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Secretary Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

October 3, 2019

RE: Planned Alaska LNG Project; Draft Environmental Impact Statement (CP17-178-000)

Secretary Bose:

The Sabin Center for Climate Change Law (“Sabin Center”)¹ submits these comments on the draft environmental impact statement (“DEIS”) for the Alaska LNG Project (“the Project”), published by the Federal Energy Regulatory Commission (“FERC” or the “Commission”) in June of 2019.

Our recommendations to FERC can be summarized as follows:

- FERC should assess the upstream greenhouse gas emissions that would result from increased natural gas production on the North Slope if the proposed project is approved, as well as the downstream greenhouse gas emissions that will result from use of natural gas transported by way of the Project.
- FERC should disclose the potential impacts associated with the emissions that would be generated as a result of the Project. Several tools are available to assess the consequences of greenhouse gas emissions that would occur if the Project is approved.
- FERC should use current science on the potency of methane in assessing the magnitude of greenhouse gas emissions that the Project would produce.

I. FERC Should Assess Indirect Upstream and Downstream Greenhouse Gas Emissions that Would Result from the Project

Pursuant to its obligations under the National Environmental Policy Act (“NEPA”), FERC must consider the indirect impacts of upstream and downstream Project-related activities. NEPA’s implementing regulations provide that agencies must consider significant and reasonably

¹ The Sabin Center for Climate Change Law at Columbia Law School develops legal techniques to fight climate change, trains law students and lawyers in their use, and provides the public with up-to-date resources on key topics in climate law and regulation. The Sabin Center works closely with the scientists at Columbia University’s Earth Institute and with governmental, nongovernmental, and academic organizations. *See* <http://web.law.columbia.edu/climate-change>. Please contact the Sabin Center for assistance locating any sources.

foreseeable indirect and cumulative environmental impacts.² Multiple federal courts have confirmed that NEPA regulations require federal agencies to evaluate the climate change-related impacts of their actions.³

The Project, proposed by the Alaska Gasline Development Corporation (“AGDC”), would consist of the following facilities: a new Gas Treatment Plant (“GTP”); a 1.0-mile-long, 60-inch-diameter Prudhoe Bay Unit Gas Transmission Line (“PBTL”); a 62.5-mile-long, 32-inch-diameter Point Thomson Unit Gas Transmission Line (“PTTL”); a 806.6-mile-long, 42-inch diameter natural gas pipeline (“Mainline Pipeline”) and associated aboveground facilities including eight compressor stations and a heater station, and a 20-million metric-ton per annum liquefaction facility, including an LNG plant and marine terminal.

The DEIS assesses the greenhouse gas emissions that would be produced during the construction and operation of the Project, but not from any increase in natural gas extraction or fossil fuel combustion that would occur as a result of the Project’s approval. However, extracting natural gas from wells in the North Slope, processing it for transport across Alaska, cooling it for loading into tankers, transporting it in those tankers, and, of course, combustion by end-users, are all activities that (a) will occur as a result of the Project, (b) would not occur but for the Project, and (c) will occur to an extent that is foreseeable and readily calculable. Furthermore, each of these component activities has predictable environmental impacts.⁴

The circumstances of the Project make it unlike others licensed by FERC that have involved a node or link in a network of substantially extant natural gas infrastructure.⁵ As such, FERC cannot claim that the Project’s indirect impacts, both upstream and downstream, are

² See 40 C.F.R. §§ 1508.7 (defining “cumulative impact”), 1508.8 (defining “effects” as including direct and reasonably foreseeable indirect effects), 1508.25(c) (providing that EISs must consider direct, indirect, and cumulative impacts).

³ *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1363 (D.C. Cir. 2017) (“FERC’s environmental impact statement did not contain enough information on the greenhouse-gas emissions that will result from burning the gas that the pipelines will carry.”); *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008) (finding that “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct”); *High Country Conservation Advocates v. United States Forest Serv.*, No. 13-CV-01723-RBJ, 2014 WL 2922751, at *8-11, 13-15 (D. Colo. June 27, 2014) (holding that it was arbitrary and capricious for federal agencies to omit analysis of GHG emissions and related costs in EISs for mining exploration projects).

⁴ See, e.g., Timothy Vinciguerra et al., *Regional air quality impacts of hydraulic fracturing and shale natural gas activity: Evidence from ambient VOC observations*, 110 Atmospheric Env’t 144 (2015) (identifying natural gas hydrofracture drilling operations as sole plausible cause for increase in ambient emissions of ethane and VOCs—and, by inference, methane—in region downwind of drilling operations in Pennsylvania and West Virginia); Victor M. Heilweil et al., *Stream Measurements Locate Thermogenic Methane Fluxes in Groundwater Discharge in an Area of Shale-Gas Development*, 49 Env’tl. Sci. & Tech. 4057 (2015) (measuring migration of fingerprinted methane, i.e., gas not attributable to sources other than drilling, into waters near shale-gas development operations); Christopher W. Moore et al., *Air Impacts of Increased Natural Gas Acquisition, Processing, and Use: A Critical Review*, 48 Env’tl. Sci. & Tech. 8349 (2014) (discussing several case study-based natural gas lifecycle emissions assessments); National Research Council, *Cumulative environmental effects of oil and gas activities on Alaska’s North Slope* (2003).

⁵ Compare FERC, *Environmental Assessment for the Cove Point Liquefaction Project, Dominion Cove Point LNG*, LP Docket No. CP13-113-000, at 163 (May 2014), <http://bit.ly/1k5fNM0> (“A more specific analysis of Marcellus Shale upstream facilities is outside the scope of this analysis because the exact location, scale, and timing of future facilities are unknown.”).

somehow not foreseeable. Instead, FERC must recognize that, because the origins of the gas to be extracted and transported are already known, and the nature of that extraction and transport well understood, the indirect effects of those activities can reasonably be anticipated—and therefore must be reflected in an EIS.⁶ Accordingly, the Commission should consider the downstream greenhouse gas emissions caused by fossil fuel combustion,⁷ as well as the other life cycle emissions from the facility’s production and transportation of LNG.⁸

The D.C. Circuit recently held that FERC need not assess the greenhouse gas emissions resulting from export-induced increases in domestic production associated with new export facilities, because LNG exports cannot take place without approval from DOE.⁹ However, “when determining the contents of an . . . EIS, an agency must consider all ‘connected actions,’” and “[a]n agency impermissibly ‘segments’ NEPA review when it divides connected . . . federal actions into separate projects and thereby fails to address the true scope and impact of the activities that should be under consideration.”¹⁰ The D.C. Circuit has raised, without answering, the question of whether FERC’s construction authorizations and DOE’s export authorizations are “connected actions” for purposes of NEPA review in the LNG export context.¹¹

“Connected actions” include those actions that “[a]re interdependent parts of a larger action and depend on the larger action for their justification.”¹² FERC’s action in approving construction of an LNG export terminal would not be justified without an expectation that the terminal will be used to export LNG. Nor could DOE justify approving LNG exports through a facility whose construction was not approved. Similarly, the D.C. Circuit has indicated that a project without substantial independent utility is more likely to be considered “connected” to other related

⁶ Compare *Sierra Club v. Fed. Energy Regulatory Comm’n*, 827 F.3d 36, 47 (D.C. Cir. 2016) (“*Sierra Club (Freeport)*”) (the Commission did not need to assess upstream greenhouse gas emissions associated with an LNG export terminal where “the Commission found no evidence that the Project[] by [itself] would lead to increased gas production because no specific shale-play [had] been identified as a source of natural gas,” and did not anticipate that the gas to be exported would “come from future, *induced* natural gas production, as opposed to from existing production”) (emphasis in original) (internal quotation marks omitted); *Birckhead v. Fed. Energy Regulatory Comm’n*, 925 F.3d 510, 517 (D.C. Cir. 2019) (“[A]ccording to the Commission, unless the record demonstrates that the proposed project represents the *only* way to get additional gas ‘from a specific production area’ into the interstate pipeline system, . . . no such ‘reasonably close causal relationship’ exists.”) (emphasis in original).

⁷ *Sierra Club*, 867 F.3d at 1373–74 (“We conclude that the EIS . . . should have either given a quantitative estimate of the downstream greenhouse emissions that will result from burning the natural gas that the pipelines will transport or explained more specifically why it could not have done so. As we have noted, greenhouse-gas emissions are an indirect effect of authorizing this project, which FERC could reasonably foresee, and which the agency has legal authority to mitigate.”); see also *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003) (finding in NEPA review for coal railway, Surface Transportation Board must account for greenhouse gas emissions and air quality effects from foreseeable increase in coal consumption and combustion).

⁸ *Sierra Club v. United States Dep’t of Energy*, 867 F.3d 189, 201–02 (D.C. Cir. 2017) (noting that as part of its review “the Department evaluated the upstream and downstream greenhouse-gas emissions (CO₂ and methane) from producing, transporting, and exporting LNG in its Life Cycle Report”).

⁹ *Sierra Club Freeport*, 827 F.3d at 47 (holding that FERC did not need to consider upstream emissions that would only occur if the Department of Energy approved the facility for LNG export); *EarthReports, Inc. v. Fed. Energy Regulatory Comm’n*, 827 F.3d 949, 954 (D.C. Cir. 2016) (extending the holding of *Sierra Club Freeport* to downstream emissions).

¹⁰ *Delaware Riverkeeper Network v. Fed. Regulatory Comm’n*, 753 F.3d 1304, 1313, 1314 (D.C. Cir. 2014).

¹¹ *Sierra Club Freeport* at 45–46 (citing 40 C.F.R. § 1508.25(a)(1)).

¹² 40 C.F.R. § 1508.25(a)(1)(iii).

actions.¹³ An LNG export facility has no independent utility absent export approvals. Moreover, FERC cannot argue that the exports at issue are speculative or ill-defined.¹⁴ DOE has already approved AGDC's export proposals, including its proposal to ship approximately 20 million metric tons per annum of natural gas to non-Fair Trade Agreement countries for a term of 30 years, which will require NEPA review.¹⁵ Because FERC's approval of the Project and DOE's approval of LNG exports are "connected actions," their greenhouse gas impacts must be assessed in a single EIS.

In sum, in order to avoid impermissibly narrowing the scope of the EIS, FERC should act jointly with DOE to assess upstream and downstream indirect emissions resulting from exports of LNG through the Project. The Commission has the authority to do so under the Natural Gas Act (NGA) as designated lead agency for NEPA compliance,¹⁶ and the legal obligation under NEPA's requirement that "connected actions" be considered together.¹⁷

II. The Commission Should Assess the Significance of the Project's Greenhouse Gas Emissions in Order to Better Inform Decision-Makers and the Public About the Scale of the Emissions Impact from the Proposed Project

The Commission should evaluate the consequences of the Project's greenhouse gas emissions, in addition to including indirect effects in its accounting of those emissions. The DEIS recognizes that the Project would increase the atmospheric concentration of greenhouse gases and contribute to climate change impacts, but declines to assess those impacts because "there is no universally accepted methodology to attribute discrete, quantifiable, physical effects on the environment to the Project's incremental contribution to GHGs."¹⁸ There are, however, a number of ways to assess the consequences of a project's greenhouse gas emissions that FERC did not consider.

Among the most useful is the social cost of carbon, methane, and nitrous oxide.¹⁹ Although they were developed for a rulemaking context, these metrics can readily be used in an

¹³ *Delaware Riverkeeper*, 753 F.3d at 1315-16. To the extent FERC may argue that the Project has substantial independent utility apart from DOE export authorizations because it will transport natural gas within Alaska, FERC cannot rely on *Sierra Club (Freeport)* to avoid assessing the upstream and downstream indirect greenhouse gas emissions related to domestic use.

¹⁴ *Compare id.* at 1317-18 ("NEPA, of course, does not require agencies to commence NEPA reviews of projects not actually proposed.").

¹⁵ DEIS, Planned Alaska LNG Project (2019) at 1-10 (hereinafter "DEIS").

¹⁶ 15 U.S.C. § 717n(b)(1) (designating the Commission to be "the lead agency for the purposes of coordinating all applicable Federal authorizations and for the purposes of complying with the National Environmental Policy Act"); *see also* 42 U.S.C. § 7172(a)(2)(B).

¹⁷ For further information regarding federal agencies' obligation to assess greenhouse gas emissions resulting from fossil fuel transportation projects under NEPA, please refer to the attached article (Attachment A: Burger and Wentz, 2019).

¹⁸ DEIS at 4-1162.

¹⁹ The Social Cost of Carbon, Methane, and Nitrous Oxide, though now rescinded, are scientifically credible estimates of the societal costs of greenhouse gas emissions, developed through a lengthy process of interagency consultation and peer review, and that cost is absolutely relevant to assessing the nature and significance of the proposed Project's environmental consequences. *See Zero Zone Inc. v. Dept. of Energy*, 832 F.3d 654 (7th Cir. 2016) (upholding use of methodology for calculating social cost of carbon used by the Interagency Working Group on the Social Cost of Carbon); Interagency Working Group on the Social Cost of Greenhouse Gases, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive

environmental analysis to better understand the potential costs associated with greenhouse gas emissions. The cost estimates are a useful proxy for the actual impacts of climate change. The utility of this methodology was recognized in a recent dissent from FERC Commissioner Richard Glick, who noted that “[t]he Commission’s refusal to incorporate the Social Cost of Carbon in the environmental review or even to assess the impact of GHG emissions from the Project fails to fulfill its responsibilities under the NGA and NEPA.”²⁰

Additional tools to understand the magnitude of greenhouse gas emissions’ impact include the EPA’s quantification threshold of 25,000 tons per year of carbon dioxide equivalent to identify major emitters for the purposes of greenhouse gas reporting (as noted by EPA, facilities that surpass this threshold are considered the “largest emitters” in the country).²¹ FERC should also consider using the EPA’s Greenhouse Gas Equivalencies Calculator, which can be used to compare emissions from the proposal with, for example, emissions from household electricity use or vehicle miles driven.²² This tool provides a reference point that an agency can use to assess a proposed project’s impact on the climate. Finally, FERC could evaluate the Project’s greenhouse gas emissions in the context of global and national carbon budgets; estimates have been developed for both.²³ At a minimum, the Commission must consider using the methods discussed above for assessing climate impacts,²⁴ and if it rejects them, provide a reasoned explanation for doing so.²⁵

The DEIS also argues that the significance of the Project’s contribution to climate change cannot be assessed in the absence of federal or state greenhouse gas reduction goals. Under this reasoning, no federal agency could ever determine the climate impacts of an agency action. As Commissioner Glick has explained, “[i]t is absurd to even contemplate NEPA not applying to the most significant environmental issue of our time.”²⁶

Order 12866 (May 2013, Revised August 2016); Interagency Working Group on the Social Cost of Greenhouse Gases, Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide (Aug. 2016). *See also Montana Environmental Information Center v. OSM*, 274 F.Supp.3d 1074 (D. Montana 2017) (requiring disclosure of greenhouse gas costs in NEPA review where benefits were also disclosed, and citing the federal Social Cost of Carbon as an available disclosure tool); *High Country Conservation Advocates v. USFS*, 52 F.Supp.3d 1174 (D. Colo. 2014) (same)

²⁰ Order on Remand Reinstating Certificate and Abandonment of Authorization, Docket No. CP14-554-002, et al. (FERC, issued March 14, 2018), Glick dissent at 2, *available at* <https://www.ferc.gov/CalendarFiles/20180314230126-CP14-554-002.pdf>.

²¹ EPA, GHG Reporting Program Facts and Figures, <https://www.epa.gov/ghgreporting/key-facts-and-figures>.

²² EPA, Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

²³ *See, e.g.,* Corinne Le Quéré et al., Global Carbon Budget 2018, *Earth Systems Science Data* (2018); Daniel J. Hayes, The North American Carbon Budget, in *Second State of the Carbon Cycle Report: A Sustained Assessment Report* (Cavallaro et al. eds, USGCRP 2018).

²⁴ For further information regarding the need to assess climate impacts and tools for doing so, please refer to the attached article (Attachment A: Burger and Wentz, 2019).

²⁵ *See Sierra Club*, 867 F.3d at 1375 (remanding EIS to FERC to explain its position on the social cost of carbon); *compare Appalachian Voices v. Fed. Energy Regulatory Comm’n*, No. 17-1271, 2019 WL 847199, at *2 (D.C. Cir. Feb. 19, 2019) (rejecting challenge to EIS where FERC “gave several reasons why it believed petitioners’ preferred metric, the Social Cost of Carbon tool, is not an appropriate measure of project-level climate change impacts and their significance under NEPA or the Natural Gas Act”).

²⁶ FERC, *supra* note 20 at 6.

III. FERC Should Use Current Science in Measuring Global Warming Potential

In the final EIS, FERC should use updated figures to properly assess the magnitude of greenhouse gas pollution that would result from the Project. The DEIS uses a global warming potential (GWP) of 25 for methane, based on a 100-year time horizon.²⁷ The DEIS explains that the 100-year figure is used based on EPA's Greenhouse Gas Reporting Rule.²⁸ This GWP is flawed for two reasons.

First, because methane remains in the atmosphere for under two decades,²⁹ a 20-year timeframe is more relevant than the 100-year span. At least one court has concluded that an "unexplained decision to use the 100-year time horizon," even a decision based on EPA's use of that timeframe, "when other more appropriate time horizons remained available, qualifies as arbitrary and capricious."³⁰ The most recent Intergovernmental Panel on Climate Change (IPCC) Assessment Report estimates that methane's GWP is 87 over a 20-year timeframe (when the effects of oxidation are taken into account).³¹ The final EIS should use this figure.

Second, the most recent IPCC Assessment Report estimates that methane's GWP over a 100-year time frame is 36 (when the effects of oxidation are included).³² Even though this time horizon is inappropriate, the final EIS should not use outdated science. Although the Greenhouse Gas Reporting Rule uses a GWP of 25 for methane,³³ courts have recognized the IPCC as authoritative,³⁴ and "[t]he EPA considers the GWP estimates presented in the most recent IPCC scientific assessment to reflect the state of science."³⁵

An EIS must provide a "full and fair discussion of environmental impacts," and the information made available to the public "must be of high quality."³⁶ In order to fulfill this mandate, FERC should use up-to-date science when assessing the potency of methane.

Thank you for the opportunity to submit comments on the Alaska LNG Project. Please feel free to contact SCCCL with any questions.

Sincerely,

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²⁷ DEIS at 4-878.

²⁸ *Id.*

²⁹ IPCC, *Climate Change 2013, The Physical Science Basis*, Chapter 8, 714 (Sept. 2013).

³⁰ *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, CV-16-21-GF-BMM, 2018 WL 1475470, at *15 (D. Mont. Mar. 26, 2018).

³¹ IPCC, *supra* note 29.

³² *Id.*

³³ 40 C.F.R. Pt. 98, Subpt. A, Tbl. A-1.

³⁴ See, e.g., *Mass. v. Env. Protection Agency*, 549 U.S. 497, 508 (2007); *Ctr. For Biological Diversity v. National Highway Traffic Safety Admin.*, 538 F.3d 1172, 1190 (9th Cir. 2008).

³⁵ EPA, *Understanding Global Warming Potentials*, <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>.

³⁶ 40 C.F.R. §§ 1502.1, 1500.1(b).

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