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NFE Altamira FLNG, S. de R.L. de C.V FE Dkt. 22-110-LNG

Sierra Club's Comments on the NFE Altamira FLNG's Draft Environmental Assessment for Export and Re-Export Authorization

On behalf of the Sierra Club, we submit the following comments to the U.S. Department of Energy (DOE) on the draft environmental assessment (EA) for the New Fortress Energy (NFE) Altamira FLNG Project, which evaluates the potential impacts of authorizing the export up to 158 billion cubic feet per year (Bcf/y) of natural gas through an existing cross-border pipeline, of which approximately 13 Bcf/y would be consumed as fuel in the liquefaction process and as process gas loss during the pretreatment process, and the remaining 145 Bcf/y would be liquefied for export at the proposed NFE Altamira FLNG facility. The EA is inadequate and fails to consider the true scope of environmental harms associated with the project. Sierra Club submitted a protest and intervention in December 2022, and reiterates those comments herein.[1]

I. DOE violated NEPA by failing to prepare an EIS

DOE violated NEPA by arbitrarily concluding that the impacts of its authorization of exports and re-export would be insignificant, such that a full environmental impact statement ("EIS") was not required. DOE acknowledged that natural gas production poses a range of environmental impacts, but DOE did not "attempt to identify or characterize the incremental

[1] Sierra Club's prior protest and motion to intervene, including attachments relied upon herein, can be found within the docket for this project, located at https://www.energy.gov/fecm/articles/nfe-altamira-flng-s-de-rl-de-cv-fecm-docket-no-22-110-lng.

environmental impacts that would result from LNG exports."[2] Absent such characterization, DOE failed to provide a rational basis for its Finding of No Significant Impact.

We disagree that DOE has satisfied its NEPA obligations with an environmental assessment, rather than a full EIS. Because DOE has recognized that the indirect effects of increased gas exports can include induced gas production with significant environmental impacts, and because the climate impacts of increased exports can also be significant, a full EIS is required.

The conclusion that the NFE Altamira project will not have significant greenhouse gas emissions is, on its face, conclusory. By relying on an environmental assessment ("EA"), rather than preparing an environmental impact statement, DOE is required to affirmatively conclude that all impacts from approving this export will be insignificant. But DOE has failed to demonstrate that the upstream and downstream effects are actually insignificant. While DOE explicitly incorporates by reference DOE's prior Environmental Addendum conducted in 2014, which looks at all upstream effects, and Lifecycle GHG Reports, these inclusions do little when used to support a document that, by its definition, rests on an affirmative conclusion that all impacts will be insignificant, while not actually demonstrating whether or not that conclusion is accurate.

NEPA requires an EIS, rather than a more abbreviated EA, for all proposed "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C). In determining whether effects will potentially be significant, and thus whether an EIS is required, an agency must consider not only the magnitude of the effects on public health and the environment, but also the extent to which those effects are controversial, uncertain,

[2] EA at 12.

cumulatively significant, or in potential conflict with "Federal, State, Tribal, or local law protecting the environment." 40 C.F.R. § 1501.3(b). Overall, the threshold for "significance" is "low;" an EIS must be prepared if there are even "substantial questions" regarding the severity of impacts. *Cal. Wilderness Coal. v. DOE*, 631 F.3d 1072, 1097 (quotation omitted). Where an agency seeks to avoid preparation of an EIS by claiming that impacts will be insignificant, the agency bears the burden of "mak[ing] a convincing case for its finding." *Grand Canyon Trust v. FAA*, 290 F.3d 339, 340-41 (D.C. Cir. 2002) (citations and quotations omitted).

Furthermore, DOE has adopted a specific presumption that LNG exports require an EIS. DOE has determined that "[a]pprovals or disapprovals of authorizations to import or export natural gas" involving construction or significant modification of export facilities, or even a "major increase in the quantity of [LNG] imported or exported" from existing facilities, will "normally require [an] EIS." 10 C.F.R. Pt. 1021 Subpt., D App. D, D8-D9. "[R]egulations of this type … presume[] that an EIS will normally be prepared …, thereby imposing on the [agency] the burden of establishing why that presumption should not apply in this particular case." *Davis v. Mineta*, 302 F.3d 1104, 1117 (10th Cir. 2002).

Here, DOE did not even attempt to rebut this presumption. DOE has never addressed it, nor did DOE explain why the effects of the exports approved here are likely to be different from the "normal" case, which DOE already determined would require an EIS. Moreover, DOE's Addendum demonstrates that gas production has potentially significant impacts.[3] For example, the Addendum concludes that increased gas production "may" increase ozone levels and "may" frustrate some areas' efforts to reduce pollution to safe levels. Addendum at 27-28. The Addendum acknowledges that gas production could cause "significant impacts on local water

[3] https://www.energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf ("Addendum").

resources" unless conducted in conformity with regulations and best management practices, but DOE provides no discussion of how commonly these practices are actually observed. *Id*. at 19; *New York v. Nuclear Regulatory Comm'n*, 681 F.3d 471, 481 (D.C. Cir. 2012) ("merely pointing to [a] compliance program is in no way sufficient to support a scientific finding" of no "significant environment[al] impact."). The Addendum recognized that the natural gas industry emits 23% of all U.S. methane, and 2% of all U.S. greenhouse gases. Addendum at 33. Similarly, oil and gas production together "represent[] about 21 percent of nationwide [volatile organic chemical] emissions." *Id*. at 20.

Export-induced gas production will aggravate and contribute to these impacts, and the record provides no basis for concluding that the contribution will be insignificant. NEPA allows an agency to avoid an EIS only when the agency can affirmatively conclude, beyond substantial question, that the impacts will be insignificant. As to other impacts, DOE admits that the Addendum made no effort to "identify or characterize" the extent to which exports, by increasing gas production, would aggravate the above impacts. *Id*. at 198. In summary, DOE did not even attempt to "make a convincing case" for finding that the impacts of export-induced gas production would be insignificant. *Grand Canyon Trust*, 290 F.3d at 340-41.

II. The NFE Altamira Project is contrary to the Public Interest

The request to export and re-export gas should be denied because it is contrary to the public interest. 15 U.S.C. § 717b(a). As DOE explained "when reviewing an application for export authorization," DOE evaluates "economic impacts, international impacts, security of natural gas supply, and environmental impacts, among others."[4] Here, all of these factors weigh against the application.

[4] DOE/FE Order No. 3357-B (Freeport LNG), at 9 (Nov. 14, 2014), *available at*

A. NFE Altamira Proposes to Increase Total Export Volumes

At the threshold, NFE Altamira's request must be treated as a request to increase U.S. exports to Mexico—that is, an addition to, rather than replacement for, exports already authorized to occur using the Valley Crossing Pipeline. The EA fails to assess the project as such, and therefore fails to truly account for the increase in exports that will come from approval of this project. Though the EA acknowledges that the "[n]atural gas transported on behalf of the Facility would increase utilization of pipelines, and therefore has the potential to cause incremental impacts in emissions related to pipeline operations…", EA at 11, this conclusory statement does not account for the environmental impacts from the increase in U.S. exports associated with this project.

Although NFE Altamira states that it is negotiating with CFE International to use its existing capacity on the Valley Crossing Pipeline, NFE Altamira Application at 9. NFE Altamira's application is not contingent on the use of that capacity, or on displacement of those existing exports. NFE Altamira explicitly requests that its authorization not require use of the Valley Crossing Pipeline; thus, if CFE does not relinquish capacity, NFE Altamira will be able to seek to effectuate the requested exports through other means. In addition, although NFE Altamira states that modifications to the Valley Crossing Pipeline are not proposed as part of this application, Valley Crossing Pipeline has plainly contemplated such upgrades in other dockets (e.g., to provide additional capacity to supply the now-defunct Annova LNG export proposal), and such modifications could occur here.

NFE Altamira does not argue that its export and re-export proposal should be treated as a displacement of, or substitute for, exports that would otherwise occur. And DOE must not treat the proposal as such.

B. The Proposed Exports Would Increase Domestic Gas Prices

DOE has historically given particular emphasis to "the domestic need for the natural gas proposed to be exported" and "whether the proposed exports pose a threat to the security of domestic natural gas supplies."[5] As recent data shows, exports are increasingly linking domestic

https://www.energy.gov/sites/prod/files/2014/11/f19/ord%203357-B.pdf.

[5] *Id.* at 10.

gas prices to prices in the global market. These increases harm American households and energy intensive industry.

Exports are increasing domestic gas prices, as recognized by FERC, the Wall Street Journal,[6] S&P Global Platts Analytics,[7] the Institute for Energy Economics and Financial Analysis, and others. FERC, for example, has identified LNG exports as the "primar[y]" source of the additional demand that is driving recent gas price increases.[8] FERC recently affirmed that "continued growth in net exports, … will place additional pressure on natural gas prices this winter."[9] Domestic energy prices are expected to be higher this year than the year before, which was higher than the year before that, etc.[10]

These price increases will harm both households and industrial energy consumers. The Industrial Energy Consumers of America, which represents manufacturers that use at least 1 million MMBtu of energy per year,[11] has repeatedly written to DOE about how export-driven gas prices increases are harming domestic industry.[12] From an economic perspective, gas exports are simply making most Americans worse off: all Americans must pay energy bills, but few own shares (even indirectly, through pension plans and the like) in the gas companies that are

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[6] Collin Eaton & Katherine Blunt, Natural-Gas Exports Lift Prices for U.S. Utilities Ahead of Winter, WALL ST. J., Nov. 7, 2021, https://www.wsj.com/articles/natural-gas-exports-lift-prices-for-u-s-utilities-ahead-of-winter-11636281000.

[7] Kelsey Hallahan, Henry Hub could reach $12-$14 this winter as capital discipline limits supply growth: Platts Analytics, S&P GLOBAL PLATTS, Oct. 14, 2021, https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/101421-henry-hub-could-reach-12-14-this-winter-as-capital-discipline-limits-supply-growth-platts-analytics.

[8] FERC, 2021 Winter Energy Market and Reliability Assessment (Oct. 21, 2021) at 2, *available at* https://ferc.gov/sites/default/files/2021-10/Winter%20Assessment%202021-2022%20-%20Report.pdf

[9] FERC, 2022-2023 Winter Market and Reliability Assessment, at 1 (Oct. 25, 2022), *available at* https://www.ferc.gov/media/report-2022-2023-winter-assessment

[10] https://www.eia.gov/outlooks/steo/special/winter/2022_winter_fuels.pdf

[11] "Membership Info," IECA, https://www.ieca-us.com/membership-info/ (last accessed Dec. 7, 2021).

[12] *See*, *e.g.*, Letter from Paul N. Cicio to Jennifer Granholm (Nov. 22, 2021), available at https://www.ieca-us.com/wp-content/uploads/11.22.21_LNG_-Why-a-Safety-Valve-is-Needed_FINAL.pdf.

benefiting from high gas prices and gas sales.[13] But DOE is charged with protecting the "public" interest, 15 US.C. § 717b(a); that is, the interest "of … all or most of the people" in the United States. *Public*, Merriam-Webster Unabridged Dictionary.[14] DOE has previously recognized that "the distributional consequences of an authorizing decision" may be so negative as to demonstrate inconsistency with the public interest despite "net positive benefits to the U.S. economy as a whole."[15] Accordingly, unless DOE addresses distributional concerns, DOE will have failed to consider an important part of the problem. But to date, DOE has never grappled with the distributional impacts of LNG exports: DOE has acknowledged that LNG exports have some positive and some negative economic impacts,[16] but DOE has not addressed the fact that those who suffer the harms are not the same as those who enjoy the benefits, or that the former are more numerous and generally less advantaged than the latter. In particular, research shows that low-income, Black, Hispanic, and Native American households all face dramatically higher energy burdens—spending a greater portion of their income on energy bills—than the average household.[17] Especially in light of this administration's emphasis on environmental justice, the distributional and equity impacts of export-driven gas price increases require careful consideration.

DOE's notice of NFE Altamira's application states that in reviewing the application, DOE will consider prior analyses of the impact of exports. Those prior analyses concluded that

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[13] Synapse Energy Economics, Inc., *Will LNG Exports Benefit the United States Economy?* (Jan. 23, 2013) at 9, *available at* https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/export_study/Exhibits_1-20.pdf (Initially submitted as Exhibit 5 to Comments of Sierra Club *et al.* on the 2012 NERA macroeconomic report).

[14] http://www.merriam-webster.com/dictionary/public (last visited Dec. 7, 2021).

[15] DOE/FE Order 3638-A (Corpus Christi) at 45 (May 26, 2016), *available at* https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/2012/applications/12-97-LNG_CMI_Corpus_Rehearing__May_26.pdf

[16] *See*, *e.g.*, NERA Economic Consulting, Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports (June 7, 2018) at 19, 21, 64, 67, available at https://cms.doe.gov/sites/prod/files/2018/12/f58/2018%20Study.pdf.

[17] American Council for an Energy-Efficient Economy, *How High are Household Energy Burdens?* (Sept. 2020), *available at* https://www.aceee.org/sites/default/files/pdfs/u2006.pdf. *Accord* Eva Lyubich, *The Race Gap in Residential Energy Expenditures* (June 2020), *available at* https://haas.berkeley.edu/wp-content/uploads/WP306.pdf.

the price impact of exports would be muted because producers would respond to additional demand by increasing drilling and thus supply. But reality has not matched this expectation. As FERC and the EIA have explained, "multiple factors have contributed to higher Henry Hub spot prices over the course of the year: rising domestic natural gas consumption; relatively minor natural gas production growth; lower than average natural gas storage inventories; and continued growth in LNG exports."[18] Or in the words of the Wall Street Journal, "American frackers … are holding the line on new drilling as investors pressure them to maintain capital discipline and return money to shareholders. *The result is that natural gas exports are pushing domestic prices higher.*"[19]

DOE has previously relied on modeling of how energy markets will balance in response to increased LNG exports, and on studies of the macroeconomic effects of such balancing. The current surge in gas prices calls those prior analyses into question, and DOE cannot approve additional exports without carefully examining the continuing validity of those analyses.

DOE must be particularly cautious given DOE's refusal, to date, to exercise supervisory authority over already-approved exports. Although DOE retains authority to amend and/or rescind existing export authorizations, 15 U.S.C. § 717*o*, DOE has stated its reluctance to exercise such authority.[20] But if export applications are, in effect, a one-way ratchet on export volumes, DOE cannot issue such authorizations carelessly.

The Natural Gas Act's "principle aim[s]" are "encouraging the orderly development of plentiful supplies of natural gas at reasonable prices and protecting consumers against exploitation at the hands of natural companies," with the "subsidiary purposes" of addressing "conservation, environmental, and antitrust issues." *Minisink Residents for Envtl. Pres. & Safety v. FERC*, 762 F.3d 97, 101 (D.C. Cir. 2014) (cleaned up). At present, gas exports are not achieving these purposes. DOE's uniform approval of all export applications has not protected consumers from exploitation at the hands of gas companies, and LNG exports are not leading to

[18] FERC, 2022-2023 Winter Energy Market and Reliability Assessment, at 5.

[19] Eaton & Blunt, *supra* note 6 (emphasis added).

[20] *See* Policy Statement Regarding Long-Term Authorizations to Export Natural Gas to Non-Free Trade Agreement Countries, 83 Fed. Reg. 28,841 (June 21, 2018). Although DOE has not exercised this authority yet, DOE *should* carefully consider doing so, given the severe impact already-authorized exports are having on domestic gas prices.

reasonable gas prices. Accordingly, even putting aside the numerous and severe environmental impacts of increased gas exports, NFE Altamira's application is inconsistent with the public interest and should be denied.

C. Climate

Secretary of State Antony Blinken has explained that

> [the Biden administration] see[s] the challenge of climate change as the existential challenge of our time. And if you see it that way, you're going to make sure that you're doing your part and doing everything necessary to meet the challenge, irrespective of what else is going on, what your other commitments are.[21]

Secretary of Energy Granholm has similarly affirmed that Russia's invasion of Ukraine "has only accelerated the urgency with which we must move to electrify transportation and to move toward clean energy."[22] And President Biden himself explained that this invasion "should motivate us to accelerate our transition to clean energy," affirming that "This is a perspective … that our European allies share."[23]

Here, DOE's EA utilized prior lifecycle greenhouse gas analyses in reviewing the NFE Altamira project. EA 15-20. However, those analyses failed to grapple with the question of whether increasing U.S. LNG exports would undermine this transition or other efforts to reduce greenhouse gas emissions and avoid catastrophic climate change. Fundamentally, those analyses asked the wrong questions.[24] DOE needs to provide additional analysis or reasonable forecasting of how global energy markets will respond to additional gas exports and DOE needs to take a harder look at the domestic impact of exposing U.S. energy markets to additional gas demand.

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[21] https://www.politico.eu/article/cop-26-progress-global-climate-crisis-cop-27/

[22] S&P Capital IQ, Granholm defends gas infrastructure permitting speed amid regulation revisions (May 4, 2022)

[23] https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/03/08/remarks-by-president-biden-announcing-u-s-ban-on-imports-of-russian-oil-liquefied-natural-gas-and-coal/.

[24] DOE has previously argued that the lifecycle analyses' approach was approved by the D.C. circuit in *Sierra Club v. Department of Energy*, 867 F.3d 189, 202 (D.C. Cir. 2017). But in that case, the Court began by stating that "[a]s for 'downstream emissions' … Sierra Club does not challenge the method employed by the Department to address them." 867 F.3d at 202. We present such a challenge here.

1. Globally, DOE Can Foresee That Increased U.S. LNG Exports Are Incompatible With Emission Reduction Targets

Globally, avoiding catastrophic climate change by limiting global warming to 1.5° C—or even 2° C—will require drastic reductions in global emissions, which can only be achieved by phasing out fossil fuels as quickly as possible.[25] The world must transition to net-zero emissions by 2050, and reduce global carbon dioxide (CO2) emissions by 45 percent by 2030—we need "rapid, deep and sustained reductions in global greenhouse gas emissions."[26] According to the United Nations Intergovernmental Panel on Climate Change (IPCC), to achieve these reductions, we must move to renewable energy as extensively and as quickly as possible.[27] The International Energy Agency (IEA) similarly concludes that, globally, "there is no need for investment in new fossil fuel supply in our net zero pathway."[28] Accordingly, Executive Order 14,008 instructs federal agencies to discourage "high carbon investments" or "intensive fossil fuel-based energy."[29] Global LNG export volumes, specifically, must *decline* below present levels in just the next few years: as the International Energy Agency recently affirmed, further expansion of LNG export facilities cannot be part of the path to net-zero emissions.[30]

Despite this broad consensus, and the fact that U.S. LNG exports are significantly reshaping the U.S. and global energy landscapes, DOE has never measured U.S. LNG exports

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[25] *See* Sierra Club Comments on 2019 Lifecycle Report at 4-5, *available at* https://fossil.energy.gov/app/DocketIndex/docket/DownloadFile/604; Sierra Club Comments on 2014 Lifecycle Report at 12-15, *available at* https://fossil.energy.gov/app/DocketIndex/docket/DownloadFile/180

[26] U.N. Framework Convention on Climate Change Secretariat, Glasgow Climate Pact at ¶17, *available at* https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf.

[27] Intergovernmental Panel on Climate Change, *Special Report: Global Warming of 1.5 C, Summary for Policymakers* at 15 (May 2019) ("IPCC 2019"), *available at* https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.

[28] International Energy Agency, Net Zero by 2050, at 11 (May 2021), available at https://iea.blob.core.windows.net/assets/7ebafc81-74ed-412b-9c60-5cc32c8396e4/NetZeroby2050-ARoadmapfortheGlobalEnergySector-SummaryforPolicyMakers_CORR.pdf.

[29] Executive Order 14,008, 86 Fed. Reg. 7619, at § 102(f), (h) (Jan. 27, 2021).

[30] International Energy Agency, Net Zero by 2050, at 102.

against the world we need to achieve, instead solely comparing U.S. LNG exports to the energy landscape we have now. The only questions asked by DOE's lifecycle analyses are "How does exported LNG from the United States compare with" other fossil fuels (coal or other gas) currently used "in Europe and Asia, from a life cycle [greenhouse gas] perspective?"[31]

Global warming in excess of 2° C, or even 1.5° C, will have tremendous foreseeable environmental impacts and be contrary to the public interest. But DOE entirely failed to consider whether the exports requested here, with a proposed authorization lasting through 2050, would make it less likely that other countries will achieve the emissions reductions necessary to limit global warming to these levels. DOE therefore failed to consider an important factor weighing on the public interest, and failed to take the hard look required by NEPA.

2. Internationally, DOE Can Make Reasonable Forecasts about Where Exported Gas Will Go and How It Will Be Used

Aside from considering the big picture need for the globe to transition away from fossil fuels, multiple sources of evidence enable DOE to reasonably forecast where additional LNG might go. As discussed below, any additional demand from Europe will likely be limited to the short or intermediate term, expiring far before the authorization's 2050 expiration. In Asia, according to the International Energy Agency, "Demand from traditional LNG buyers, namely Japan and Korea, is likely to be flat or decline gradually depending on use in power generation;"[32] "demand from traditional buyers is expected to be stagnant."[33] Any growth in Asian LNG demand "is being driven by newer importers"[34] or "non-traditional emerging buyers, namely Bangladesh, China, India and Pakistan."[35] Like the IEA, the EIA also uses tools to

[31] 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

[32] International Energy Agency, *Global Gas Security Review 2019* (web version) (Sept. 2019), https://www.iea.org/reports/global-gas-security-review-2019; pdf report *available at* https://webstore.iea.org/download/direct/2832?fileName=Global_Gas_Security_Review_2019.pdf.

[33] *Id.* at 4.

[34] *Id.*

[35] *Id.* at 11.

estimate the extent to which foreign markets are actually likely to buy US LNG.[36] And here—where DOE is deciding whether to approve *additional* U.S. LNG exports, from this particular facility—the question before DOE is where demand for this additional gas might come from, throughout the approved 25-year term.

Other evidence also indicates how these receiving markets will shift in response to additional LNG. Peer reviewed research concludes that U.S. LNG exports are likely to play only a limited role in displacing foreign use of coal.[37] Thus, while DOE may have thought that common sense suggested that LNG would primarily compete against other fossil fuels in 2014, when the first life cycle analysis report was published, subsequently-developed evidence shows that this unlikely to be the case, and DOE has not provided any evidence suggesting that LNG exports will primarily compete with coal or other sources of gas.

Even if, after taking a hard look at this additional information, DOE reaffirms its assertion that it cannot reasonably forecast how, individually or cumulatively, additional U.S. LNG exports will displace coal, other gas, renewables, or conservation, DOE must provide additional analysis of the range of possible outcomes. In the lifecycle analyses that DOE previously commissioned, U.S. LNG was juxtaposed with other sources of fossil fuels, without a similar juxtaposition for renewables and conservation. Providing only one comparison but not the other presents a misleadingly incomplete picture, especially where DOE concedes that *some* displacement of renewables will occur. If DOE were to provide this analysis, it would show that while the difference between U.S. LNG and other fossil fuels may not be great, the difference between LNG and renewables or conservation is stark. This analysis would reveal what percentage of exported LNG must displace other fossil fuels to avoid increasing emissions, relative to the status quo. Simply identifying that threshold would provide meaningful information to the public and to decisionmakers. For example, if DOE were to determine that the breakeven point is 98% displacement of other fossil fuels, the public and decisionmakers could form judgments about whether additional LNG exports could plausibly have that little of an impact on renewables and conservation, even absent specific forecasts.

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[36] *See, e.g.,* https://www.eia.gov/outlooks/aeo/assumptions/pdf/natgas.pdf at 4.

[37] Gilbert, A. Q. & Sovacool, B. K., *US liquefied natural gas (LNG) exports: Boom or bust for the global climate?,* Energy (Dec. 15, 2017), *available at* https://doi.org/10.1016/j.energy.2017.11.098.

3. Domestically, The Impact of U.S. LNG Exports on Domestic GHG Emissions Is Foreseeable, Important, and Ignored by DOE's Analysis

Even if DOE is truly incapable of reasonably forecasting how increased exports will influence overseas emissions, there is no doubt that increasing exports will increase *domestic* emissions associated with gas production and liquefaction.[38] DOE cannot refuse to disclose and analyze the entirely foreseeable and presumptively-significant volume of upstream emissions "just because the emissions in question might be partially offset by reductions elsewhere." *Sierra Club v. FERC*, 867 F.3d 1357, 1374-75 (D.C. Cir. 2017) ("*Sabal Trail*"); *accord WildEarth Guardians v. U.S. Bureau of Land Mgmt*., 870 F.3d 1222, 1236 (10th Cir. 2017).

Notably, increased exports will have domestic energy market consequences beyond increased gas production. Increased exports will also increase domestic coal use, relative to what would otherwise occur. EIA has previously predicted that this would occur in its initial LNG export studies. DOE's lifecycle analyses ignore this impact, but EIA has recently confirmed that export-driven gas price increases are, in fact, propping up U.S. coal use.[39]

Indeed, even if overseas offsets were perfectly foreseeable, DOE would still need to discuss impacts on domestic emissions. The U.S.'s own emission reduction goals, and international climate agreements to which the U.S. is a party, specifically call on the U.S. to address territorial emissions, regardless of whether domestic emission increases might be offset by foreign emission reductions.[40] Compliance with commitments made under the Paris Accord is evaluated based on "greenhouse gas emissions and removals taking place within national territory and offshore areas over which the country has jurisdiction."[41] There are sound policy reasons for these agreements' focus on domestic emissions. As DOE itself acknowledges, impacts on domestic emissions can be more reasonably verified than impacts in other countries;

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[38] *See, e.g.,* Final Environmental Addendum at 44, 2019 Lifecycle GHG Update at 23.

[39] https://www.eia.gov/outlooks/steo/special/winter/2022_winter_fuels.pdf, at 2.

[40] Sierra Club Comments on 2019 Lifecycle Report at 10; Sierra Club Comments on 2014 Lifecycle Report at 12-14.

[41] Intergovernmental Panel on Climate Change, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 8: Reporting and Tables, at 8.4 *available at* https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/1_Volume1/19R_V1_Ch08_Reporting_Guidance.pdf.

asking each country to demonstrate reductions in domestic emissions improves both accuracy and accountability. In addition, it would be unfair and thus nonstrategic for the U.S. to argue that although the world must transition *away from* fossil fuels as quickly as possible for climate reasons, the U.S. can enjoy the purported economic benefits of *increased* fossil fuel production, based on the argument that our increased emissions will be offset by other nations' reductions.

Executive Order 14,008, Tackling the Climate Crisis at Home and Abroad,[42] affirms that "Responding to the climate crisis will require … net-zero global emissions by mid-century or before."[43] As an interim step, President Biden has announced a "commitment to reduce U.S. emissions by 50-52% from 2005 levels in 2030."[44] Increasing LNG exports is likely to interfere with achieving these goals, and that interference is both contrary to the public interest, as interpreted for purposes of the Natural Gas Act, and an effect that must be analyzed under NEPA. But DOE entirely failed to consider the impact of LNG exports, individually or cumulatively, on efforts to attain U.S. emission reduction targets.

4. DOE Understates Emissions from U.S. Gas Production.

When DOE looked upstream, DOE failed to correct errors in prior analyses. The 2019 analysis concludes that the "upstream emission rate" or "leak rate" of U.S. LNG exports—the amount of methane that is emitted to the atmosphere during production, processing, and transportation of gas to the export facility—is 0.7% of the gas delivered.[45] But studies measuring actual emissions find much higher leak rates. One such study, which we previously presented to DOE, estimates an average leak rate or 2.3%.[46] As we explained, there are many reasons to believe that this study's atmospheric measurements, and others like it, are more reliable than the "bottom up" estimates used by DOE—notably, the fact that bottom up estimates poorly represent

[42] 86 Fed. Reg. 7619 (Jan. 27, 2021).

[43] *Id.* § 101, 86 Fed. Reg. at 7619.

[44] https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/13/fact-sheet-renewed-u-s-leadership-in-glasgow-raises-ambition-to-tackle-climate-crisis/.

[45] 2019 Life Cycle GHG Perspective at 27.

[46] Sierra Club, Comment on 2019 Update to Life Cycle Greenhouse Gas Perspective at 6 (discussing Alvarez, et al., *Assessment of methane emissions from the U.S. oil and gas supply chain*, 361 Science 186 (July 13, 2018)).

the rare but severe major leaks that constitute a large fraction of upstream emissions.[47] DOE, in its response to this comment, explained the difference between its estimate and this study's by arguing that the "higher leakage rates cited by Alvarez are merely indicative of the type of irregular behavior expected in highly variable natural gas systems, which have many contributors with skewed probability distribution functions (e.g., superemitters)." 85 Fed. Reg. 72, 84 (Jan. 2, 2020). But that's the point: superemitters *do* skew the overall emission rate for gas production, but that doesn't make superemitters any less real or important, and superemitters are not, or are not adequately, accounted for in NETL's bottom-up estimates. Subsequent research has consistently affirmed the importance of superemitters and the fact that actual emissions exceed NETL's bottom-up estimates. A 2020 study that found that oil and gas production in the Permian basin, the likely source of supply for many Gulf Coast export projects, had a leak rate of roughly 3.5% or 3.7%.[48] More broadly, every year, new research further affirms that gas production emits greater amounts of methane than what DOE's analyses have assumed, despite ongoing efforts to reduce methane emissions.[49] DOE's dismissal of the role of superemitters, and continued reliance on estimates that are contradicted by peer-reviewed, real-world measurements, is arbitrary.

[47] Sierra Club, Comment on 2019 Update to Life Cycle Greenhouse Gas Perspective, at 6-8 (Oct. 21, 2019), *available at* https://fossil.energy.gov/app/DocketIndex/docket/DownloadFile/604.

[48] *See* Yuzhong Zhang *et al.*, *Quantifying methane emissions from the largest oil-producing basin in the United States from space*, SCIENCE ADVANCES (Apr. 22, 2020), DOI: 10.1126/sciadv.aaz5120, available at https://advances.sciencemag.org/content/6/17/eaaz5120/tab-pdf; *see also* Environmental Defense Fund: New Data: Permian Oil & Gas Producers Releasing Methane at Three Times National Rate (Apr. 7, 2020), *available at* https://www.edf.org/media/new-data-permian-oil-gas-producers-releasing-methane-three-times-national-rate.

[49] *See, e.g.,* EPA, Inventory of U.S. greenhouse Gas Emissions and Sinks 1990-2020: Updates for Anomalous Events (April 2022), available at https://www.epa.gov/system/files/documents/2022-04/2022_ghgi_update_-_blowouts.pdf; *see generally* NRDC, *Sailing to Nowhere: Liquefied Natural Gas Is Not an Effective Climate Strategy* (Dec. 2020), *available at* https://www.nrdc.org/sites/default/files/sailing-nowhere-liquefied-natural-gas-report.pdf.

D. Europe Does Not Need Additional North American LNG Exports

NFE Altamira requests authorization for through 2050, *far* beyond the date at which global use of fossil fuels must essentially end. Though not addressed in this EA, the purpose and need for this project, as previously addressed in Sierra Club's protest, must be further considered at a global stage to ensure that there is a true need for U.S.-sourced natural gas to be converted to LNG and supplied to the global market.

Though not specifically addressed in the narrow purpose and need identified in the EA for this project, we agree that there is a public interest in assisting Europe in transitioning away from Russian gas. But we reiterate that the best way to get Europe off Russian gas is to get Europe off gas altogether, as Secretary Granholm has recognized.[50] In 2022, the United States increased its exports to Europe, using existing infrastructure, far beyond the amount contemplated by the task force convened in response to the U.S.-E.U. task force convened in response to Russia's invasion of Ukraine. Beyond this rapid, existing increase, Europe has other, better options.

The European Union plans to cut Russian gas use by two thirds *this year*.[51] The International Energy Agency has concluded that heat pumps, building efficiency, and similar measures can significantly reduce the European Union's gas use, and thus the impact of Russian energy, within a year, with greater reductions each following year.[52] Some analyses conclude that EU can entirely eliminate reliance on Russian gas by 2025, with efficiency and renewable energy making up for two thirds of the former Russian supply.[53] Similarly, the United

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[50] *See, e.g.*, Politico, DOE declares an energy war (Apr. 28, 2022), https://www.politico.com/newsletters/morning-energy/2022/04/28/doe-declares-an-energy-war-00028380 (quoting Sec. Granholm's statement that "Perhaps renewable energy is the greatest peace plan this world will ever know.").

[51] REPowerEU: Joint European action for more affordable, secure and sustainable energy (March 8, 2022), https://ec.europa.eu/commission/presscorner/api/files/document/print/[europa_tokens:europa_interface_language]/ip_22_1511/IP_22_1511_EN.pdf.

[52] International Energy Agency, A 10-Point Plan to Reduce the European Union's Reliance on Russian Natural Gas (March 3, 2022), available at https://www.iea.org/reports/a-10-point-plan-to-reduce-the-european-unions-reliance-on-russian-natural-gas.

[53] https://www.e3g.org/publications/eu-can-stop-russian-gas-imports-by-2025/ or https://9tj4025ol53byww26jdkao0x-wpengine.netdna-ssl.com/wp-content/uploads/Briefing_EU-

Kingdom's Energy & Climate Intelligence Unit has concluded that *all* of the UK's gas demand that was recently met by Russian gas could be eliminated through installation of heat pumps and better installation within five years.[54] European Energy Commissioner Kadri Simson has emphasized that Europe remains committed to renewable energy goals, and is looking to additional gas imports only for the short term.[55] Members of the U.S. Congress and the European Parliament have emphasized that, notwithstanding the need to assist Europe in transitioning off of Russian gas, no new gas infrastructure or exports should be approved.[56]

We recognize that the U.S and European Commission have nonetheless proposed for EU member states to "work … toward the goal of ensuring, until at least 2030, demand for approximately 50 bcm/year," equivalent to approximately 4.8 bcf/d, "of additional U.S. LNG that is consistent with our shared net-zero goals."[57] This goal is ill-advised and self-refuting, as increased production and use of LNG through 2030 cannot be made consistent with the shared net-zero goals. But even if this goal is pursued, it does not support DOE's authorization of additional exports here. For one, some of this additional demand can be satisfied by existing, already-operating facilities. Some existing facilities sell gas on spot markets, and even facilities with long-term contracts with Asian buyers may be interested in redirecting cargoes.[58] Two,

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can-stop-Russian-gas-imports-by-2025.pdf

[54] Harry Cockburn, Heat Pumps and Insulation 'Fastest Way to End Reliance on Russian Gas," the Independent, March 9, 2022, *available at* https://www.independent.co.uk/climate-change/news/heat-pumps-russian-gas-north-sea-b2032017.html; *see also* Energy & Climate Intelligence Unit, Ukraine Conflict and Impacts on UK Energy, https://eciu.net/analysis/briefings/uk-energy-policies-and-prices/briefing-ukraine-conflict-and-impacts-on-uk-energy.

[55] https://www.politico.com/newsletters/morning-energy/2022/04/28/doe-declares-an-energy-war-00028380.

[56] Jared Huffman et al., Letter to U.S. President Biden and E.C. President Von der Leyen (May 19, 2022), https://huffman.house.gov/imo/media/doc/Letter%20Regarding%20the%20EU-US%20Joint%20Energy%20Security%20Statement_5.19.22.pdf.

[57] https://www.whitehouse.gov/briefing-room/statements-releases/2022/03/25/fact-sheet-united-states-and-european-commission-announce-task-force-to-reduce-europes-dependence-on-russian-fossil-fuels/.

[58] *See, e.g.,* Reuters, Europe draws more LNG from Asia as china imports slump (Apr. 28, 2022), https://www.reuters.com/markets/commodities/europe-draws-more-lng-asia-china-imports-slump-2022-04-28/; Bloomberg, China Looks to Sell Spare LNG as Virus Lockdowns Hit

previously-approved non-FTA exports from facilities under construction will already provide an additional 3.06 bcf/d of U.S. export supply.[59] And three, DOE has already authorized a whopping 30 bcf/d of additional non-FTA LNG exports beyond the 15.54 bcf/d previously authorized from facilities that are already in operation or under construction.[60] Given DOE's general refusal to revisit already-approved exports,[61] DOE cannot authorize still further exports to meet demand that would be satisfied several times over by existing authorizations, even if DOE concludes that the proposed additional authorization would be a better way to meet that demand. To be clear, we believe that DOE *should* consider exercising its authority under 15 U.S.C. § 717*o* to amend and/or rescind existing export authorizations, but unless and until DOE does so, DOE cannot continue to allow approved export volumes to ratchet higher and higher.

Finally, if DOE contends that the exports at issue here are in the public interest because Europe will need the gas, then DOE should ensure that the gas goes to Europe. DOE has broad authority to grant the requested additional authorization "in whole or in part, with such modification and upon such terms and conditions as [DOE] find[s] necessary or appropriate." 15 U.S.C. § 717b(a). If providing additional gas to Europe is the justification for these exports, DOE should explore whether to impose conditions that ensure that the authorization is actually used for that purpose. If DOE fails to impose such conditions, DOE must take a hard look at whether the exports are likely to actually assist Europe, and if not, whether this undermines DOE's overall conclusion that the exports are not inconsistent with the public interest.

Demand (Apr. 24, 2022), https://www.bloomberg.com/news/articles/2022-04-25/china-looking-to-sell-spare-lng-as-virus-lockdowns-hit-demand

[59] *See* Order 3909-C at 44 n.248 (citing U.S. Energy Info. Admin., *U.S. Liquefaction Capacity* (Dec. 8, 2021), https://www.eia.gov/naturalgas/U.S.liquefactioncapacity.xlsx).

[60] *Id.* at 6-7, 34 n.177.

[61] *See* Policy Statement Regarding Long-Term Authorizations to Export Natural Gas to Non-Free Trade Agreement Countries, 83 Fed. Reg. 28,841 (June 21, 2018). Although DOE has not exercised this authority yet, DOE *should* carefully consider doing so, given the severe impact already-authorized exports are having on domestic gas prices.

III. Conclusion

For the foregoing reasons, Sierra Club respectfully requests that DOE prepare an EIS and withhold approval for export from this project until further analysis is conducted. The request for authorization of additional exports should be denied, or in the alternative, DOE should withdraw the authorization and reconsider after conducting the additional analyses required by the Natural Gas Act and NEPA, as described above.

Respectfully submitted,

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UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

NFE Altamira FLNG, S. de R.L. de C.V FE Docket No. 22-110-LNG

CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE

Pursuant to 10 C.F.R. § 590.103(b), I, Rebecca McCreary, hereby certify that I am a duly authorized representative of the Sierra Club, and that I am authorized to sign and file with the Department of Energy, Office of Fossil Energy and Carbon Management, on behalf of the Sierra Club, the foregoing documents and in the above captioned proceeding.

Dated at Boulder, CO this 23rd day of October, 2023.

/s/ Rebecca McCreary
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NFE Altamira FLNG, S. de R.L. de C.V FE Docket No. 22-110-LNG

VERIFICATION

Pursuant to 10 C.F.R. § 590.103(b), I, Rebecca McCreary, hereby verify under penalty of perjury that I am authorized to execute this verification, that I have read the foregoing document, and that the facts stated therein are true and correct to the best of my knowledge.

Dated at Boulder, CO this 23rd day of October, 2023.

/s/ Rebecca McCreary
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DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

NFE Altamira FLNG, S. de R.L. de C.V FE Docket No. 22-110-LNG

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Boulder, CO this 23rd day of October, 2023.

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