

(v) Provides macroeconomic projections associated with several of the scenarios lying within the more likely range of exports.[36]

b. Methodology and Scenarios

In its Response to Comments published in the *Federal Register* in December 2018, DOE/FE provided a detailed discussion of the methodology and scenarios used in the 2018 Study, including NERA's Global Natural Gas Model (GNGM) and N_{ew}ERA models.[37] The 2018 Study develops 54 scenarios by identifying various assumptions for domestic and international supply and demand conditions to capture a wide range of uncertainty in natural gas markets. The scenarios include three baseline cases based on EIA's AEO 2017 projections (the most recent EIA projections available at the time), with varying assumptions about U.S. natural gas supply.[38] The three cases for U.S. natural gas supply derived from AEO 2017 are:

i. AEO 2017's Reference case, which provides a central estimate of U.S. natural gas production;

ii. High Oil and Gas Resource and Technology (HOGR) case, which provides more optimistic resource development estimates than the Reference case; and

iii. Low Oil and Gas Resource and Technology (LOGR) case, which provides less optimistic resource development estimates than the Reference case.[39]

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[36] *See* 2018 Study Notice, 83 Fed. Reg. at 27,316.
[37] *See* U.S. Dep't of Energy, Study on Macroeconomic Outcomes of LNG Exports; Response to Comments Received on Study, 83 Fed. Reg. 67,251 (Dec. 28, 2018) [hereinafter 2018 Study Response to Comments].
[38] 2018 Study Response to Comments, 83 Fed. Reg. at 67,256 (stating that the differences in the natural gas production levels across these cases arise from varying assumptions around unproven offshore resources, onshore shale gas resources, tight gas resources, and conventional and tight oil associated gas resources, as well as the costs of producing these resources).
[39] *See id*.

Alternative scenarios add other assumptions about future U.S. and international demand for natural gas. The three cases for U.S. natural gas demand are:

i. AEO 2017's Reference case, which provides a central estimate of U.S. natural gas demand;

ii. A Robust Economic Growth case, which provides a high estimate for U.S. natural gas demand driven by higher levels of gross domestic product growth; and

iii. A Renewables Mandate case, which provides a low estimate for U.S. natural gas demand driven by the imposition of a stringent renewables mandate.[40]

International assumptions are based on EIA's *International Energy Outlook* 2017 (IEO 2017) and the International Energy Agency's (IEA) *World Energy Outlook* 2016 (WEO 2016).

As noted above, the 2018 Study also examines the likelihood of conditions leading to various export scenarios. This unique feature provides not only quantification of the effects to the U.S. natural gas market and its overall economy under each of the scenarios outlined, but also an assessment of the probability of each of these scenarios, and thus the probability of the natural gas and macroeconomic outcomes associated with each scenario.[41]

In developing this aspect of the Study, NERA first developed estimates of the probabilities for the level of U.S. supply and demand, as well as supply and demand in the rest of the world.[42] DOE/FE and KeyLogic, Inc. contacted a set of independent experts recommended by DOE (referred to as the peer reviewers) to obtain their probability assignments for these same four metrics. After receiving feedback from the peer reviewers, NERA reevaluated the original probability assignments to arrive at the final probabilities. These peer-reviewed probabilities of uncertainties surrounding developments in the international and domestic natural gas markets

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[40] *See id*.
[41] *See id*.
[42] *See id*.

were, in turn, combined to develop the 54 export scenarios and their associated macroeconomic impacts.

c. Study Results

The 54 scenarios in the 2018 Study provide a wide range of results. NERA chose to focus on a subset of more likely outcomes, given DOE's assumptions about the probabilities associated with U.S. natural gas production, demand, and supply, and demand for natural gas in the rest of the world. NERA's key results include the following:

- The more likely range of LNG exports in the year 2040 was judged to range from 8.7 to 30.7 Bcf/d of natural gas.

- U.S. natural gas prices range from $5 to approximately $6.50 per million British thermal unit (MMBtu) in 2040 (in constant 2016 dollars) under Reference case supply assumptions. These central cases have a combined probability of 47%.

- Levels of gross domestic product (GDP) are most sensitive to assumptions about U.S. supply of natural gas, with high supply driving higher levels of GDP. For each of the supply scenarios, higher levels of LNG exports in response to international demand consistently lead to higher levels of GDP. GDP achieved with the highest level of LNG exports in each group exceeds GDP with the lowest level of LNG exports by $13 to $72 billion in 2040 (in constant 2016 dollars).

- About 80% of the increase in LNG exports is satisfied by increased U.S. production of natural gas, with positive effects on labor income, output, and profits in the natural gas production sector.

- Chemical industry subsectors of the economy that rely heavily on natural gas for energy and as a feedstock continue to exhibit robust growth even at higher LNG export levels. This growth is only insignificantly slower than cases with lower LNG export levels.

- Even the most extreme scenarios of high LNG exports outside the more likely probability range (exhibiting a combined probability of less than 3%) show higher overall economic performance in terms of GDP, household income, and consumer welfare than lower export levels associated with the same domestic supply scenarios.[43]

d. DOE/FE Proceeding

On June 12, 2018, DOE published a notice of availability of the 2018 LNG Export Study and a request for comments.[44] The purpose of the notice of availability was "to enter the 2018 LNG Export Study into the administrative record of the 25 pending non-FTA export proceedings [identified in the notice] and to invite comments on the Study for consideration in the pending and future non-FTA application proceedings."[45] DOE received 19 comments on the 2018 LNG Export Study from a variety of sources, including participants in the natural gas industry, environmental organizations, and individuals.[46] Of those, nine comments supported the Study,[47]

[43] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,255.
[44] *See* 2018 Study Notice.
[45] *Id*. at 27,315.
[46] The public comments are posted on the DOE/FE website at: https://fossil.energy.gov/app/docketindex/docket/index/10.
[47] Supporting comments were filed by the Marcellus Shale Coalition; the Center for Liquefied Natural Gas (CLNG); the Pennsylvania Chamber of Business and Industry; the American Petroleum Institute (API); Cheniere Energy, Inc.; Jordan Cove Energy Project L.P. (JCEP); LNG Allies; NextDecade Corp.; and Anonymous. The Anonymous comment is comprised of five comments filed by the same anonymous author.

eight comments opposed the 2018 Study and/or exports of LNG,[48] one comment took no position,[49] and one comment was non-responsive.[50]

DOE/FE has evaluated the comments to the 2018 Study. DOE/FE summarized and responded to these comments in the Response to Comments document, published on December 28, 2018.[51] As explained in the Response to Comments, DOE/FE determined that none of the eight comments opposing the 2018 Study provided sufficient evidence to rebut or otherwise undermine the 2018 Study.[52]

DOE/FE incorporates into the record of this proceeding the 2018 LNG Export Study, the 2018 Study Notice, the public comments received on the 2018 Study, and the 2018 Study Response to Comments—which together constitute the full proceeding for the 2018 LNG Export Study.

e. DOE/FE Conclusions

Based upon the record in the 2018 Study proceeding, DOE/FE determined that the 2018 Study provides substantial support for non-FTA applications within the export volumes considered by the 2018 Study—ranging from 0.1 to 52.8 Bcf/d of natural gas.[53] The principal conclusion of the 2018 LNG Export Study is that the United States will experience net economic benefits from the export of domestically produced LNG.[54] DOE highlighted the following key findings of the Study:

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[48] Opposing comments were filed by Patricia Weber; Oil Change International; Food & Water Watch; Industrial Energy Consumers of America (IECA); Oregon Wild; Sierra Club; Deb Evans and Ron Schaaf (the Evans Schaaf Family); and Jody McCaffree (individually and as executive director of Citizens for Renewables/Citizens Against LNG). Oil Change International and Food & Water Watch filed identical comments.
[49] Comment of John Young.
[50] Comment of Vincent Burke.
[51] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,260-72.
[52] *See id*. at 67,272.
[53] *See id*.
[54] *See id*.

- "Increasing U.S. LNG exports under any given set of assumptions about U.S. natural gas resources and their production leads to only small increases in U.S. natural gas prices."[55]

- "Increased exports of natural gas will improve the U.S. balance of trade and result in a wealth transfer into the United States."[56]

- "Overall [U.S.] GDP improves as LNG exports increase for all scenarios with the same U.S. natural gas supply condition."[57]

- "There is no support for the concern that LNG exports would come at the expense of domestic natural gas consumption."[58]

- "[A] large share of the increase in LNG exports is supported by an increase in domestic natural gas production."[59]

- "Natural gas intensive [industries] continue to grow robustly at higher levels of LNG exports, albeit at slightly lower rates of increase than they would at lower levels."[60]

DOE/FE also observed that EIA's projections in *Annual Energy Outlook 2018* (AEO 2018) showed market conditions that will accommodate increased exports of natural gas.[61] DOE/FE concluded that, when compared to prior AEO Reference cases—including AEO 2017's Reference case used in the 2018 Study—the AEO 2018 Reference case projected increases in domestic natural gas production in excess of what is required to meet projected increases in domestic consumption.[62]

For all of these reasons, DOE/FE found that "the 2018 LNG Export Study is fundamentally sound and supports the proposition that exports of LNG from the lower-48 states, in volumes up to and including 52.8 Bcf/d of natural gas, will not be inconsistent with the public

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[55] *Id*. (quoting 2018 LNG Export Study at 55).
[56] 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (quoting 2018 LNG Export Study at 64).
[57] *Id*. (quoting 2018 LNG Export Study at 67).
[58] *Id*. (quoting 2018 LNG Export Study at 77).
[59] *Id*.
[60] *Id*. (quoting 2018 LNG Export Study at 70).
[61] U.S. Energy Info. Admin., *Annual Energy Outlook 2018* (with projections to 2050) (Feb. 6, 2018), *available at*: https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf.
[62] 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

interest."[63] DOE stated, however, that it will consider each application to export LNG as required under the NGA and NEPA based on the administrative record compiled in each individual proceeding.[64]

B. DOE's Environmental Studies

On June 4, 2014, DOE/FE issued two notices in the *Federal Register* proposing to evaluate different environmental aspects of the LNG production and export chain. First, DOE/FE announced that it had conducted a review of existing literature on potential environmental issues associated with unconventional natural gas production in the lower-48 states. The purpose of this review was to provide additional information to the public concerning the potential environmental impacts of unconventional natural gas exploration and production activities, including hydraulic fracturing. DOE/FE published its draft report for public review and comment, entitled *Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States* (Draft Addendum).[65] DOE/FE received public comments on the Draft Addendum, and on August 15, 2014, issued the final Addendum with its response to the public comments contained in Appendix B.[66]

Second, DOE/FE commissioned the National Energy Technology Laboratory (NETL), a DOE applied research laboratory, to conduct an analysis calculating the life cycle greenhouse gas (GHG) emissions for LNG exported from the United States. The purpose of this analysis was to determine: (i) how domestically-produced LNG exported from the United States compares with

[63] *Id*. (citing 2018 LNG Export Study at 63 & Appx F).
[64] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.
[65] Dep't of Energy, Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas From the United States, 79 Fed. Reg. 32,258 (June 4, 2014). DOE/FE announced the availability of the Draft Addendum on its website on May 29, 2014.
[66] Dep't of Energy, Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States, 79 Fed. Reg. 48,132 (Aug. 15, 2014) [hereinafter Addendum]; *see also* http://energy.gov/fe/addendum-environmental-review-documents-concerning-exports-natural-gas-united-states.

regional coal (or other LNG sources) for electric power generation in Europe and Asia from a life cycle GHG perspective, and (ii) how those results compare with natural gas sourced from Russia and delivered to the same markets via pipeline. DOE/FE published NETL's report entitled, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States* (LCA GHG Report).[67] DOE/FE also received public comments on the LCA GHG Report and responded to those comments in prior orders.[68]

With respect to both the Addendum and the LCA GHG Report, DOE/FE takes all public comments into consideration in this decision and makes those comments, as well as the underlying studies, part of the record in this proceeding.

C. Judicial Decisions Upholding DOE's Non-FTA Authorizations

In 2015 and 2016, Sierra Club petitioned the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) for review of five long-term LNG export authorizations issued by DOE/FE under the standard of review discussed below. Sierra Club challenged DOE/FE's approval of LNG exports from projects proposed or operated by the following authorization holders: Freeport LNG Expansion, L.P., *et al*.; Dominion Cove Point LNG, LP; Sabine Pass Liquefaction, LLC; and Cheniere Marketing, LLC, *et al*. The D.C. Circuit subsequently denied four of the five petitions for review: one in a published decision issued on August 15, 2017 (*Sierra Club I*),[69] and three in a consolidated, unpublished opinion issued on November 1, 2017

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[67] Dep't of Energy, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States, 79 Fed. Reg. 32,260 (June 4, 2014) [hereinafter LCA GHG Report]. DOE/FE announced the availability of the LCA GHG Report on its website on May 29, 2014.

[68] *See, e.g., Magnolia LNG, LLC*, DOE/FE Order No. 3909, FE Docket No. 13-132-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Proposed Magnolia LNG Terminal to be Constructed in Lake Charles, Louisiana, to Non-Free Trade Agreement Nations, at 95-121 (Nov. 30, 2016) (description of LCA GHG Report and response to comments).

[69] *Sierra Club v. U.S. Dep't of Energy*, 867 F.3d 189 (Aug. 15, 2017) (denying petition for review of the LNG export authorization issued to Freeport LNG Expansion, L.P., *et al*.).

(*Sierra Club II*).[70] Sierra Club did not seek further judicial review of either decision. In January 2018, Sierra Club voluntarily withdrew its fifth and remaining petition for review.[71]

In *Sierra Club I*, the D.C. Circuit concluded that DOE/FE had complied with both section 3(a) of the NGA and NEPA in issuing the challenged non-FTA authorization to Freeport LNG Expansion, L.P. and its related entities (collectively, Freeport). DOE/FE had granted the Freeport application in 2014 in a volume equivalent to 0.4 Bcf/d of natural gas, finding that Freeport's proposed exports were in the public interest under NGA section 3(a). DOE/FE also considered and disclosed the potential environmental impacts of its decision under NEPA. Sierra Club petitioned for review of the Freeport authorization, arguing that DOE fell short of its obligations under both the NGA and NEPA. The D.C. Circuit rejected Sierra Club's arguments in an unanimous decision, holding that, "Sierra Club has given us no reason to question the Department's judgment that the [Freeport] application is not inconsistent with the public interest."[72]

First, the Court rejected Sierra Club's principal NEPA argument concerning the alleged indirect effects of LNG exports, such as the effects related to the likely increase in natural gas production and usage that would result from the Freeport export authorization.[73] The Court found that DOE "offered a reasonable explanation as to why it believed the indirect effects pertaining to increased [natural] gas production were not reasonably foreseeable."[74] The Court thus held that, "[u]nder our limited and deferential review, we cannot say that the Department

[70] *Sierra Club v. U.S. Dep't of Energy,* 703 Fed. Appx. 1 (D.C. Cir. Nov. 1, 2017) (denying petitions for review in Nos. 16-1186, 16-1252, and 16-1253 of the LNG export authorizations issued to Dominion Cove Point LNG, LP, Sabine Pass Liquefaction, LLC, and Cheniere Marketing, LLC, *et al*., respectively).
[71] *See Sierra Club v. U.S. Dep't of Energy*, No. 16-1426, Per Curiam Order (D.C. Cir. Jan. 30, 2018) (granting Sierra Club's unopposed motion for voluntary dismissal).
[72] *Sierra Club I,* 867 F.3d at 203.
[73] *Id.* at 192.
[74] *Id*. at 198.

failed to fulfill its obligation under NEPA by declining to make specific projections about environmental impacts stemming from specific levels of export-induced [natural] gas production."[75]

Second, the Court rejected Sierra Club's challenge to DOE's examination of the potential "downstream" GHG emissions resulting from the indirect effects of exports—*i.e.*, those resulting from the transport and usage of U.S. LNG abroad.[76] The Court pointed to DOE's LCA GHG Report, finding there was "nothing arbitrary" about the scope of DOE's analysis of GHG emissions in that Report.[77]

Third, in reviewing Sierra Club's claims under the NGA, the Court found that Sierra Club "repeats the same argument it made to support its NEPA claim—namely, that the Department arbitrarily failed to evaluate foreseeable indirect effects of exports."[78] Having "already rejected this argument" under NEPA, the Court determined that "Sierra Club offers no basis for reevaluating the scope of DOE's evaluation for purposes of the Natural Gas Act."[79]

Subsequently, in the consolidated *Sierra Club II* opinion issued on November 1, 2017, the D.C. Circuit ruled that "[t]he court's decision in [*Sierra Club I*] largely governs the resolution of the [three] instant cases."[80] Upon its review of the remaining "narrow issues" in those cases, the Court again rejected Sierra Club's arguments under the NGA and NEPA, and upheld DOE/FE's actions in issuing the non-FTA authorizations in those proceedings.[81] The D.C. Circuit's decisions in *Sierra Club I and II* guide our review in this proceeding.

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[75] *Id*. at 201.
[76] *Id*.
[77] *Id*. at 202.
[78] *Sierra Club I*, 867 F.3d at 203.
[79] *Id.*
[80] *Sierra Club II*, 703 Fed. Appx. 1, at *2.
[81] *Id*.

D. DOE/FE's Categorical Exclusion Under NEPA

On March 28, 2019, DOE/FE issued a categorical exclusion from the preparation of an environmental impact statement or environmental assessment under NEPA for ECA's Application (Categorical Exclusion).[82] Specifically, DOE/FE applied categorical exclusion B5.7 of DOE/FE's regulations (10 C.F.R. Part 1021, Subpart D, Appendix B5). This exclusion applies to natural gas import or export activities requiring minor operational changes to existing projects, but no new construction in the United States. This Order grants the non-FTA portion of the Application, in part, on the basis of this Categorical Exclusion.

III. PUBLIC INTEREST STANDARD

Section 3(a) of the NGA sets forth the standard for review of the Applications:

> [N]o person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the [Secretary of Energy[83]] authorizing it to do so. The [Secretary] shall issue such order upon application, unless after opportunity for hearing, [he] finds that the proposed exportation or importation will not be consistent with the public interest. The [Secretary] may by [the Secretary's] order grant such application, in whole or part, with such modification and upon such terms and conditions as the [Secretary] may find necessary or appropriate.[84]

DOE—as affirmed by the D.C. Circuit—has consistently interpreted NGA section 3(a) as creating a rebuttable presumption that a proposed export of natural gas is in the public interest.[85] Accordingly, DOE will conduct an informal adjudication and grant a non-FTA application unless

[82] U.S. Dep't of Energy, Categorical Exclusion Determination, *Energía Costa Azul, S. de R.L. de C.V.*, FE Docket No. 18-144-LNG (Mar. 28, 2019) [hereinafter Categorical Exclusion].

[83] The Secretary's authority was established by the Department of Energy Organization Act, 42 U.S.C. § 7172, which transferred jurisdiction over imports and export authorizations from the Federal Power Commission to the Secretary of Energy.

[84] 15 U.S.C. § 717b(a).

[85] *See Sierra Club*, 867 F.3d at 203 ("We have construed [NGA section 3(a)] as containing a 'general presumption favoring [export] authorization.'") (quoting *W. Va. Pub. Serv. Comm'n v. U.S. Dep't of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982)).

DOE finds that the proposed exportation will not be consistent with the public interest.[86] Before reaching a final decision, DOE must also comply with NEPA.

Although NGA section 3(a) establishes a broad public interest standard and a presumption favoring export authorizations, the statute does not define "public interest" or identify criteria that must be considered in evaluating the public interest. In prior decisions, DOE has identified a range of factors that it evaluates when reviewing an application for export authorization. These factors include economic impacts, international impacts, security of natural gas supply, and environmental impacts, among others. To conduct this review, DOE looks to record evidence developed in the application proceeding.

DOE's prior decisions have also looked to certain principles established in its 1984 Policy Guidelines.[87] The goals of the Policy Guidelines are to minimize federal control and involvement in energy markets and to promote a balanced and mixed energy resource system. The Guidelines provide that:

> The market, not government, should determine the price and other contract terms of imported [or exported] natural gas …. The federal government's primary responsibility in authorizing imports [or exports] will be to evaluate the need for the gas and whether the import [or export] arrangement will provide the gas on a competitively priced basis for the duration of the contract while minimizing regulatory impediments to a freely operating market.[88]

[86] *See id.* ("there must be 'an affirmative showing of inconsistency with the public interest' to deny the application" under NGA section 3(a)) (quoting *Panhandle Producers & Royalty Owners Ass'n v. Econ. Regulatory Admin.*, 822 F.2d 1105, 1111 (D.C. Cir. 1987)).
[87] New Policy Guidelines and Delegations Order Relating to Regulation of Imported Natural Gas, 49 Fed. Reg. 6684 (Feb. 22, 1984) [hereinafter 1984 Policy Guidelines].
[88] *Id*. at 6685.

While the Policy Guidelines are nominally applicable to natural gas import cases, DOE subsequently held in Order No. 1473 that the same Policy Guidelines should be applied to natural gas export applications.[89]

In Order No. 1473, DOE stated that it was guided by DOE Delegation Order No. 0204-111.[90] That delegation order directed the regulation of exports of natural gas "based on a consideration of the domestic need for the gas to be exported and such other matters as the Administrator [of the Economic Regulatory Administration] finds in the circumstances of a particular case to be appropriate."[91]

Although DOE Delegation Order No. 0204-111 is no longer in effect, DOE's review of export applications has continued to focus on: (i) the domestic need for the natural gas proposed to be exported, (ii) whether the proposed exports pose a threat to the security of domestic natural gas supplies, (iii) whether the arrangement is consistent with DOE's policy of promoting market competition, and (iv) any other factors bearing on the public interest, as determined by DOE.

IV. DESCRIPTION OF REQUEST

A. Description of Applicant

ECA is a Mexico variable-capital, limited liability company with its principal place of business in Mexico City, Mexico. ECA is owned by Infrastructura Energetica Nova, S.A.B. de C.V. (IEnova) and IEnova's subsidiaries. A majority of the ownership interests in IEnova

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[89] *Phillips Alaska Natural Gas Corp., et al.*, DOE/FE Order No. 1473, FE Docket No. 96-99-LNG, Order Extending Authorization to Export Liquefied Natural Gas from Alaska (Apr. 2, 1999), at 14 (citing *Yukon Pacific Corp.*, DOE/FE Order No. 350, Order Granting Authorization to Export Liquefied Natural Gas from Alaska, 1 FE ¶ 70,259, at 71,128 (1989)).

[90] *See id*. at 13 and n.45.

[91] DOE Delegation Order No. 0204-111 (Feb. 22, 1984), at 1 (¶ (b)); *see also* 1984 Policy Guidelines, 49 Fed. Reg. at 6690 (incorporating DOE Delegation Order No. 0204-111). In February 1989, the Assistant Secretary for Fossil Energy assumed the delegated responsibilities of the Administrator of the Economic Regulatory Administration. *See* Applications for Authorization to Construct, Operate, or Modify Facilities Used for the Export or Import of Natural Gas, 62 Fed. Reg. 30,435, 30,437 n.15 (June 4, 1997) (citing DOE Delegation Order No. 0204-127, 54 Fed. Reg. 11,436 (Mar. 20, 1989)).

(66.43%) is held by indirect, wholly-owned subsidiaries of Sempra Energy, a publicly-traded California corporation.[92] The remaining shares of IEnova are publicly traded.[93] ECA states that the ECA Mid-Scale Project is a joint effort between Sempra Energy and IEnova.[94]

B. Existing Terminal

ECA states that its existing regasification terminal is located on a 67.85-acre brownfield site owned by ECA, situated approximately 19 miles north of the city of Ensenada in Baja California, Mexico, along the Pacific coast. The site is located approximately 31 miles south of the San Diego-Tijuana/San Ysidro border between the United States and Mexico. ECA states that the proposed liquefaction facilities associated with the ECA Mid-Scale Project will be constructed on or adjacent to this site.[95]

The regasification terminal consists of two full containment storage tanks with a capacity of 160,000 cubic meters (m3) each, regasification facilities with a capacity of approximately 1.0 Bcf/d, one marine berth capable of transferring up to 266,000 m3 of LNG, and bi-directional interconnections with various Mexican pipeline facilities, among other features. ECA states that the terminal commenced operations in 2008.[96]

C. The Energía Costa Azul Mid-Scale Project

According to ECA, the requested export volume represents the "maximum productive capacity of the facilities based upon an assumption of optimal operational and ambient conditions."[97] ECA states that the major components to be constructed as part of the ECA Mid-Scale Project include: one new liquefaction train with a combined gas pre-treatment unit; new

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[92] *Id*. at 8-9.
[93] *Id*. at 9 n.12.
[94] *Id*. at 15.
[95] ECA App. at 6, 15.
[96] *Id*. at 6 n.7, 15.
[97] *Id*. at 9 n.13.

ground flare equipment; and piping and utility tie-ins to the existing LNG terminal facilities, subject to certain modification. ECA states that feed gas will be supplied through a dedicated high-pressure spur pipeline. ECA further states that new or modified utilities and offsite facilities will be provided for the ECA Mid-Scale Project, as necessary.[98]

In its Project Update filed on February 13, 2019, ECA states that it "now has in place all necessary key federal Mexican environmental authorizations to construct and operate the Mid-Scale Project."[99] ECA further states that it expects to commence construction activities associated with the ECA Mid-Scale Project in the first part of 2021, and to place the ECA Mid-Scale Project into commercial operation no later than 2025.[100]

D. Project Pipelines

ECA states that it plans to export natural gas by pipeline from the United States through existing and, potentially, future cross-border pipeline facilities interconnecting the United States and Mexico.[101] First, ECA states that the proposed ECA Mid-Scale Project is well-positioned to access numerous existing pipelines. According to ECA, the export capacity through existing border-crossing pipeline facilities between the United States and Mexico is approximately 14.8 Bcf/d of natural gas, whereas it is requesting to export U.S.-sourced LNG to non-FTA countries in a volume of 0.44 Bcf/d from the Mid-Scale Project.[102] ECA thus asserts that "the physical southbound capacity of the cross-border facilities is several times in excess of the full volume requested in this Application."[103]

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[98] *Id*. at 9, 15.
[99] Project Update, *supra* note 2; *see also* ECA App. at 6, 9.
[100] ECA App. at 5.
[101] *Id*. at 3, 5-6.
[102] *Id*. at 20 & n.34, 21.
[103] *Id*. at 21; *see also* 6, 7 n.8 (citing ECA App., Appendix E, "Summary of Existing Cross-Border Facilities"); *see also id*. at 20 (stating that its requested export volume represents a "small fraction" of the existing cross-border pipeline capacity).

ECA states that it is considering several natural gas supply options for the ECA Mid-Scale Project. For example, ECA states that the physical capacity of the facilities operated by North Baja Pipeline—an interstate pipeline owned by TransCanada Corporation and subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC)—currently exceeds its requested export volume.[104] According to ECA, the North Baja Pipeline's mainline facilities extend approximately 80 miles from an interconnection point with El Paso Natural Gas Company near Ehrenberg, Arizona, to a point on the United States-Mexico border near Ogilby, California. There, the North Baja Pipeline interconnects in Mexico to Gasoducto Rosarito, a pipeline owned by IEnova.[105]

ECA identifies other existing pipelines through which natural gas may be transported to the Mid-Scale Project, including the Sierrita Gas Pipeline, Comanche Trail Pipeline, ONEOK Partners' Roadrunner Pipeline, and Trans-Pecos Pipeline.[106] ECA asserts that the "existing physical capacity on [the North Baja Pipeline], in addition to other cross-border facilities like Sierrita, Comanche Trail, Roadrunner, and Trans-Pecos, total approximately 4.4 Bcf/d of the nearly 15 Bcf/d of total cross-border capacity at the U.S.-Mexico border."[107] In sum, ECA states that "the cross-border capacity at these locations exceeds several times the volume requested in this Application."[108]

Additionally, ECA requests that DOE/FE: (i) issue the requested authorization "without imposing any restriction upon the points of export and/or facilities along the U.S./Mexican

[104] *Id*. at 20.
[105] *Id*.
[106] ECA App. at 20-21.
[107] *Id*. at 21.
[108] *Id*. DOE/FE notes that EIA maintains a list of natural gas pipeline projects announced or under construction. *See* U.S. Energy Info. Admin., Natural Gas: Pipeline Projects, *available at*: https://www.eia.gov/naturalgas/data.php#pipelines (follow link) (Jan. 10, 2019).

border that ECA may utilize to export gas destined for the ECA Mid-Scale Project from the United States,"[109] and (ii) "not require ECA to file a subsequent application for supplemental authorization if new or expanded U.S. pipelines are constructed in the future that ECA could use to export natural gas up to ECA's requested export volume."[110]

E. Source of Natural Gas

ECA states that the proposed ECA Mid-Scale Project will have access to a wide range of natural gas supply options through the integrated pipeline grid in the United States.[111] Specifically, natural gas may be sourced from basins throughout the United States, including the Gulf Coast, Mid-Continent, West Texas, and Rocky Mountain regions—providing ECA with a choice of diverse, reliable natural gas supplies.[112] ECA asserts that, as a result of these supply options, the ECA Mid-Scale Project will be able to respond to shifts in the economics and production profiles of different natural gas production areas.[113]

F. Business Model

ECA requests this authorization on its own behalf and as agent for other entities that will hold title to the LNG at the time of re-export. ECA states that, when acting as agent, it will register with DOE/FE each LNG title holder for which it seeks to re-export LNG as agent, and will comply with other registration requirements as set forth in recent DOE/FE orders.[114]

In its Project Update, ECA notified DOE/FE that, in November 2018, "it was announced that heads of agreements have been signed with three potential customers (Total S.A., Mitsui & Co., and Tokyo Gas Co.) for the negotiation of sales and purchase agreements for the full

[109] ECA App. at 54; *see also id*. at 4, 19-21, 54-59.
[110] *Id.* at 4; *see also id*. at 5, 19-21, 54-62.
[111] *Id*. at 12.
[112] *See id*. at 16.
[113] *Id*. at 19.
[114] ECA App. at 14.

capacity of the ECA Mid-Scale Project."[115] ECA states that it will file all long-term, binding contracts associated with the re-export of LNG from the ECA Mid-Scale Project once executed, in accordance with DOE's established policy and will comply with all DOE/FE requirements for exporters and agents, including registration requirements.[116]

V. APPLICANT'S PUBLIC INTEREST ANALYSIS

A. Overview

ECA asserts that its requested authorization is consistent with the public interest under section 3(a) of the NGA, citing the abundant and robust supply of U.S. natural gas as well as the benefits associated with increased trade in U.S. natural gas.[117]

B. Domestic Need for the LNG to be Exported

ECA states that the rate of demand for natural gas will continue to be outpaced by the growth of available supply despite the projected growth in domestic demand for natural gas.[118] ECA contends that the requested authorization will not significantly reduce the volume of natural gas potentially available for domestic consumption.[119] Therefore, ECA asserts that the current supply of U.S. natural gas is able to serve "both the domestic natural gas needs and the needs of the ECA Mid-Scale Project for the proposed 20-year term."[120]

In support of this position, ECA cites EIA's AEO 2018.[121] ECA states that natural gas production over the 2017-2020 period will grow by 6% per year (greater than the 4% growth rate from 2005 to 2015) and the growth trend is expected to continue over the next several

[115] Project Update at 2.
[116] ECA App. at 14.
[117] *Id.* at 9-11.
[118] *Id*. at 34.
[119] *Id*. at 10.
[120] *Id*. at 9.
[121] *Id.* at 17 n.25; *see also supra* note 61.

decades.[122] ECA also points to the significant increase in AEO 2018's estimates of shale gas production through 2035 as compared to AEO's projections in 2015.[123] ECA asserts that domestic demand for natural gas will grow at an annual rate of 0.8% from 2017 to 2050, while domestic production of dry gas during the same time period is projected to grow at an annual rate of 1.4%.[124]

C. Impact on Domestic Natural Gas Prices

Citing DOE/FE's 2012 LNG Export Study, ECA contends that although natural gas prices may rise over time, the price changes attributable to the LNG exports are expected to remain in a relatively narrow range across the entire range of scenarios, including scenarios with unlimited LNG exports.[125] ECA states that, "[e]ven in the export scenarios that led to the most significant theoretical price increases projected by the 2012 EIA Study, the NERA Study found net benefits to U.S. consumers."[126] Additionally, ECA discusses DOE/FE's economic studies since 2012—including the 2014, 2015, and 2018 LNG Export Studies—in asserting that higher levels of LNG exports in response to international demand will lead to higher levels of GDP.[127]

ECA states that, in 2018, it commissioned ICF International (ICF) to prepare a report, called the ICF Mid-Scale Report, to examine the potential economic impacts of ECA's Mid-Scale Application.[128] According to ECA, the ICF Mid-Scale Report supports the conclusion that the proposed non-FTA exports "will have a minimal adverse effect on domestic natural gas

[122] ECA App. at 32 (citing AEO 2018 at 62).
[123] *Id*. at 33.
[124] *Id*. at 34-35 (citing AEO 2018 at Tables 13, 14).
[125] *Id.* at 36-37.
[126] *Id.* at 37.
[127] *Id*. at 37-40.
[128] *See* ECA App., Appx. B1, ICF International, *Economic Impacts of the Proposed Energía Costa Azul Mid-Scale Liquefaction Project: Information for DOE Non-FTA Permit Application* (Sept. 11, 2018) [hereinafter ICF Mid-Scale Report]; *see also* ECA App. at 10 n.14.

prices."[129] Citing ICF's Report, ECA asserts that, by 2045, the average increase in the Henry Hub natural gas price attributable to the ECA Mid-Scale Project is "only approximately $0.02/MMBtu, from an estimated 2045 price of $4.41/MMBtu (with some LNG exports, but not the Project) to a 2045 price with the Project of $4.43/MMBtu."[130]

D. Public Benefits

ECA asserts that its requested authorization will result in the following economic, environmental, and geopolitical benefits consistent with the public interest:

- Economic stimulus through the creation of jobs, increased tax revenues, and reduction of the nation's trade deficit;[131]
- Assist countries in moving away from less environmentally friendly fuels;[132] and
- Support geopolitical security interests of the U.S.[133]

Specifically, ECA contends that the Mid-Scale Project will create an average of nearly 6,600 jobs for the U.S. economy annually between 2021 through 2045 (the forecast period).[134] ECA further states that LNG exports from its Mid-Scale Project are estimated to increase collective government revenues by $535 million annually, which translates to a cumulative increase of $13.3 billion over the forecast period.[135]

In addition to the increase in jobs and governmental revenue, ECA contends that the Mid-Scale Project is expected to generate a cumulative value of approximately $37.2 billion of natural gas and LNG exports during the forecast period, which will favorably influence the

[129] ECA App. at 41.
[130] *Id*. (citing ICF Mid-Scale Report at 48).
[131] *Id*. at 42-44.
[132] *Id*. at 44-45.
[133] *Id*. at 44.
[134] *Id*. at 42.
[135] ECA App. at 43.

balance of trade that the U.S. has with its international trading partners.[136] ECA cites the ICF Mid-Scale Report in projecting that the "expected value of natural gas and LNG exports from the Mid-Scale Project is estimated to reduce the U.S. balance of trade deficit by $1.5 billion annually between 2021 and 2045."[137]

Next, ECA states that LNG exports will diversify the global supply of energy resources, which will support geopolitical security interests of the United States by providing energy supply alternatives to its allies. According to ECA, the export of domestically produced LNG will promote liberalization of the global natural gas market, thus reducing natural gas price volatility around the world. [138]

Finally, ECA contends that LNG exports can have significant environmental benefits. ECA points out that natural gas is cleaner burning than other fossil fuels and may assist in displacing the current consumption of those fuels.[139]

VI. CURRENT PROCEEDING BEFORE DOE/FE

DOE/FE did not receive any comments to ECA's Notice of Application published in the *Federal Register*.[140] As a result, ECA's Application is uncontested.

VII. DISCUSSION AND CONCLUSIONS

In reviewing the non-FTA portion of ECA's Application, DOE/FE has considered both its obligations under NGA section 3(a) and NEPA. To accomplish these purposes, DOE/FE has examined a wide range of information addressing environmental and non-environmental factors, including:

- ECA's uncontested Application;

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[136] *Id*.
[137] *Id*. at 44 (citing ICF Mid-Scale Report at 52).
[138] *Id*.
[139] *Id*. at 45.
[140] *See* Notice of Application, 83 Fed. Reg. 54,097.

- The Draft Addendum, comments received in response to the Draft Addendum, and the final Addendum;
- The LCA GHG Report (and the supporting NETL document), including comments submitted in response to those documents; and
- The 2018 LNG Export Study, including comments received in response to those Studies.

A. Non-Environmental Issues

1. Significance of the 2018 LNG Export Study

As discussed above, DOE/FE commissioned the 2018 LNG Export Study and invited public comments on the Study. DOE/FE analyzed this material in its Response to Comments published in the *Federal Register* on December 28, 2018. On the basis of the 2018 Study, DOE/FE concluded that the United States will experience net economic benefits from the issuance of authorizations to export domestically produced LNG.[141] The 2018 Study further supports the proposition that exports of LNG from the lower-48 states, in volumes up to and including 52.8 Bcf/d of natural gas, will not be inconsistent with the public interest.[142]

We take administrative notice of EIA's recent authoritative projections for natural gas supply, demand, and prices, set forth in the *Annual Energy Outlook 2019* (AEO 2019), issued on January 24, 2019.[143] DOE/FE has assessed AEO 2019 to evaluate any differences from AEO 2017, which formed the basis for the 2018 LNG Export Study. The Reference case for AEO 2017 includes the effects of the Clean Power Plan (CPP) final rule, which was intended to reduce GHG emissions from the power sector.[144] AEO 2017 also included a Reference case without

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[141] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,272; *see also supra* § II.A.3.
[142] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.
[143] U.S. Energy Info. Admin., *Annual Energy Outlook 2019* (Jan. 24, 2019), *available at*: https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf.
[144] U.S. Envtl. Prot. Agency, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 Fed. Reg. 64,662 (Oct. 23, 2015). On February 9, 2016, the U.S. Supreme Court issued a stay of the effectiveness of the CPP final rule pending review by the D.C. Circuit in consolidated cases

implementation of the CPP. Both AEO 2017 Reference cases show natural gas production levels that favor exports, but that also have lower net LNG exports in 2050 (12.0 Bcf/d for the Reference case with the CPP and 12.5 Bcf/d for the Reference case without the CPP), compared with AEO 2019 that shows net LNG exports of 13.8 Bcf/d in 2050. As discussed below, AEO 2019—which does not include the CPP in its Reference case—is even more supportive of exports than both Reference cases for AEO 2017.

EIA's projections in AEO 2019 continue to show market conditions that will accommodate increased exports of natural gas. When compared to the AEO 2017 Reference cases, both with and without the CPP, the AEO 2019 Reference case projects increases in domestic natural gas production—well in excess of what is required to meet projected increases in domestic consumption.

For these reasons, we reaffirm that the 2018 LNG Export Study is fundamentally sound. The 2018 Study, as well as AEO 2019, support our finding that ECA's proposed authorization will not be inconsistent with the public interest.

2. ECA's Application

Upon review, DOE/FE finds that several factors identified in the Application, as well as in the 2018 LNG Export Study, support a grant of ECA's requested non-FTA authorization.

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challenging the rule. *See Chamber of Commerce, et al. v. EPA, et al*., No. 15A787, Order in Pending Case (U.S. Feb. 9, 2016). The litigation over the CPP final rule pending in the D.C. Circuit has been held in abeyance as the U.S. Environmental Protection Agency (EPA) reviews the CPP and considers an alternative regulatory approach. *See West Virginia, et al. v. EPA, et al*., Case Nos. 15-1363 *et al*., EPA Status Report, at 2-3 (D.C. Cir. Mar. 11, 2019) (describing the proposed "Affordable Clean Energy Rule"). That rulemaking is on-going, and EPA has asked for the consolidated cases to remain in abeyance pending the conclusion of the rulemaking. *See* EPA Status Report at 3.

First, we find that the 2018 LNG Export Study and AEO 2019 continue to project robust domestic supply conditions that are more than adequate to satisfy both domestic needs and exports of LNG, including those proposed in the Application.[145]

Second, the 2018 LNG Export Study indicates that exports of LNG will generate net economic benefits to the broader U.S. economy.[146] Indeed, the 2018 Study consistently shows macroeconomic benefits to the U.S. economy in every scenario, as well as positive annual growth across the energy intensive sectors of the economy.[147]

Third, as discussed below, over the 20-year term of the authorization, the proposed re-exports of LNG to non-FTA countries will improve the liquidity of international natural gas markets and will make a positive contribution to the United States' trade balance. For these reasons, we agree with ECA that its proposed re-exports of LNG are consistent with U.S. policy.[148]

Accordingly, based on the 2018 Study and the more recent data in AEO 2019, DOE/FE finds that the market will be capable of sustaining the level of re-exports of LNG requested in ECA's Application over the authorization term without negative economic impacts, including domestic price impacts (discussed below).

3. Pipeline Routes

With respect to the pipelines associated with its proposed exports and re-exports, ECA asks DOE/FE to issue the requested authorization without imposing physical restrictions on the export points, and without requiring a supplemental authorization if new or expanded U.S.

[145] *See, e.g.*, 2018 Study Response to Comments, 83 Fed. Reg. at 67,262.
[146] *Id*.
[147] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,268-69 (citing 2018 LNG Export Study at 67, 70).
[148] ECA App. at 43-44.

pipelines become available for ECA's potential use to export natural gas in the requested export volume.[149] Consistent with DOE/FE's non-FTA authorization recently issued to Mexico Pacific Limited LLC (DOE/FE Order No. 4312),[150] this Order does not impose any physical limits on the southbound border-crossing facilities to be used and is not conditioned on the need for a supplemental authorization in the future. The natural gas pipeline trade between the United States and Mexico is robust, such that multiple border-crossing points are currently available for ECA's use. Additionally, DOE/FE agrees with ECA that the existing cross-border pipeline capacity between the United States and Mexico far exceeds the volume of natural gas requested for re-export as LNG in this Order (0.44 Bcf/d).[151]

These factors, among others, distinguish ECA's proposed re-exports from those approved in the parallel *Pieridae* and *Bear Head* non-FTA authorizations (DOE/FE Order Nos. 3768[152] and 3770,[153] respectively), which involved the transport of natural gas on only one pipeline between the United States and Canada. In *Pieridae*, for example, we observed that the proceeding presented "an unusual factual circumstance."[154] We noted that, unlike the typical

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[149] *Id.* at 4; *see also id*. at 5, 19-20, 54-62.
[150] *See Mexico Pacific Limited LLC*, DOE/FE Order No. 4312, FE Docket No. 18-70-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas by Pipeline to Mexico for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Dec. 14, 2018).
[151] *See* App. at 18-21; *see also*, *e.g.*, U.S. Energy Info. Admin., *Today in Energy*, "U.S. natural gas pipeline exports increase with commissioning of new pipelines in Mexico" (Aug. 22, 2018), *available at*: https://www.eia.gov/todayinenergy/detail.php?id=36935 (showing existing capacity of U.S.-Mexican cross-border pipelines through May 2018 and discussing projected expansions).
[152] *Pieridae Energy (USA) Ltd*., DOE/FE Order No. 3768, FE Docket No. 14-179-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).
[153] *Bear Head LNG Corporation and Bear Head LNG (USA)*, DOE/FE Order No. 3770, FE Docket No. 15-33-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).
[154] *Pieridae Energy (USA) Ltd*., DOE/FE Order No. 3768, at 195.

LNG export proceeding involving "the ready availability of natural gas through an integrated grid of multiple interstate natural gas pipelines," the Pieridae application "call[ed] for the transportation of U.S.-sourced natural gas through a single interstate natural gas pipeline (the M&N US Pipeline)."[155] Moreover, we found that Pieridae "[had] not established whether the existing capacity of the M&N US Pipeline is sufficient to transport the volumes contemplated for export in the Application."[156] Here, by contrast, there are numerous existing southbound pipelines capable of transporting natural gas to ECA's proposed Mid-Scale Project (identified *supra* § IV.D), and those pipelines have more than enough capacity to support the export volume. For these reasons, DOE/FE finds that no conditions related to pipelines are necessary in this Order.

4. Price Impacts

As discussed above, the 2018 LNG Export Study projects the economic impacts of LNG exports in a range of scenarios, including scenarios that exceed the current amount of LNG exports authorized in the final non-FTA export authorizations to date (equivalent to a total of 26.48 Bcf/d of natural gas with the issuance of this Order). The 2018 Study found that, "[i]ncreasing U.S. LNG exports under any given set of assumptions about U.S. natural gas resources and their production leads to only small increases in U.S. natural gas prices."[157]

Additionally, DOE/FE has analyzed AEO 2019 to evaluate any differences from AEO 2017, which formed the basis for the 2018 LNG Export Study. Comparing key results from 2050 (the end of the projection period in Reference case projections from AEO 2017) shows that

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[155] *Id*. at 195-96.
[156] *Id.* at 196 (emphasizing that "DOE/FE has not dealt previously with circumstances where, as here, the applicant identifies only a single pipeline capable of transporting natural gas to an LNG terminal for export and that pipeline may not presently have the capacity to meet the anticipated demand for export volumes."); *see also infra* at 45 (discussing Pieridae and Bear Head orders).
[157] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,258 (citing 2018 LNG Export Study at 55).

the Reference case outlook in AEO 2019 projects lower-48 market conditions that would be even more supportive of LNG exports than in AEO 2017, including higher production and demand coupled with lower prices. For example, for the year 2050, the AEO 2019 Reference case anticipates nearly 8% and 10% more natural gas production in the lower-48 than the AEO 2017 Reference case with the CPP and without the CPP, respectively. It also projects an average Henry Hub natural gas price that is lower than the AEO 2017 Reference cases by nearly 20% for the Reference case with the CPP and 17% for the Reference case without the CPP. Table 1 below shows these comparisons:

Table 1: Year 2050 Reference Case Comparisons in AEO 2017 and AEO 2019

	AEO 2017 Reference Case **With Clean Power Plan**	**AEO 2017 Reference Case** **Without Clean Power Plan**	**AEO 2019 Reference Case** **Without Clean Power Plan**
Lower-48 Dry Natural Gas Production (Bcf/d)	109.6	107.9	118.3
Total Natural Gas Consumption (Bcf/d)	94.8	92.4	95.8
Electric Power Sector Consumption (Bcf/d)	34.2	31.8	33.3
<u>Net</u> Exports by Pipeline (Bcf/d)	3.2	3.4	8.9
<u>Net</u> LNG Exports (Bcf/d)	12.0	12.5	13.8
LNG Exports – Total (Bcf/d)	12.2	12.7	14.1
Henry Hub Spot Price ($/MMBtu) (Note 1)	$6.07 (2018$)	$5.88 (2018$)	$4.87 (2018$)

Note 1: Prices adjusted to 2018$ with the AEO 2017 projection of a Gross Domestic Product price index.

5. Benefits of International Trade

We have not limited our review to the 2018 LNG Export Study and data from AEO 2019, but have considered the international consequences of our decision. As discussed above, we review applications to export LNG to non-FTA nations under section 3(a) of the NGA. The United States' commitment to free trade is one factor bearing on that review.

Additionally, an efficient, transparent international market for natural gas with diverse sources of supply provides both economic and strategic benefits to the United States and our allies. Indeed, increased production of domestic natural gas has significantly reduced the need for the United States to import LNG. In global trade, LNG shipments that would have been destined to U.S. markets have been redirected to Europe and Asia, improving energy security for many of our key trading partners. To the extent U.S. exports can diversify global LNG supplies and increase the volumes of LNG available globally, these exports will improve energy security for many U.S. allies and trading partners. As such, we agree with ECA that authorizing its re-exports may advance the public interest for reasons that are distinct from and additional to the economic benefits identified in the 2018 LNG Export Study.

B. Environmental Issues

1. Issuance of a Categorical Exclusion

DOE's regulations at 10 C.F.R. Part 1021, Subpart D, Appendix B, list categorical exclusions that apply to DOE actions. Item B5.7 provides a categorical exclusion where approvals or disapprovals of authorizations to import or export natural gas under NGA section 3 involve minor operational changes, but not new construction. We find that the present authorization falls within the scope of the B5.7 categorical exclusion for two reasons. First, ECA will construct the natural gas liquefaction facility—the proposed Mid-Scale Project—in Mexico. This construction outside of the United States is beyond the scope of DOE's environmental review under NEPA. Second, the transportation of U.S.-sourced natural gas will occur via existing cross-border transmission pipelines, and therefore will not involve new construction of facilities located within the United States. On this basis, DOE/FE issued the Categorical Exclusion on March 28, 2019.[158]

The issuance of the Categorical Exclusion supports a determination that no further environmental review of the non-FTA portion of ECA's Application is required under NEPA. Therefore, we find that no environmental conditions need to be imposed on this authorization.

2. Environmental Impacts Associated with Induced Production of Natural Gas

The current rapid development of natural gas resources in the United States likely will continue, with or without the export of natural gas to non-FTA nations.[159] Nevertheless, a decision by DOE/FE to authorize exports to non-FTA nations could accelerate that development by some increment. As discussed above, the Addendum reviewed the academic and technical literature covering the most significant issues associated with unconventional gas production, including impacts to water resources, air quality, greenhouse gas emissions, induced seismicity, and land use.

The Addendum shows that there are potential environmental issues associated with unconventional natural gas production that need to be carefully managed, especially with respect to emissions of volatile organic compounds (VOCs) and methane, and the potential for groundwater contamination. These environmental concerns do not lead us to conclude, however,

[158] *See supra* note 82.
[159] Addendum at 2.

that exports of natural gas to non-FTA nations should be prohibited. Rather, we believe the public interest is better served by addressing these environmental concerns directly—through federal, state, or local regulation, or through self-imposed industry guidelines where appropriate—rather than by prohibiting exports of natural gas. Unlike DOE, environmental regulators have the legal authority to impose requirements on natural gas production that appropriately balance benefits and burdens, and to update these regulations from time to time as technological practices and scientific understanding evolve.

By comparison, section 3(a) of the NGA is too blunt an instrument to address these environmental concerns efficiently. A decision to prohibit exports of natural gas would cause the United States to forego entirely the economic and international benefits discussed herein, but would have little more than a modest, incremental impact on the environmental issues identified by intervenors.

For these reasons, we conclude that the environmental concerns associated with natural gas production do not establish that exports of natural gas to non-FTA nations are inconsistent with the public interest. We note that the D.C. Circuit in *Sierra Club I* rejected Sierra Club's arguments on this basis, and we find that the Court's conclusions and reasoning control in this proceeding.[160]

3. Greenhouse Gas Impacts Associated with U.S. LNG Exports

Sierra Club and other commenters on the Life Cycle Greenhouse Gas (LCA GHG) Report, the Addendum, and the 2018 LNG Export Study (as well as DOE/FE's earlier economic studies) expressed concern that exports of natural gas could have a negative effect on the GHG intensity and total amount of energy consumed in foreign nations.

[160] *See Sierra Club I*, 867 F.3d at 203 (rejecting argument that DOE arbitrarily failed to evaluate foreseeable indirect effects of exports under NGA section 3(a)); *see supra* § II.C.

The LCA GHG Report estimated the life cycle GHG emissions of U.S. LNG exports to Europe and Asia, compared with certain other fuels used to produce electric power in those importing countries.[161] The key findings for U.S. LNG exports to Europe and Asia are summarized in Figures 1 and 2 below:

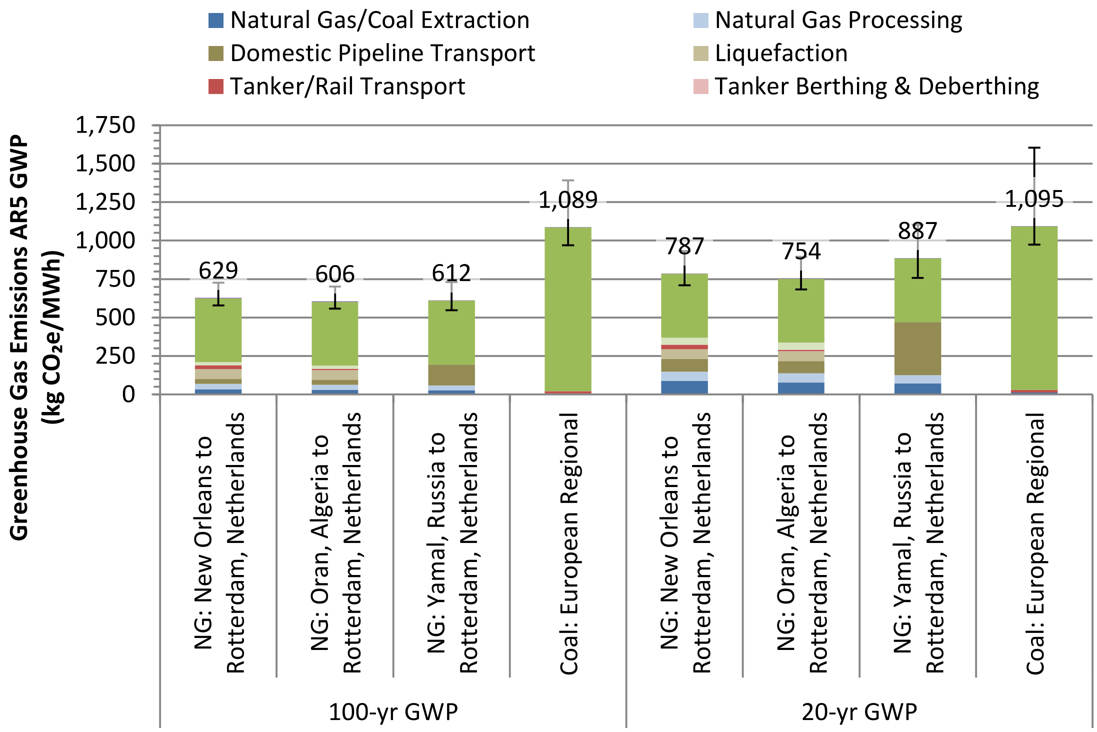

Figure 1: Life Cycle GHG Emissions for Natural Gas and Coal Power in Europe[162]

[161] *See supra* § II.B.
[162] LCA GHG Report at 9 (Figure 6-1).

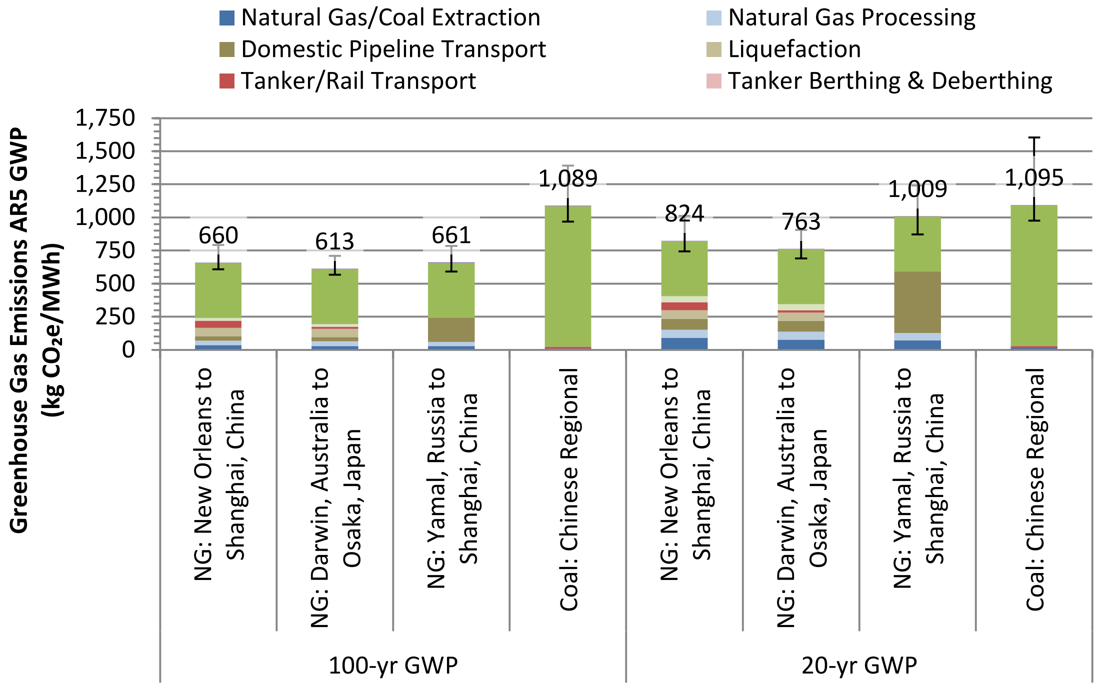

Figure 2: Life Cycle GHG Emissions for Natural Gas and Coal Power in Asia[163]

While acknowledging substantial uncertainty, the LCA GHG Report shows that to the extent U.S. LNG exports are preferred over coal in LNG-importing nations, U.S. LNG exports are likely to reduce global GHG emissions. Further, to the extent U.S. LNG exports are preferred over other forms of imported natural gas, they are likely to have only a small impact on global GHG emissions.[164]

The LCA GHG Report does not answer the ultimate question whether authorizing exports of natural gas to non-FTA nations will increase or decrease global GHG emissions, because regional coal and imported natural gas are not the *only* fuels with which U.S.-exported LNG would compete. U.S. LNG exports may also compete with renewable energy, nuclear energy, petroleum-based liquid fuels, coal imported from outside East Asia or Western Europe, indigenous natural gas, synthetic natural gas derived from coal, and other resources, as well as

[163] LCA GHG Report at 10 (Figure 6-2).
[164] *Id.* at 9, 18.

efficiency and conservation measures. To model the effect that U.S. LNG exports would have on net global GHG emissions would require projections of how each of these fuel sources would be affected in each LNG-importing nation. Such an analysis would not only have to consider market dynamics in each of these countries over the coming decades, but also the interventions of numerous foreign governments in those markets.

The uncertainty associated with estimating each of these factors would likely render such an analysis too speculative to inform the public interest determination in this or other non-FTA LNG export proceedings. Accordingly, DOE/FE elected to focus on the discrete question of how U.S. LNG compares on a life cycle basis to regional coal and other sources of imported natural gas in key LNG-importing countries. The conclusions of the LCA GHG Report, combined with the observation that many LNG-importing nations rely heavily on fossil fuels for electric generation, suggests that exports of U.S. LNG may decrease global GHG emissions, although there is substantial uncertainty on this point as indicated above. Based on the record evidence, however, we see no reason to conclude that U.S. LNG exports will increase global GHG emissions in a material or predictable way.

Finally, we note that, in *Sierra Club I*, the D.C. Circuit ruled in DOE's favor on the argument that DOE/FE should have evaluated additional variables in the LCA GHG Report, such as the potential for LNG to compete with renewable energy sources in certain import markets. The D.C. Circuit rejected Sierra Club's argument, saying it fell "under the category of flyspecking" and that the Court "[saw] nothing arbitrary about the Department's decision."[165] We find that the Court's conclusions and reasoning control in this proceeding.

[165] *Sierra Club I*, 867 F.3d at 202 (internal quotations and citation omitted).

C. Other Considerations

The conclusion of the 2018 LNG Export Study is that the United States will experience net economic benefits from the export of domestically produced LNG. Nonetheless, our decision in this Order is not premised on an uncritical acceptance of that Study. Certain public comments received on the 2018 Study identify significant uncertainties and even potential negative impacts from LNG exports. The economic impacts of higher natural gas prices and potential increases in natural gas price volatility are two of the factors that we view most seriously. Yet we also have taken into account factors that could mitigate these impacts, such as the current oversupply situation and data indicating that the natural gas industry would increase natural gas supply in response to increasing exports. Further, we note that it is far from certain that all or even most of the proposed LNG export projects will ever be realized because of the time, difficulty, and expense of commercializing, financing, and constructing LNG export terminals, as well as the uncertainties inherent in the global market demand for LNG.

More generally, DOE/FE continues to subscribe to the principle set forth in our 1984 Policy Guidelines[166] that, under most circumstances, the market is the most efficient means of allocating natural gas supplies. However, agency intervention may be necessary to protect the public in the event there is insufficient domestic natural gas for domestic use. There may be other circumstances as well that cannot be foreseen that would require agency action.[167] Given

[166] 1984 Policy Guidelines, 49 Fed. Reg. 6684.

[167] Some commenters previously asked DOE to clarify the circumstances under which the agency would exercise its authority to revoke (in whole or in part) previously issued LNG export authorizations. In past orders, DOE/FE stated that it could not precisely identify all the circumstances under which such action might be considered. More recently, on June 15, 2018, DOE/FE issued a policy statement addressing this issue. *See* U.S. Dep't of Energy, Policy Statement Regarding Long-Term Authorizations to Export Natural Gas to Non-Free Trade Agreement Countries, 83 Fed. Reg. 28,841 (June 21, 2018). DOE/FE noted that it has never rescinded a long-term non-FTA export authorization and stated that it "does not foresee a scenario where it would rescind one or more non-FTA authorizations." *Id*. at 28,843.

these possibilities, DOE/FE recognizes the need to monitor market developments closely as the impact of successive authorizations of LNG exports unfolds.

D. Conclusion

We have reviewed the evidence in the record and relevant precedent in earlier non-FTA export decisions and have not found an adequate basis to conclude that ECA's proposed export of U.S.-sourced natural gas to Mexico and re-export in the form of LNG from Mexico for delivery to non-FTA countries will be inconsistent with the public interest.

In deciding whether to grant a final non-FTA export authorization, we also consider the cumulative impacts of the total volume of all non-FTA export authorizations. With today's issuance of this Order and the order for ECA's Large-Scale Project, there are currently 32 final non-FTA authorizations in a cumulative volume of exports totaling 26.48 Bcf/d of natural gas, or approximately 9.67 Tcf per year, as follows: Sabine Pass Liquefaction, LLC (2.2 Bcf/d),[168] Carib Energy (USA) LLC (0.04 Bcf/d),[169] Cameron LNG, LLC (1.7 Bcf/d),[170] FLEX I (1.4 Bcf/d),[171] FLEX II (0.4 Bcf/d),[172] Dominion Cove Point LNG, LP (0.77 Bcf/d),[173] Cheniere

[168] *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2961-A, FE Docket No. 10-111-LNG, Final Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas From Sabine Pass LNG Terminal to Non-Free Trade Agreement Nations (Aug. 7, 2012).

[169] *Carib Energy (USA) LLC*, DOE/FE Order No. 3487, FE Docket No. 11-141-LNG, Final Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers by Vessel to Non-Free Trade Agreement Nations in Central America, South America, or the Caribbean (Sept. 10, 2014).

[170] *Cameron LNG, LLC*, DOE/FE Order No. 3391-A, FE Docket No. 11-162-LNG, Final Opinion and Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Cameron LNG Terminal in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations (Sept. 10, 2014).

[171] *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 3282-C, FE Docket No. 10-161-LNG, Final Opinion and Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas, to Non-Free Trade Agreement Nations (Nov. 14, 2014) (FLEX I Final Order).

[172] *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 3357-B, FE Docket No. 11-161-LNG, Final Opinion and Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas, to Non-Free Trade Agreement Nations (Nov. 14, 2014) (FLEX II Final Order).

[173] *Dominion Cove Point LNG, LP*, DOE/FE Order No. 3331-A, FE Docket No. 11-128-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas from the Cove Point LNG Terminal in Calvert County, Maryland, to Non-Free Trade Agreement Nations (May 7, 2015).

Marketing, LLC and Corpus Christi Liquefaction, LLC (2.1 Bcf/d),[174] Sabine Pass Liquefaction, LLC Expansion Project (1.38 Bcf/d),[175] American Marketing LLC (0.008 Bcf/d),[176] Emera CNG, LLC (0.008 Bcf/d),[177] Floridian Natural Gas Storage Company, LLC,[178] Air Flow North American Corp. (0.002 Bcf/d),[179] Bear Head LNG Corporation and Bear Head LNG (USA), LLC (0.81 Bcf/d),[180] Pieridae Energy (USA) Ltd.,[181] Sabine Pass Liquefaction, LLC Design Increase (0.56 Bcf/d),[182] Cameron LNG, LLC Design Increase (0.42 Bcf/d),[183] Cameron LNG,

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[174] *Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC*, DOE/FE Order No. 3638, FE Docket No. 12-97-LNG, Final Order and Opinion Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Proposed Corpus Christi Liquefaction Project to Be Located in Corpus Christi, Texas, to Non-Free Trade Agreement Nations (May 12, 2015).

[175] *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 3669, FE Docket Nos. 13-30-LNG, 13-42-LNG, & 13-121-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Sabine Pass LNG Terminal Located in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations (June 26, 2015).

[176] *American LNG Marketing LLC*, DOE/FE Order No. 3690, FE Docket No. 14-209-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Proposed Hialeah Facility Near Medley, Florida, and Exported by Vessel to Non-Free Trade Agreement Nations (Aug. 7, 2015).

[177] *Emera CNG, LLC*, DOE/FE Order No. 3727, FE Docket No. 13-157-CNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Compressed Natural Gas by Vessel From a Proposed CNG Compression and Loading Facility at the Port of Palm Beach, Florida, to Non-Free Trade Agreement Nations (Oct. 19, 2015).

[178] *Floridian Natural Gas Storage Co., LLC*, DOE/FE Order No. 3744, FE Docket No. 15-38-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Proposed Floridian Facility in Martin County, Florida, and Exported by Vessel to Non-Free Trade Agreement Nations (Nov. 25, 2015).

[179] *Air Flow North American Corp*., DOE/FE Order No. 3753, FE Docket No. 15-206-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Clean Energy Fuels Corp. LNG Production Facility in Willis, Texas, and Exported by Vessel to Non-Free Trade Agreement Nations in Central America, South America, the Caribbean, or Africa (Dec. 4, 2015).

[180] *Bear Head LNG Corporation and Bear Head LNG (USA)*, DOE/FE Order No. 3770, FE Docket No. 15-33-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).

[181] *Pieridae Energy (USA) Ltd*., DOE/FE Order No. 3768, FE Docket No. 14-179-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).

[182] *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 3792, FE Docket No. 15-63-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Sabine Pass LNG Terminal Located in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations (Mar. 11, 2016).

[183] *Cameron LNG, LLC*, DOE/FE Order No. 3797, FE Docket No. 15-167-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Cameron Terminal Located in Cameron and Calcasieu Parishes, Louisiana, to Non-Free Trade Agreement Nations (Mar. 18, 2016).

LLC Expansion Project (1.41 Bcf/d),[184] Lake Charles Exports, LLC (2.0 Bcf/d),[185] Lake Charles LNG Export Company, LLC,[186] Carib Energy (USA), LLC (0.004),[187] Magnolia LNG, LLC (1.08 Bcf/d),[188] Southern LNG Company, L.L.C. (0.36 Bcf/d),[189] the FLEX Design Increase (0.34 Bcf/d),[190] Golden Pass Products LLC (2.21 Bcf/d),[191] Delfin LNG LLC,[192] the Lake Charles LNG Export Company, LLC Design Increase (0.33 Bcf/d),[193] the Lake Charles Exports, LLC Design Increase,[194] Eagle LNG Partners Jacksonville II LLC,[195] Mexico Pacific Limited

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[184] *Cameron LNG, LLC*, DOE/FE Order No. 3846, FE Docket No. 15-90-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from Trains 4 and 5 of the Cameron LNG Terminal Located in Cameron and Calcasieu Parishes, Louisiana, to Non-Free Trade Agreement Nations (July 15, 2016).

[185] *Lake Charles Exports, LLC*, DOE/FE Order No. 3324-A, FE Docket No. 11-59-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Calcasieu Parish, Louisiana, to Non-Free Trade Agreement Nations (July 29, 2016).

[186] *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 3868, FE Docket No. 13-04-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Calcasieu Parish, Louisiana to Non-Free Trade Agreement Nations (July 29, 2016).

[187] *Carib Energy (USA) LLC*, DOE/FE Order No. 3937, FE Docket No. 16-98-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at Designated Pivotal LNG, Inc. Facilities and Exported by Vessel to Non-Free Trade Agreement Nations in Central America, South America, or the Caribbean (Nov. 28, 2016).

[188] *Magnolia LNG, LLC*, DOE/FE Order No. 3909, FE Docket No. 13-132-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Proposed Magnolia LNG Terminal to be Constructed in Lake Charles, Louisiana, to Non-Free Trade Agreement Nations (Nov. 30, 2016).

[189] *Southern LNG Company, L.L.C.*, DOE/FE Order No. 3956, FE Docket No. 12-100-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Elba Island Terminal in Chatham County, Georgia, to Non-Free Trade Agreement Nations (Dec. 16, 2016).

[190] *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 3957, FE Docket No. 16-108-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas, to Non-Free Trade Agreement Nations (Dec. 19, 2016).

[191] *Golden Pass Products LLC*, DOE/FE Order No. 3978, FE Docket No. 12-156-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Golden Pass LNG Terminal Located in Jefferson County, Texas, to Non-Free Trade Agreement Nations (Apr. 25, 2017).

[192] *Delfin LNG LLC*, DOE/FE Order No. 4028, FE Docket No. 13-147-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from a Proposed Floating Liquefaction Project and Deepwater Port 30 Miles Offshore of Louisiana to Non-Free Trade Agreement Nations (June 1, 2017).

[193] *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 4010, FE Docket No. 16-109-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Calcasieu Parish, Louisiana, to Non-Free Trade Agreement Nations (June 29, 2017).

[194] *Lake Charles Exports, LLC*, DOE/FE Order No. 4011, FE Docket No. 16-110-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Calcasieu Parish, Louisiana, to Non-Free Trade Agreement Nations (June 29, 2017).

[195] *Eagle LNG Partners Jacksonville II LLC*, DOE/FE Order No. 4078, FE Docket No. 17-79-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers

LLC,[196] Venture Global Calcasieu Pass, LLC,[197] Energía Costa Azul, S. de R.L. de C.V. (Large-Scale Project),[198] and this Order (Mid-Scale Project).

On February 5, 2019, DOE/FE vacated a non-FTA authorization previously issued to Flint Hills Resources, LP, in a volume of 0.01 Bcf/d, at the company's request.[199] Additionally, we note that the volumes authorized for export in the *Lake Charles Exports* and *Lake Charles LNG Export* orders are both 2.0 Bcf/d and 0.33 Bcf/d, respectively, yet are not additive to one another because the source of LNG approved under all of those orders is the Lake Charles Terminal. Likewise, the *Carib* and *Floridian* orders are both 14.6 Bcf/yr of natural gas (0.04 Bcf/d), yet are not additive to one another because the source of LNG approved under both orders is from the Floridian Facility.[200] Additionally, the volumes authorized for export in the *Bear Head* and *Pieridae US* orders are not additive; together, they are limited to a maximum of 0.81 Bcf/d to reflect the current capacity of the Maritimes Northeast Pipeline at the U.S.-Canadian border.[201]

Loaded at The Eagle Maxville Facility in Jacksonville, Florida, and Exported by Vessel to Free Trade Agreement and Non-Free Trade Agreement Nations (Sept. 15, 2017).

[196] *See Mexico Pacific Limited LLC*, DOE/FE Order No. 4312, FE Docket No. 18-70-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas by Pipeline to Mexico for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Dec. 14, 2018).

[197] *Venture Global Calcasieu Pass, LLC*, DOE/FE Order No. 4346, FE Docket Nos. 13-69-LNG, 14-88-LNG, 15-25-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Mar. 5, 2019).

[198] *Energía Costa Azul, S. de R.L. de C.V.*, DOE/FE Order No. 4365, *supra* note 17.

[199] *Flint Hills Resources, LP*, DOE/FE Order Nos. 3809-A and 3829-A, FE Docket No. 15-168-LNG, Order Granting Request to Vacate Long-Term, Multi-Contract Authorizations to Export LNG to Free Trade Agreement Nations and to Non-Free Trade Agreement Nations (Feb. 5, 2019) (vacating, in relevant part, DOE/FE Order No. 3829 authorizing the export of 0.01 Bcf/d of natural gas to non-FTA countries).

[200] *See Floridian Natural Gas Storage Co., LLC*, DOE/FE Order No. 3744, at 22 (stating that the quantity of LNG authorized for export by Floridian in DOE/FE Order No. 3744 "will be reduced by the portion of the total approved volume of 14.6 Bcf/yr that is under firm contract directly or indirectly to Carib Energy (USA), LLC"); *see also id*. at 21 (Floridian "may not treat the volumes authorized for export in the [*Carib* and *Floridian*] proceedings as additive to one another.").

[201] *See Bear Head LNG Corporation and Bear Head LNG (USA)*, DOE/FE Order No. 3770, at 178-79 (stating that the quantity of LNG authorized for export by Bear Head LNG and Pieridae US "are not additive; together, they are limited to a maximum of 0.81 Bcf/d to reflect the current capacity of the M&N US Pipeline.").

In sum, the total export volume granted to date is within the range of scenarios analyzed in the 2018 LNG Export Study. The 2018 Study found that exports of LNG from the lower-48 states, in volumes up to and including 52.8 Bcf/d of natural gas, will not be inconsistent with the public interest.[202]

DOE/FE will continue taking a measured approach in reviewing the other pending applications to export natural gas. Specifically, DOE/FE will continue to assess the cumulative impacts of each succeeding request for export authorization on the public interest with due regard to the effect on domestic natural gas supply and demand fundamentals.

The reasons in support of proceeding cautiously are several: (1) the 2018 LNG Export Study, like any study based on assumptions and economic projections, is inherently limited in its predictive accuracy; (2) applications to export significant quantities of domestically produced LNG are still a relatively new phenomena with uncertain impacts; and (3) the market for natural gas has experienced rapid reversals in the past and is again changing rapidly due to economic, technological, and regulatory developments. The market of the future very likely will not resemble the market of today. In recognition of these factors, DOE/FE intends to monitor developments that could tend to undermine the public interest in grants of successive applications for exports of domestically produced LNG and to attach terms and conditions to LNG export authorizations to protect the public interest.

VIII. FINDINGS

On the basis of the findings and conclusions set forth above, DOE/FE grants ECA's Application in FE Docket No. 18-144-LNG, subject to the Terms and Conditions and Ordering Paragraphs set forth below.

[202] *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (citing 2018 LNG Export Study at 63 & Appx F).

IX. TERMS AND CONDITIONS

To ensure that the authorization issued by this Order is not inconsistent with the public interest, DOE/FE has attached the following Terms and Conditions to the authorization. ECA must abide by each Term and Condition or face appropriate sanction.

A. Term of the Authorization

ECA requests a 20-year term commencing on the earlier of the date of first re-export or seven years from the date of this authorization. ECA's requested 20-year non-FTA term is consistent with our practice in the non-FTA export authorizations issued to date. The 20-year term will begin on the date when ECA commences commercial re-export of U.S.-sourced natural gas in the form of LNG from the proposed ECA Mid-Scale Project, but not before.

B. Commencement of Operations

Consistent with our final non-FTA authorizations issued to date, DOE/FE will add as a condition of the authorization that ECA must commence commercial LNG re-export operations no later than seven years from the date of issuance of this Order. The purpose of this condition is to ensure that other entities that may seek similar authorizations are not frustrated in their efforts to obtain those authorizations by authorization holders that are not engaged in actual export or re-export operations.

C. Commissioning Volumes

ECA will be permitted to apply for short-term authorizations to re-export Commissioning Volumes prior to the commencement of the first commercial re-exports of U.S.-sourced natural gas in the form of LNG from the ECA Mid-Scale Project. "Commissioning Volumes" are defined as the volume of LNG produced and exported (or re-exported) under a short-term authorization during the initial start-up of each LNG train, before each LNG train has reached its full steady-state capacity and begun its commercial re-exports pursuant to ECA's long-term contracts.[203] The Commissioning Volumes will not be counted against the maximum level of volume authorized in ECA's FTA order (DOE/FE Order No. 4317) or in this Order.

D. Make-Up Period

ECA will be permitted to continue re-exporting for a total of three years following the end of the 20-year term established in this Order, solely to re-export any Make-Up Volume that it was unable to re-export during the original term. The three-year term during which the Make-Up Volume may be re-exported shall be known as the "Make-Up Period."

The Make-Up Period does not affect or modify the total volume of LNG authorized for export or re-export in ECA's FTA order (DOE/FE Order No. 4317) or in this Order. Insofar as ECA may seek to re-export additional volumes not previously authorized, it will be required to obtain appropriate authorization from DOE/FE.

E. Transfer, Assignment, or Change in Control

DOE/FE's natural gas regulations prohibit authorization holders from transferring or assigning authorizations to import or export natural gas without specific authorization by the Assistant Secretary for Fossil Energy.[204] DOE/FE has found that this requirement applies to any change of control of the authorization holder. This condition was deemed necessary to ensure that DOE/FE will be given an adequate opportunity to assess the public interest impacts of such a transfer or change.

DOE/FE construes a change in control to mean a change, directly or indirectly, of the power to direct the management or policies of an entity whether such power is exercised through

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[203] For additional discussion of Commissioning Volumes and the Make-Up Period referenced below, *see Freeport LNG Expansion, L.P., et al.*, DOE/FE Order Nos. 3282-B & 3357-A, Order Amending DOE/FE Order Nos. 3282 and 3357, FE Docket Nos. 10-161-LNG & 11-161-LNG, at 4-9 (June 6, 2014).
[204] 10 C.F.R. § 590.405.

one or more intermediary companies or pursuant to an agreement, written or oral, and whether such power is established through ownership or voting of securities, or common directors, officers, or stockholders, or voting trusts, holding trusts, or debt holdings, or contract, or any other direct or indirect means.[205] A rebuttable presumption that control exists will arise from the ownership or the power to vote, directly or indirectly, 10% or more of the voting securities of such entity.[206]

F. Agency Rights

ECA requests authorization to re-export U.S.-sourced natural gas in the form of LNG on its own behalf and as agent for other entities that hold title to the LNG at the time of re-export, pursuant to long-term contracts. DOE/FE previously has determined that, in LNG export orders in which Agency Rights have been granted, DOE/FE shall require registration materials filed for, or by, an LNG title-holder (Registrant) to include the same company identification information and long-term contract information of the Registrant as if the Registrant had filed an application to export LNG on its own behalf.[207]

To ensure that the public interest is served, this authorization shall be conditioned to require that where ECA proposes to re-export LNG from the Project as agent for other entities that hold title to the LNG (Registrants), it must register with DOE/FE those entities on whose behalf it will re-export LNG in accordance with the procedures and requirements described herein.

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[205] *See* U.S. Dep't of Energy, Procedures for Changes in Control Affecting Applications and Authorizations to Import or Export Natural Gas, 79 Fed. Reg. 65,541, 65,542 (Nov. 5, 2014).
[206] *See id*.
[207] *See, e.g., Cameron LNG, LLC*, DOE/FE Order No. 3846, FE Docket No. 15-90-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from Trains 4 and 5 of the Cameron LNG Terminal to Non-Free Trade Agreement Nations, at 128-29 (July 15, 2016); *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 2913, FE Docket No. 10-160-LNG, Order Granting Long-Term Authorization to Export Liquefied Natural Gas from the Freeport LNG Terminal to Free Trade Agreement Nations, at 7-8 (Feb. 10, 2011).

G. Contract Provisions for the Sale or Transfer of U.S.-Sourced Natural Gas in the Form of LNG to be Re-Exported

DOE/FE will require that ECA file or cause to be filed with DOE/FE any relevant long-term commercial agreements, including liquefaction tolling agreements, pursuant to which ECA exports natural gas and/or re-exports LNG as agent for a Registrant. DOE/FE finds that the submission of all such agreements or contracts within 30 days of their execution using the procedures described below will be consistent with the "to the extent practicable" requirement of section 590.202(b).[208]

In addition, DOE/FE finds that section 590.202(c) of DOE/FE's regulations[209] requires that ECA file, or cause to be filed, all long-term contracts associated with the long-term supply of U.S.-sourced natural gas to the ECA Mid-Scale Project, whether signed by ECA or the Registrant, within 30 days of their execution.

DOE/FE recognizes that some information in ECA's or a Registrant's long-term commercial agreements associated with the export of natural gas and/or the re-export of U.S.-sourced natural gas as LNG, and/or long-term contracts associated with the long-term supply of U.S.-sourced natural gas to the ECA Mid-Scale Project, may be commercially sensitive. DOE/FE therefore will provide ECA the option to file or cause to be filed either unredacted contracts, or in the alternative (A) ECA may file, or cause to be filed, long-term contracts under seal, but it also will file either: i) a copy of each long-term contract with commercially sensitive information redacted, or ii) a summary of all major provisions of the contract(s) including, but not limited to, the parties to each contract, contract term, quantity, any take or pay or equivalent provisions/conditions, destinations, re-sale provisions, and other relevant provisions; and (B) the

[208] 10 C.F.R. § 590.202(b).
[209] *Id*. § 590.202(c).

filing must demonstrate why the redacted information should be exempted from public disclosure.[210]

To ensure that DOE/FE destination and reporting requirements included in this Order are conveyed to subsequent title holders, DOE/FE will include as a condition of this authorization that future contracts for the sale or transfer of LNG re-exported pursuant to this Order shall include an acknowledgement of these requirements.

H. Re-Export Quantity

This Order grants ECA's Application in the full volume of LNG requested for re-export to non-FTA countries, up to the equivalent of 161 Bcf/yr of natural gas.

I. Combined FTA and Non-FTA Export Authorization Volumes for Mid-Scale Project

ECA is currently authorized in DOE/FE Order No. 4317 to export domestically produced natural gas to Mexico and to re-export the natural gas in the form of LNG to FTA countries in a total volume of 182 Bcf/yr of natural gas. Because the source of LNG for that FTA order and this Order is the same Mid-Scale Project, ECA may not treat the volumes as additive to one another.[211]

X. ORDER

Pursuant to section 3 of the Natural Gas Act, it is ordered that:

A. Energía Costa Azul, S. de R.L. de C.V. (ECA) is authorized to re-export U.S.-sourced natural gas in the form of LNG in a volume up to the equivalent of 161 Bcf/yr of natural gas. ECA is authorized to re-export the LNG subject to this authorization by vessel from the proposed ECA Mid-Scale Project, to be located in Ensenada, Baja California, Mexico. This authorization

[210] *Id*. § 590.202(e) (allowing confidential treatment of information in accordance with 10 C.F.R. § 1004.11).
[211] As noted above, ECA's Mid-Scale and Large-Scale Projects involve different facilities. This Order does not affect the volumes approved in ECA's proceeding for the Large-Scale Project (DOE/FE Order Nos. 4318 and 4365).

is for a term of 20 years to commence from the date of first commercial re-export, but not before. ECA is authorized to re-export this LNG on its own behalf and as agent for other entities who hold title to the natural gas, pursuant to one or more long-term contracts (a contract greater than two years).

B. ECA may re-export Commissioning Volumes prior to the commencement of the terms of this Order, pursuant to a separate short-term export authorization. The Commissioning Volumes will not be counted against the maximum level of volumes previously authorized in ECA's FTA order (DOE/FE Order No. 4317) or in this Order.

C. ECA may continue re-exporting for a total of three years following the end of the 20-year term, solely to re-export any Make-Up Volume that it was unable to re-export during the original term.

D. ECA must commence re-export operations using the planned liquefaction facilities no later than seven years from the date of issuance of this Order.

E. The quantity of U.S.-sourced natural gas authorized for re-export in the form of LNG (161 Bcf/yr) is not additive to the export volume in ECA's FTA authorization, set forth in DOE/FE Order No. 4317.

F. This U.S.-sourced natural gas in the form of LNG may be re-exported to any country with which the United States does not have a FTA requiring national treatment for trade in natural gas, which currently has or in the future develops the capacity to import LNG, and with which trade is not prohibited by U.S. law or policy.

G. ECA shall ensure that all transactions authorized by this Order are permitted and lawful under U.S. laws and policies, including the rules, regulations, orders, policies, and other determinations of the Office of Foreign Assets Control of the U.S. Department of the Treasury.

Failure to comply with these requirements could result in rescission of this authorization and/or other civil or criminal penalties.

H. (i) ECA shall file, or cause others to file, with the Office of Regulation, Analysis, and Engagement a non-redacted copy of all executed long-term contracts associated with the long-term export of U.S.-sourced natural gas and re-export in the form of LNG as agent for other entities from the ECA Mid-Scale Project. The non-redacted copies must be filed within 30 days of their execution and may be filed under seal, as described above.

(ii) ECA shall file, or cause others to file, with the Office of Regulation, Analysis, and Engagement a non-redacted copy of all executed long-term contracts associated with the long-term supply of natural gas to the ECA Mid-Scale Project. The non-redacted copies must be filed within 30 days of their execution and may be filed under seal, as described above.

I. ECA is permitted to use its authorization to re-export U.S.-natural gas in the form of LNG as agent for other entities, after registering the other parties with DOE/FE. Registration materials shall include an acknowledgement and agreement by the Registrant to supply ECA with all information necessary to permit ECA to register that person or entity with DOE/FE, including: (1) the Registrant's agreement to comply with this Order and all applicable requirements of DOE/FE's regulations at 10 C.F.R. Part 590, including but not limited to destination restrictions; (2) the exact legal name of the Registrant, state/location of incorporation/registration, primary place of doing business, and the Registrant's ownership structure, including the ultimate parent entity if the Registrant is a subsidiary or affiliate of another entity; (3) the name, title, mailing address, e-mail address, and telephone number of a corporate officer or employee of the Registrant to whom inquiries may be directed; and (4) within 30 days of execution, a copy of any long-term contracts not previously filed with DOE/FE, described in Ordering Paragraph H of this Order.

Any change in the registration materials—including changes in company name, contact information, length of the long-term contract, termination of the long-term contract, or other relevant modification—shall be filed with DOE/FE within 30 days of such change(s).

J. ECA, or others for whom ECA acts as agent, shall include the following provision in any agreement or other contract for the sale or transfer of U.S.-sourced natural gas exported or re-exported in the form of LNG pursuant to this Order:

> Customer or purchaser acknowledges and agrees that it will resell or transfer U.S.-sourced natural gas, including in the form of LNG, purchased hereunder for delivery only to countries identified in Ordering Paragraph F of DOE/FE Order No. 4364, issued on March 29, 2019, in FE Docket No. 18-144-LNG, and/or to purchasers that have agreed in writing to limit their direct or indirect resale or transfer of such natural gas or LNG to such countries. Customer or purchaser further commits to cause a report to be provided to Energía Costa Azul, S. de R.L. de C.V. that identifies the country (or countries) into which the natural gas or re-exported LNG was actually delivered, and to include in any resale contract for such LNG the necessary conditions to ensure that Energía Costa Azul, S. de R.L. de C.V. is made aware of all such actual destination countries.

K. Within two weeks after the first re-export authorized in Ordering Paragraph A occurs, ECA shall provide written notification of the date that the first re-export occurred.

L. ECA shall file with the Office of Regulation, Analysis, and Engagement, on a semi-annual basis, written reports describing the status of the proposed ECA Mid-Scale Project. The reports shall be filed on or by April 1 and October 1 of each year, and shall include information on the status of the ECA Mid-Scale Project, the date the Project is expected to commence first re-exports of LNG, and the status of the long-term contracts associated with the long-term export of natural gas and re-export of LNG and any long-term supply contracts.

M. With respect to any change in control of the authorization holder, ECA must comply with DOE/FE's Procedures for Change in Control Affecting Applications and Authorizations to Import or Export Natural Gas.[212]

N. Monthly Reports: With respect to the re-export of U.S.-sourced natural gas as LNG authorized by this Order, ECA shall file with the Office of Regulation, Analysis, and Engagement, within 30 days following the last day of each calendar month, a report on Form FE-746R indicating whether re-exports have been made. The first monthly report required by this Order is due not later than the 30th day of the month following the month of first export. In subsequent months, if re-exports have not occurred, a report of "no activity" for that month must be filed. If re-exports of LNG have occurred, the report must give the following details of each LNG cargo: (1) the name(s) of the authorized exporter registered with DOE/FE; (2) the name of the export terminal; (3) the name of the LNG tanker; (4) the date of departure from the export terminal; (5) the country (or countries) into which the re-exported LNG was actually delivered; (6) the name of the supplier/seller; (7) the volume in thousand cubic feet (Mcf); (8) the price at point of export per million British thermal units (MMBtu); (9) the duration of the supply agreement; and (10) the name(s) of the purchaser(s).

(Approved by the Office of Management and Budget under OMB Control No. 1901-0294.)

O. All monthly report filings on Form FE-746R shall be made to the U.S. Department of Energy (FE-34), Office of Fossil Energy, Office of Regulation, Analysis, and Engagement, according to the methods of submission listed on the Form FE-746R reporting instructions

[212] *See* 79 Fed. Reg. at 65,541-42.

available at: https://www.energy.gov/fe/services/natural-gas-regulation.

Issued in Washington, D.C., on March 29, 2019.

Shawn Bennett
Deputy Assistant Secretary for Oil and Natural Gas
Office of Fossil Energy

APPENDIX

LNG Export Authorizations Issued by DOE/FE to ECA

	FE Docket No. 18-144-LNG Mid-Scale Project		**FE Docket No. 18-145-LNG Large-Scale Project**	
	Order No.	Approved Volume (Bcf/Yr)	Order No.	Approved Volume (Bcf/Yr)
FTA	4317	182	4318	545
Non-FTA	4364	161	4365	475

Notes:

The FTA and non-FTA volumes in each docket are not additive.

For each docket, the smaller non-FTA volume represents a subset of the FTA volume—specifically, the portion of U.S.-sourced natural gas that will be liquefied at the respective ECA Project and re-exported in the form of LNG to non-FTA countries.