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UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

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| IN THE MATTER OF | ) | |
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| Venture Global Plaquemines LNG, LLC | ) | FE Docket No. 16-028-LNG |
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**Motion to Intervene and Protest of Sierra Club and Healthy Gulf**

In an Order issued October 16, 2019[1], DOE authorized Venture Global Plaquemines LNG to export liquefied natural gas to "non free trade agreement" or (non-FTA) countries for a term of 20 years with the term beginning on the date of first export.[2] Venture Global Plaquemines LNG, LLC, now asks that the DOE approve an increase to its export capacity to non-Free Trade Agreement ("non-FTA") countries from 1,240 Bcf/yr to 1,405.33 Bcf/yr.[3] Sierra Club and Healthy Gulf move to intervene in this docket and protest this application, pursuant to 10 C.F.R. §§ 590.303(b) and § 590.304.

Sierra Club and Healthy Gulf submit these comments at a time when the world's attention is focused on Russia's unprovoked and horrific invasion of Ukraine. As the Biden administration has repeatedly affirmed, our global strategic interests, including helping Ukraine and other European allies avoid reliance on Russian fossil fuels, requires the U.S. and the world transition off of fossil fuels entirely as quickly as possible.[4] This transition is also essential to avoiding catastrophic climate change: the International Energy Administration has explained that further

[1] DOE/FE Order No. 4446, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, available at https://www.energy.gov/sites/prod/files/2019/10/f67/ord4446.pdf.

[2] *Id*. at 49.

[3] Venture Global Plaquemines LNG, LLC; Application for Limited Amendment to Existing Long-Term, Multi-Contract Authorization To Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, 87 Fed. Reg. 29,149, available at https://www.federalregister.gov/documents/2022/05/12/2022-10169/venture-global-plaquemines-lng-llc-application-for-limited-amendment-to-existing-long-term (May 12, 2022).

[4] *See, e.g.*, Remarks by President Biden Announcing U.S. Ban on Imports of Russian Oil, Liquefied Natural Gas, and Coal (Mar. 8, 2022), 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/, and Jen Psaki, https://twitter.com/PressSec/status/1500587980699971586?s=20, ("real energy security comes from reducing our dependence on fossil fuels.")

expansion of global LNG exports cannot be part of the path to net-zero emissions.[5] Venture Global's proposal to increase export capacity would not result in the export of gas until 2025 even under Venture's optimistic schedule, is not a part of any solution to our short, middle, or long term problems. This proposal to increase export capacity is inconsistent with the public interest and should be denied.[6]

## I. Intervention

DOE's rules do not articulate any particular standard for timely intervention, and as such, intervention should be granted liberally. DOE merely requires would-be-intervenors to set out the "facts upon which [their] claim of interest is based" and "the position taken by the movant."[7] As explained in the following section, Sierra Club's position is that the application should be denied or, in the alternative, heavily conditioned. Sierra Club and Healthy Gulf's interests are based on the impact the proposed additional exports will have on its members and mission.

The requested exports will harm both Sierra Club and Healthy Gulf members by increasing the prices they pay for energy, including both gas and electricity. As DOE and the Energy Information Administration have previously explained, each marginal increase in export volumes is also expected to further increase domestic energy prices.

The proposed increase in export capacity will further harm Sierra Club and Healthy Gulf members by increasing gas production and associated air pollution, including (but not limited to) emission of greenhouse gases and ozone precursors. As DOE has recognized, increasing LNG exports will increase gas production,[8] and increasing gas production increases ozone pollution, including risking creation of new or expanded ozone non-attainment areas or exacerbating existing

[5] International Energy Agency, Net Zero by 2050, at 102 (May 2021), *available at* https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf (attached).

[6] 15 U.S.C. § 717b(a).

[7] 10 C.F.R. § 590.303(b)-(c).

[8] *See, e.g.*, U.S. EIA, Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets (Oct. 2014) at 12, *available at* https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf (explaining that "[n]atural gas markets in the United States balance in response to increased LNG exports mainly through increased natural gas production," and "[a]cross the different export scenarios and baselines, higher natural gas production satisfies about 61% to 84% of the increase in natural gas demand from LNG exports," with "about three-quarters of this increased production [coming] from shale sources.")(hereinafter "EIA 2014").

non-attainment.[9] Sierra Club has over 3,500 members in Louisiana, including many in the Barnett Shale region and other areas that will likely be impacted by increased gas production.

The proposed exports will also require significant shipping traffic. This vessel or tanker traffic will emit air pollutants such as carbon monoxide and ozone-forming nitrogen oxides. Increased ship traffic will also harm wildlife that each organization's members enjoy viewing, etc., including the recently-listed threatened giant manta ray,[10] threatened oceanic whitetip shark,[11] and endangered Rice's whale (formerly designated as the Gulf of Mexico population of the Bryde's whale).[12]

The proposed increase in export capacity will also result in significant direct environmental impacts, including air pollution emissions. These emissions will impact Sierra Club and Healthy Gulf members and others who live, work, or recreate in the vicinity of the proposed project.

Finally, increasing LNG exports will impact Sierra Club, Healthy Gulf, and their members because of the additional greenhouse gases emitted throughout the LNG lifecycle, from production, transportation, liquefaction, and end use.[13] The impacts from climate change are already harming Sierra Club members in numerous ways. Coastal property owners risk losing property to sea level rise. Extreme weather events, including flooding and heat waves, impact members' health, recreation, and livelihoods. Increased frequency and severity of wildfires emits smoke that impacts members' health, harms ecosystems members depend upon, and threatens members' homes. Proposals, such as this one, that encourage long-term use of carbon-intensive fossil fuels will increase and prolong greenhouse gas emissions, increasing the severity of climate change and thus of these harms.

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[9] U.S. DOE, Final Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States (Aug. 2014) at 27-32, *available at* https://www.energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf (hereinafter "Addendum").

[10] Final Rule to List the Giant Manta Ray as Threatened Under the Endangered Species Act, 83 Fed. Reg. 2,916 (Jan. 22, 2018).

[11] Listing the Oceanic Whitetip Shark as Threatened Under the Endangered Species Act, 83 Fed. Reg. 4,153 (Jan. 30, 2018).

[12] Technical Corrections for the Bryde's Whale (Gulf of Mexico Subspecies), 86 Fed. Reg. 47,022 (Aug. 23, 2021).

[13] *See pages* 11-26 *below*.

In summary, the proposed LNG exports will harm both Sierra Club's and Healthy Gulf's members in numerous ways. We accordingly contend that the application to increase export capacity should be denied, as further described in the following protest.

Pursuant to 10 C.F.R. § 590.303(d), Sierra Club and Healthy Gulf identify the following persons for the official service list:

**Sierra Club:**

Nathan Matthews
Senior Attorney
Sierra Club
2101 Webster St., Suite 1300
Oakland, CA 94612
nathan.matthews@sierraclub.org
415-977-5695

Lisa M. Diaz
Associate Attorney
Sierra Club
935 Gravier St., Suite 700
New Orleans, LA 70119
lisa.diaz@sierraclub.org
305-336-2258

**Healthy Gulf:**

Naomi Yoder
Staff Scientist
Healthy Gulf
P.O Box 66226
Houston, TX 77266
504-525-1528, x. 213
naomi@healthygulf.org

Cynthia Sarthou
Executive Director
Healthy Gulf
935 Gravier St., Suite 700
New Orleans, LA 70119
504-525-1528 x. 202
cyn@healthygulf.org

## II. Protest

The requested authorization to increase export capacity to should be denied because it is contrary to the public interest.[14] "[W]hen reviewing an application for export authorization," DOE evaluates "economic impacts, international impacts, security of natural gas supply, and environmental impacts, among others."[15] Here, all of these factors weigh against the application.

[14] 15 U.S.C. § 717b(a).

[15] DOE/FE Order No. 3357-B (Freeport LNG), at 9 (Nov. 14, 2014), *available at* https://www.energy.gov/sites/prod/files/2014/11/f19/ord%203357-B.pdf.

### A. Global Strategic Interests

Although DOE has historically given primary weight to the impact on domestic energy prices and supply, in light of recent events in Ukraine, we begin by discussing strategic concerns. The proposed increase in export capacity will not provide *any* help in reducing reliance on Russian gas in the short term.

For context, Venture Global will not be in a position to use the additional export volume requested here for four years, or until 2026—and likely later than that. Venture Global's construction schedule involves two phases.[16] Venture Global asserts that it expects to "commence commercial operation," which will occur after completion of the *first* phase, by "mid-2025).[17] However, first phase operations will represent only half of the total terminal capacity.[18] As such, even if terminal output is higher than originally expected, as Venture Global now represents, Venture Global's existing non-FTA export authorization provides more than enough capacity to fully utilize the first phase of the project. As of this writing, Venture Global has not even announced a final investment decision for the second phase of the Plaquemines LNG project. But if and when Venture Global chooses to pursue the second phase, that phase will not be complete until at least a year after completion of the first phase, according to the FEIS[19]—so, by "mid" 2026. Export capacity that won't be brought online until four years from now does not address the immediate energy needs of Europe, the United States, or other energy consumers.

Nor is the additional export capacity needed in the medium or long term, or for the next crisis. On these non-immediate timescales, better solutions are available. For example, the United 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.[20] More broadly, the International Energy Agency has

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[16] *See Final Environmental Impact Statement for the Venture Global Plaquemines LNG, LLC's et al Plaquemines LNG and Gator Express Pipeline Project under CP17-66 et al. "See [20190503-3020] for reissued FEIS to correct the control number*, at 2-20, Dkt No. CP17-66 (May 3, 2019) (eLibrary No. 20190503-3011) (hereinafter "Plaquemines LNG 2019 FEIS").

[17] Application at 8; *see also* Plaquemines LNG 2019 FEIS, *supra* note 16, at 2-20.

[18] *Id*. at 2-1.

[19] *Id*. at 2-20.

[20] Harry Cockburn, Heat Pumps and Insulation 'Fastest Way to End Reliance on Russian Gas," the Independent,

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.[21]

The United States should encourage and facilitate these and other measures to reduce reliance on gas and other fossil fuels in the European Union and elsewhere, whether by producing and directly supplying additional heat pumps, investing in development of renewable energy, or taking other measures.[22]

Sierra Club and Healthy Gulf contend that there is no strategic need for additional export capacity beyond what DOE has already approved for Venture Global. DOE should consider the export capacity of the *sixteen* approved projects that are not yet operational, including the fourteen that have not even started construction.[23] These not-yet-operational facilities have a combined capacity of over 30 bcf/d,[24] nearly three times the volume of US LNG exports EIA predicts for 2022.

### B. Winter 2021-2022 gas prices demonstrate that LNG exports are harming U.S. consumers.

The price impacts of LNG exports are harming Americans *now*. Wholesale gas prices for the winter of 2021-2022 were vastly higher than for the prior winter, and FERC concluded that the increase was driven largely by competition with demand for LNG exports.[25] The Wall Street

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March 9, 2022, *available at* https://www.independent.co.uk/climate-change/news/heat-pumps-russian-gas-north-sea-b2032017.html (attached); *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 (last accessed Mar. 10, 2022)(attached).

[21] 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 (attached).

[22] *See, e.g.,* Letter of Sierra Club and over 200 groups calling on Biden to use the Defense Production Act to help Ukraine by accelerating the clean energy transition (March 9, 2022), *available at* https://www.stand.earth/BidenDPASignOn (attached; *see also* Washington Post, *Heat pumps can counter Putin and the climate crisis, advocates say* (March 10, 2022), *available at* https://www.washingtonpost.com/politics/2022/03/10/heat-pumps-can-counter-putin-climate-crisis-advocates-say/ (attached).

[23] FERC, North American LNG Export Terminals (Feb. 17, 2022), *available at* https://cms.ferc.gov/media/north-american-lng-export-terminals (attached).

[24] *Id.*

[25] FERC, Winter Energy Market and Reliability Assessment (Oct. 21, 2021) at 2, *available at*

Journal,[26] S&P Global Platts Analytics,[27] the Institute for Energy Economics and Financial Analysis, and others agreed that LNG exports were driving up domestic gas prices. Indeed, FERC identified LNG exports as the "primar[y]" source of the additional demand that is drove recent gas price increases.[28] And these price increases were severe. For the winter of 2021-2022, benchmark futures prices at the Henry Hub increased 103% relative to the prior winter,[29] with larger increases elsewhere, including more than quadrupling of the price at the Algonquin Citygate outside Boston,[30] as illustrated in this chart from FERC:[31]

https://ferc.gov/sites/default/files/2021-10/Winter%20Assessment%202021-2022%20-%20Report.pdf (attached)*; accord id. at 11*. *See also* Clark Williams-Derry, IEEFA, U.S.: Booming U.S. natural gas exports fuel high prices, IEEFA.ORG (Nov. 4, 2021), https://ieefa.org/ieefa-u-s-declining-demand-lower-supply-dont-explain-rapidly-rising-gas-prices/ (attached).

[26] 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.

[27] 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.

[28] FERC, Winter Energy Market and Reliability Report, at 2.

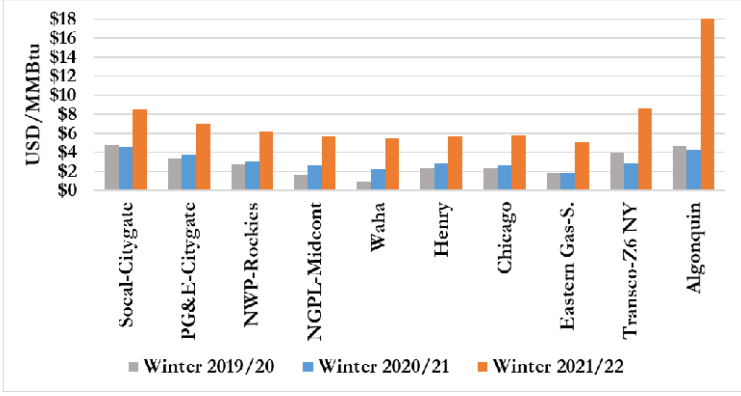
[29] *Id.* at 2, 11.

[30] *Id.* at 12.

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

## Winter Futures Prices Increased at Nearly Every Major U.S. Trading Hub

Average U.S. Natural Gas Futures Prices Across Major Hubs for November - February




Source: InterContinental Exchange Inc

These price increases harm both households and industrial energy consumers. The EIA predicted that homes that use gas for heat would spend 30% more in the winter of 2021-2022 than they spent the prior winter.[32] The Industrial Energy Consumers of America, which represents manufacturers that use at least 1 million MMBtu of energy per year,[33] has repeatedly written to DOE about how export-driven gas price increases are harming domestic industry.[34]

From an economic perspective, LNG 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 benefiting from high gas prices and LNG sales.[35] DOE is charged with protecting the "public" interest[36]; that is, the interest "of … all or most of the

[32] Winter Fuels Outlook, *supra* note 2, at 1.

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

[34] *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.

[35] 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 (attached) (Initially submitted as Exhibit 5 to Comments of Sierra Club *et al.* on the 2012 NERA macroeconomic report).

[36] 15 US.C. § 717b(a).

people" in the United States. *Public*, Merriam-Webster Unabridged Dictionary.[37] 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."[38] 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,[39] 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.[40] Increased gas prices will exacerbate the existing energy burden disparities, placing these households at even further risk. 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 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 call those prior analyses into question, and DOE cannot approve additional export capacities without carefully examining the continuing validity of those analyses. We understand that DOE and the EIA is currently revisiting the 2012 and 2014 LNG export studies; an updated analysis was expected in the spring of 2022, but appears to have not been

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

[38] 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

[39] *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.

[40] 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 (attached). *Accord* Eva Lyubich, *The Race Gap in Residential Energy Expenditures* (June 2020), *available at* https://haas.berkeley.edu/wp-content/uploads/WP306.pdf (attached).

released yet.[41] At a minimum, DOE should not approve further export applications or amendments to export capacities until this study is complete.

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[42], DOE has stated its reluctance to exercise such authority.[43] But if export applications are, in effect, a one-way ratchet on export volumes, DOE cannot issue such authorizations–or capacity increases like that at issue here–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."[44] At present, LNG 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 reasonable gas prices. Accordingly, even putting aside the numerous and severe environmental impacts of increased LNG exports, Venture Global's amended application is inconsistent with the public interest and should be denied.

### C. Environmental Impacts

In addition to the immediate harms caused by price increases, LNG exports will cause environmental harm lasting for generations. These include impacts occurring across the entire LNG lifecycle, which both the Natural Gas Act and NEPA require DOE to consider. DOE must reject the prior administration's conclusion that LNG export approvals could be categorically excluded from NEPA review, and DOE must revisit its deeply flawed analysis of the climate impacts of LNG exports.

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[41] https://www.energy.senate.gov/hearings/2021/11/full-committee-hearing-on-domestic-and-international-energy-price-trends (testimony of Stephen Nalley at 47:50 to 48:15)

[42] 15 U.S.C. § 717o.

[43] *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.

[44] *Minisink Residents for Envtl. Pres. & Safety v. FERC*, 762 F.3d 97, 101 (D.C. Cir. 2014) (cleaned up).

### 1. DOE must take a hard look at greenhouse gas emissions occurring across the entire LNG lifecycle.

Both the Natural Gas Act and NEPA require DOE to take a hard look at environmental impacts occurring throughout the entire LNG lifecycle, and to consider such impacts in the public interest determination.

Under the Natural Gas Act, DOE itself has recognized that a key consideration in its public interest determinations is the effect increased export volumes will have on gas production and use. DOE therefore must consider the environmental impacts of such effects. As the D.C. Circuit has affirmed, the Natural Gas Act's public interest standards provide authority and obligation to consider indirect effects on gas production and use, and the environmental consequences thereof, as part of the public interest inquiry.[45]

Similarly, NEPA's statutory text requires agencies to consider the "effects" of proposed actions.[46] This requirement is not limited to only some "effects," as the statute demands a broad perspective, including consideration of the "worldwide and long-range character of environmental problems."[47] Accordingly, cases have interpreted this language to mean that the statute itself requires consideration of both direct and indirect effects.[48] The plain meaning of "effects" includes indirect but foreseeable or intended consequences, such as effects proximately caused by the action.[49] And here, the gas to be exported must come from somewhere and be used somewhere: these are plainly "effects" of the requested export authorization.

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[45] *See Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) ("*Sabal Trail*") (holding that indirect impacts, including indirect climate impacts, must be evaluated as part of public interest inquiry under Natural Gas Act, and that for export approvals under section 3, DOE has exclusive authority to consider these issues).

[46] 42 U.S.C. § 4332(2)(F).

[47] *Id.*

[48] *City of Davis v. Coleman*, 521 F.2d 661, 676–77 (9th Cir. 1975); *see also Kleppe v. Sierra Club*, 427 U.S. 390, 409-10 (1976) (noting that Congress's mandate that agencies use "all practicable means" to "assure consideration of the environmental impact of their actions in decision making," requires consideration of cumulative effects) (citations omitted).

[49] Courts interpreting NEPA have occasionally analogized to the tort doctrine of proximate cause. *E.g.*, *Sierra Club v. FERC*, 827 F.3d 36, 47 (D.C. Cir. 2016) ("*Freeport I*") (quoting *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004)). There are two problems with this. One, proximate cause is itself a flawed concept: the authors of the Restatement of Torts argue that the concept should be excised even from the field of tort law. Restatement (Third) of Torts: Phys. & Emot. Harm 6 Spec. Note (2010). Two, the purpose of proximate cause—to assign legal responsibility and blame for events that have already occurred—is fundamentally different from the purpose of NEPA review, which is to inform the public and decisionmakers of effects that have not yet occurred, and which can still be avoided. Under NEPA, identifying an adverse effect is important, and can and should inform

Accordingly, recently reinstated NEPA regulations explicitly require consideration of "indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[50] And even under the prior regulations adopted in September 2020, which omitted this explicit requirement, the Council on Environmental Quality had conceded that indirect effects that "have a reasonably close causal relationship to the proposed action" must be considered.[51] Thus, while NEPA's statutory text would require consideration of foreseeable effects across the lifecycle regardless of the Council on Environmental Quality's position, here, the regulations and agency interpretations thereof support this view.

In summary, both the Natural Gas Act and NEPA require DOE to evaluate and weigh environmental impacts occurring through the LNG lifecycle. Thus, DOE must examine the impacts of increasing the export capacity of LNG and the effects that will have on the environment.

### 2. The proposed increase in export capacity cannot be categorically excluded from NEPA review

In December of 2020, DOE adopted a categorical exclusion for LNG export approvals, codified at 10 C.F.R. Part 1021 Part D Appendix B, B5.7. Adoption of this categorical exclusion was arbitrary and unlawful, and DOE cannot rely on this categorical exclusion here. Alternatively, this proposal lacks the integral elements of an exempt project, precluding reliance on a categorical exclusion here.

#### a) The 2020 categorical exclusion is invalid

Adoption of the 2020 categorical exclusion was arbitrary, capricious, and contrary to law. Most egregiously, in promulgating the 2020 exclusion, DOE improperly excluded from NEPA review *all* impacts occurring upstream of the point of export, based on a basic and fundamental legal error. The Notice of Proposed Rulemaking argued that DOE need not consider "environmental impacts resulting from actions occurring [before] the point of export" because "the agency has no authority to prevent" these impacts, citing *Sierra Club v. FERC,* 827 F.3d 36 (D.C.

decisionmaking, even if that effect could, in the tort sense, be said to be someone else's fault.

[50] 40 C.F.R. § 1508.1(g)(2).

[51] Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304-01, 43,331 (July 16, 2020).

Cir. 2016) ("*Freeport I*").[52] This is the exact opposite of *Freeport I*'s explicit and central holding. *Freeport I* held that **FERC** had no authority prevent these impacts, specifically because **DOE** had retained "exclusive" authority to do so.[53] FERC had "no authority" to consider the impacts of export-induced gas production because "the Natural Gas Act places export decisions squarely and exclusively within the Department of Energy's wheelhouse."[54] Because DOE *has* such authority, the categorical exclusion was adopted unlawfully, cannot be relied upon here, and provides no evidence to suggest that all environmental effects occurring before the point of exports will be insignificant.

Nor can upstream impacts be dismissed as unforeseeable. DOE has in fact foreseen them, with EIA modeling, an environmental addendum, and a lifecycle report that extensively, although at times incorrectly, discuss these impacts. In these, DOE has broadly conceded that the climate impacts of upstream effects are foreseeable. And DOE's Environmental Addendum acknowledged that increased gas production "may" increase ozone levels and "may" frustrate some areas' efforts to reduce pollution to safe levels.[55] But as DOE has acknowledged, it has not made any determination as to the likelihood or significance of such impacts—the Addendum made no "attempt to identify or characterize the incremental environmental impacts that would result from LNG exports" whatsoever.[56] Insofar as DOE contends that these impacts can be difficult to foresee, that affirms, rather than refutes, the need for case-by-case analysis.[57] Even if DOE determines that upstream impacts can only be discussed generally, in something like the Environmental

[52] 85 Fed. Reg. at 25,341; *accord* Final Rule, 85 Fed. Reg. 78,197, 78,198.

[53] 827 F.3d at 40-41, 46.

[54] *Id.* at 46. In finalizing the 2020 Categorical Exclusion, DOE also erred in asserting that its approval of exports is "not interdependent" with FERC's approval of export infrastructure. 85 Fed. Reg. 78,197, 78,199. DOE's export authorization cannot be effectuated without FERC approval of export infrastructure, and vice versa; even if FERC infrastructure could proceed solely on the basis of FTA export authorization, neither this project nor any other major project in fact seeks to do so.

[55] Addendum, *supra* note 9, at 27-28.

[56] DOE/FE Order No. 3638 (Corpus Christi LNG), at 193-194 (May 12, 2015), *available at* https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/2012/applications/ord3638.pdf.

[57] *See also Cal. Wilderness Coal. v. DOE*, 631 F.3d 1072, 1097 (9th Cir. 2011) (rejecting DOE argument that environmental impacts of designation of electric transmission corridors were too speculative to require NEPA analysis).

Addendum, this does not entail the conclusion that the impacts are insignificant. Similarly, a conclusion that an agency can meet its NEPA obligations by tiering off an existing document (which may need to be periodically revised as facts and scientific understanding change) is different than the conclusion that NEPA review simply is not required.

The 2020 Categorical Exclusion's treatment of downstream impacts was also arbitrary. As with upstream impacts, DOE mistakenly asserted that some downstream impacts (downstream impacts relating to regasification and use of exported gas) were entirely outside the scope of NEPA analysis.[58] This is again incorrect: DOE has authority to consider these impacts when making its public interest determination, and DOE has not shown that these impacts are so unforeseeable that they cannot be meaningfully discussed at all. Indeed, DOE has refuted this argument itself, discussing these impacts in the life cycle analysis.

For other impacts, relating to marine vessel traffic, the preamble to the 2020 final rule arbitrarily dismissed these impacts as *de minimus*, claiming that because LNG export has historically constituted only a small share of overall U.S. shipping traffic, the effects of future LNG export approvals could be ignored.[59] This is legally and factually incorrect. LNG exports are rapidly expanding, and this expansion depends upon and is caused by authorizations like the one Venture Global has requested here. In addition, noting that LNG traffic is a small share of the total does not demonstrate that the impact of LNG traffic in particular is insignificant: a small portion of a large problem can itself constitute a significant impact. And even is such a fractional approach could be justified, it would require a different denominator: the number of ships in the habitat of the species at issue. LNG traffic—now and in the future—constitutes a larger and growing share of traffic *in the Gulf of Mexico*, where many of the species that will be impacted by Venture Global's proposed exports, including multiple listed species, live. Ship traffic to the West and East Coasts inflates the denominator but is irrelevant to many of these species.

[58] 85 Fed. Reg. at 78,202.

[59] The proposed rule ignored wildlife impacts entirely.

### b) The proposed exports do not satisfy the "Integral Elements" necessary for a categorical exclusion.

Even if the 2020 Categorical Exclusion was valid, DOE would be unable to rely on it here. DOE cannot invoke a categorical exclusion without determining that the proposed action has the "integral elements" of excluded actions as defined in Appendix B to 10 C.F.R. Part 2021 Subpart D. Here, the proposal does not satisfy integral element 1, because it "threaten[s] a violation of applicable statutory [or] regulatory … requirements for environment, safety, and health, or similar requirements of … Executive Orders."[60] This integral element is missing whenever a proposal *threatens* a violation; if there a possibility of such a violation, a project-specific NEPA analysis is required to evaluate that risk.

Here, increased export capacity threaten a violation of Executive Order 14,008, Tackling the Climate Crisis at Home and Abroad.[61] This order—like the Paris Accord, recent Glasgow Pact, and other commitments—affirms that "Responding to the climate crisis will require … net-zero global emissions by mid-century or before."[62] Increasing exports through mid-century (*i.e.*, 2050) is inconsistent with any plausible trajectory for achieving this goal, as recognized by the International Energy Agency.[63] Even if DOE somehow contends that expanded exports and export capacities can somehow be reconciled with the President's climate goals and policies, that surprising contention does not change the fact that expanded exports at least "threaten" a violation of those policies, such that integral element 1 is not satisfied.

The proposal also violates integral element 4, because it has "the potential to cause significant impacts to environmentally sensitive resources," which "include … Federally-listed threatened or endangered species or their habitat," "state-listed" species, "Federally-protected marine mammals and Essential Fish Habitat," and species proposed for listing.[64] Potentially

[60] 10 C.F.R Part 1021 Subpart D Appendix B.

[61] 86 Fed. Reg. 7619 (Jan. 27, 2021).

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

[63] Net Zero by 2050, *supra* note 5, at 102-03.

[64] 10 C.F.R Part 1021 Subpart D Appendix B.

impacted species include the black rail, giant manta ray,[65] oceanic whitetip shark,[66] and Rice's whale (formerly designated as the Gulf of Mexico population of the Bryde's whale).[67] These species are all at risk from ship strikes and noise from vessel traffic, impacts that will be increased by the proposed additional exports.[68] As with integral element 1, integral element 4 is precautionary: a categorical exclusion cannot be used if the proposed action would "have the potential to cause significant impacts," even if it is unclear whether the action's impacts will in fact rise to the level of significance. Fulfilling NEPA's purpose requires investigating such potential impacts.

Ultimately, the potential to impact species and other protected resources is real. Ship strikes injure marine life, including listed whales,[69] sea turtles,[70] and giant manta rays.[71] Ship traffic also causes noise, which "can negatively impact ocean animals and ecosystems in complex ways."[72] Noise interferes with animals' ability to "communicate" and "to hear environmental cues that are vital for survival, including those key to avoiding predators, finding food, and navigation among preferred habitats."[73] Unsurprisingly, many animals display a suite of stress-related responses to increased noise. Because the proposed export increase will increase these impacts, the proposal does not satisfy integral element 4.

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[65] 83 Fed. Reg. 2,916 (Jan. 22, 2018).

[66] 83 Fed. Reg. 4,153 (Jan. 30, 2018).

[67] 86 Fed. Reg. 47,022 (Aug. 23, 2021).

[68] The potential for impacts to these species further violates integral element 1, because it threatens a violation of the Endangered Species Act and similar laws.

[69] David W. Laist et al., *Collisions Between Ships and Whales*, 17 MARINE MAMMAL SCIENCE 1, 35 (Jan. 2001) (describing ship strikes with large vessels as the "principal source of severe injuries to whales), available at https://www.mmc.gov/wp-content/uploads/shipstrike.pdf (attached); *see also* Aaron N. Rice, Ph.D., *Possible Environmental Impacts of Plaquemines LNG Project to Marine Mammals in the Gulf of Mexico* (attached).

[70] National Oceanic and Atmospheric Administration Fisheries, *Understanding Vessel Strikes* (June 25, 2017), available at https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes (attached).

[71] National Oceanic and Atmospheric Administration Fisheries, *Giant Manta Ray*, https://www.fisheries.noaa.gov/species/giant-manta-ray (attached).

[72] National Oceanic and Atmospheric Administration, *Cetacean & Sound Mapping: Underwater Noise and Marine Life*, http://cetsound.noaa.gov/index (attached).

[73] *Id.*

### 3. DOE's prior life cycle greenhouse gas analyses are not a substitute for NEPA review, and do not demonstrate that greenhouse gas emissions caused by the proposal are consistent with the public interest.

One way or another, DOE must revisit its prior analyses of the greenhouse gas impact of LNG exports. Procedurally, the 2014 and 2019 lifecycle analyses are not a substitute for NEPA review, as DOE continues to recognize.[74] Although the lifecycle analyses can inform NEPA review, DOE must address the impacts of this and other LNG proposals within the NEPA framework. More fundamentally, the lifecycle analyses both ask the wrong questions and do not reflect available science regarding LNG's impacts.

#### a) The life cycle analyses ask the wrong questions.

Venture Global seeks authorization to increase exports through 2050. DOE therefore must take a hard look at the environmental impact of expanded exports of LNG across that twenty-five-year time period, with the long-term gas production and use such exports necessarily entail. This includes addressing whether such impacts are consistent with the United States' climate goals. They are not. But the lifecycle analyses do not address this issue. That is, the analyses do not provide any discussion of whether increasing LNG exports will help or hinder achievement of the long-term drastic emission reductions that are essential to avoiding the most catastrophic levels of climate change.

Instead, the analyses look only to the short term. The only questions asked by the analyses are "How does exported LNG from the United States compare with" other fossil fuels (coal or other gas) used in used "in Europe and Asia, from a life cycle [greenhouse gas] perspective?"[75] DOE has attempted to justify this narrow focus by arguing that in the present moment, LNG primarily competes with other sources of fossil fuel. But DOE has not contended, nor can it, that this will be true throughout the twenty-five-year requested authorization term.

Limiting global temperature rise to 1.5 degrees Celsius will require dramatic emission reductions in the near and long term, reductions which are inconsistent with further development of long-lived fossil fuel infrastructure in the U.S. or abroad, as confirmed by the International

[74] *E.g.,* 85 Fed. Reg. at 78,202 (The life cycle "reports are not part of DOE's NEPA review process.").

[75] 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

Energy Agency,[76] Intergovernmental Panel on Climate Change,[77] and others. Executive Order 14,008 appropriately instructs federal agencies to work to discourage other countries from "high carbon investments" or "intensive fossil fuel-based energy."[78] The lifecycle analyses argue that the infrastructure needed to receive and use U.S. LNG is not higher emitting than other sources of fossil fuel, but the analyses do not inform decisionmakers or the public whether facilities to use U.S. LNG are nonetheless such a "high-carbon," "intensive" source of emission that they must be discouraged.

Even for the short term, the lifecycle analyses ignore important parts of the question of how DOE's decision to authorize additional U.S. LNG exports will affect greenhouse gas emissions. DOE has recognized, for example, that increasing LNG exports will both cause some gas-to-coal shifting in the U.S. electric sector.[79] Similarly, DOE has acknowledged that "U.S. LNG Exports may … compete with renewable energy … as well as efficiency and conservation measures" in overseas markets.[80] Indeed, while DOE has refused to address the likely share of U.S. LNG exports that will be displace fossil fuels, peer reviewed research concludes that such exports are likely to play only a limited role in displacing foreign use of coal, and such that U.S. LNG exports are likely to increase net global GHG emissions.[81]

Finally, while it is important to address foreseeable overseas impacts of LNG exports, DOE also needs to examine the impact of increased exports specifically on domestic or territorial emissions. The world must transition away from fossil fuel development as quickly as possible. It is inappropriate, unfair, and nonstrategic for the U.S. to argue that it can nonetheless increase fossil fuel production, and enjoy the purported economic benefits thereof, because the associated emissions will be offset by foregone production elsewhere. Instead, nations' commitments under

[76] Net Zero by 2050, *supra* note 5, at 101-02.

[77] Intergovernmental Panel on Climate Change, *Special Report: Global Warming of 1.5 C, Summary for Policymakers* at 13-17 (May 2019), *available at* https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf (attached).

[78] Executive Order 14,008 at § 102(f), (h).

[79] EIA 2014, *supra* note 8, at 12, 19.

[80] DOE/FE Order 3638 at 202-03.

[81] 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 (attached).

the Paris Accord and similar agreements "should include greenhouse gas emissions and removals taking place within national territory and offshore areas over which the country has jurisdiction."[82] Requiring nations to measure and report territorial emissions also ensures the reliability of emission calculations, as nations can only directly regulate emissions within their borders. Estimates of emissions from activities within the U.S. are also likely to be more accurate than estimates that seek to trace the lifecycle of fuels combusted in an end use country. For all of these reasons, a hard look at the climate impact of increasing U.S. LNG exports must address the impact of such exports on domestic emissions specifically, in addition to including reasonable forecasting about global impacts.

**b) The 2019 and 2014 lifecycle analyses understate emissions.**

In addition to asking the wrong questions, DOE's prior lifecycle analyses are factually unsupported and understate emissions, as Sierra Club and Healthy Gulf have previously explained.

First, the 2019 analysis assumes 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.[83] Studies measuring actual emissions find much leak rates: a 2020 study that found that oil and gas production in the Permian basin had a leak rate of roughly 3.5% or 3.7%.[84] As we have previously explained, there are many reasons to believe these atmospheric measurements are more reliable than the "bottom up" estimates used by DOE—notably, the fact that bottom up estimates poorly represent the rare but severe major leaks that constitute a large fraction of upstream emissions.[85]

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[82] Witi, J. & Romano, D., 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 8: Reporting and Tables, *available at* https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/1_Volume1/19R_V1_Ch08_Reporting_Guidance.pdf, at 8.4.

[83] 2019 Life Cycle GHG Perspective at 27.

[84] *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 (attached); *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 (attached).

[85] 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.

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.[86] At a minimum, DOE must review and to respond to this research before approving any further LNG export applications.

### 4. DOE must take a hard look at other significant environmental impacts

#### a) DOE must consider significant new information related to climate change and sea-level rise.

Significant information relating to climate change and sea-level rise has emerged in the last six years since DOE's approval of Venture Global's export volume of 1,240 Bcf/yr. DOE should consider the 2022 NOAA report on sea level rise[87] and the new Sixth Assessment Report from the Intergovernmental Panel on Climate Change ("IPCC"),[88] as these reports show changes in the baseline and new information on climate change impacts that would impact the site itself since it is near or below sea level and located in the Gulf Coast in the hurricane zone. DOE must take a hard look at these new reports in its NEPA review.

As noted, NOAA issued a new study—the *Sea Level Rise Technical Report*—in February 2022, which addresses the latest data regarding sea level rise risks in the U.S.[89] This new data represents significant new information because Louisiana has the highest relative rise in sea level of anywhere in the U.S.; storms and hurricanes are common in Louisiana and could happen at any time, as aptly demonstrated by the 2021 and 2020 Hurricane Seasons; and Plaquemines LNG is at risk of serious flooding. Sea level rise makes the risk of flood waters inundating the site worse by increasing the height of both storm surge and waves.[90] The NOAA report discusses sea level rise

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[86] *See* 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 (attached).

[87] *S*ee *U.S. coastline to see up to a foot of sea level rise by 2050*, NOAA, available at https://www.noaa.gov/news-release/us-coastline-to-see-up-to-foot-of-sea-level-rise-by-2050 (Feb. 15, 2022)(hereinafter "NOAA Report").

[88] *See Climate Change 2021: The Physical Science Basis*, IPCC, available at https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/ (hereinafter "2021 IPCC Physical Science Basis"); *Climate Change 2022: Impacts, Adaptation and Vulnerability*, IPCC, available at https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/.

[89] *U.S. coastline to see up to a foot of sea level rise by 2050*, NOAA, available at https://www.noaa.gov/news-release/us-coastline-to-see-up-to-foot-of-sea-level-rise-by-2050 (Feb. 15, 2022); *see also* NOAA Report, *supra* note 74.

[90] *U.S. coastline to see up to a foot of sea level rise by 2050*, NOAA, available at https://www.noaa.gov/news-

as a factor in analyzing the intensity and extent of impacts (e.g. height of waves and storm surge) and the need for mitigation (i.e. height of docks, levees, etc.).[91] This also bears on the increasing number and severity of storms, which in turn bears on the project design and the need to preserve wetlands as storm buffers and for flood control, which are critical wetlands functions.[92]

Additionally, two documents from the IPCC's 6th Assessment Report ("AR6") also paint a staggering picture of a climate-destabilized future absent urgent and aggressive carbon emission reductions, highlighting the severe need to curb GHG emissions now and the substantial risk of extreme weather events facing infrastructure like Plaquemines LNG along the Gulf Coast.

**First**, the IPCC's August 2021 *The Physical Science Basis* report confirms that "[h]uman-induced climate change is already affecting many weather and climate extremes in every region across the globe."[93] Evidence demonstrating the link between human GHG emissions and "changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones . . . has strengthened since" the prior IPCC report.[94] In addition to exacerbating extreme weather, "[h]eating of the climate system has caused global mean sea level rise through ice loss on land and thermal expansion from ocean warming."[95] The IPCC forecasts with *high confidence* that flooding will become more likely in coastal cities due to "the combination of more frequent extreme sea

release/us-coastline-to-see-up-to-foot-of-sea-level-rise-by-2050 (Feb. 15, 2022) ("[T]he sea level rise expected by 2050 will create a profound increase in the frequency of coastal flooding, even in the absence of storms or heavy rainfall.").

[91] *See* NOAA Report, *supra* note 74, at xiii, 2, 41, 60.

[92] *See* Louisiana's *Comprehensive Master Plan for a Sustainable Coast*, Coastal Protection and Restoration Authority of Louisiana, available at http://coastal.la.gov/wp-content/uploads/2017/01/DRAFT-2017-Coastal-Master-Plan.pdf (last visited June 6, 2022); *see also Wetlands: Protecting Life and Property from Flooding*, EPA, available at https://www.epa.gov/sites/default/files/2016-02/documents/flooding.pdf (May, 2006); *see also Incorporating Wetland Restoration and Protection into Planning Documents,* EPA, *available* at https://www.epa.gov/wetlands/incorporating-wetland-restoration-and-protection-planning-documents; *see also*, Shepard *et al.*, *The Protective role of Coastal Marshes: A Systemic Review and Meta-analysis*, PLOS ONE, available at https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0027374 (Nov. 23, 2011) (discussing three ecosystem services associated with coastal wetlands: *wave attenuation, shoreline stabilization,* and *floodwater attenuation.).*

[93] *See Climate Change 2021: The Physical Science Basis, Summary for Policymakers*, IPCC, available at https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_SummaryForPolicymakers.pdf (Oct. 2021) (attached) (hereinafter "IPCC Physical Science Summary").

[94] *Id.* at 8, A.3.

[95] *Id*. at 11, A.4.3.

level events (due to sea level rise and storm surge)."[96] Even under deep emission reductions scenarios that keep global warming to within 1.5°C, the report finds that "heavy precipitation and associated flooding are projected to intensify and be more frequent in most regions," including North America (*medium to high confidence*).[97]

Looking to the future, *The Physical Science Basis* also concludes that cutting GHG emissions now is critical because "there is a near-linear relationship" between human-caused GHG emissions and related global warming, meaning that each additional increment of global warming exacerbates changes in extreme weather events. For example, the IPCC forecasts that each additional 1°C of global warming will cause about a 7 % increase in the intensity of extreme daily precipitation events (*high confidence*).[98] Based on this demonstrated relationship, the IPCC concludes that "reaching net zero anthropogenic CO2 emissions is a requirement to stabilize human-induced global temperature increase at any level." [99]

**Second**, the IPCC's February 2022 report—on *Impacts, Adaptation, and Vulnerability*—highlights the increasing climate-related risks to coastal infrastructure like Venture Global's Plaquemines LNG. Because "[c]limate change impacts and risks are becoming increasingly complex and more difficult to manage," it is increasingly likely that "multiple climate hazards will occur simultaneously, . . . compounding overall risk[.]"[100] Noting that "[w]idespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes," [101] the IPCC also

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[96] *Id*. at 25, C2.6.

[97] 2021 IPCC Physical Science Basis, *supra note* 75, at 19, B.3.2. With 2°C or more of global warming, changes in droughts and heavy and mean precipitation will be even more dramatic. *Id.*

[98] *Id*. at 16, B.2.4. The IPCC reports that "every additional 0.5°C of global warming causes clearly discernible increases in the intensity and frequency of hot extremes, including heatwaves (*very likely*), and heavy precipitation (*high confidence*), as well as agricultural and ecological droughts in some regions (*high confidence*)." *Id*. at 15, B.2.2.

[99] *Id*. at 28, D.1.1.

[100] *See Climate Change 2022 Impacts, Adaptation and Vulnerability, Summary for Policy Makers*, IPCC, at 8, A.3, available at https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf (Feb. 2022) (attached) (hereinafter "IPCC Impacts Summary").

[101] *Id.* at SPM.B.1.1; *see also id.* at SPM.C.2.5 ("Natural river systems, wetlands and upstream forest ecosystems reduce flood risk by storing water and slowing water flow, in most circumstances (high confidence). Coastal wetlands protect against coastal erosion and flooding associated with storms and sea level rise where sufficient space and adequate habitats are available until rates of sea level rise exceeds natural adaptive capacity to build

predicts, with high to very high confidence, that climate change will cause increasing adverse impacts from flood/storm damages in coastal areas, damage to key infrastructure, and damage to key economic sectors in North America.[102] Moreover, "[u]navoidable sea level rise will bring cascading and compounding impacts resulting in losses of coastal ecosystems and ecosystem services, groundwater salinisation, flooding and damages to coastal infrastructure that cascade into risks to livelihoods, settlements, health, well-being, food and water security, and cultural values in the near to longterm (high confidence)." [103]

The IPCC again concludes, with *very high confidence*, that "[t]he magnitude and rate of climate change and associated risks depend strongly on near-term mitigation and adaptation actions, and projected adverse impacts and related losses and damages escalate with every increment of global warming." [104] If overall global warming reaches 1.5°C in the near-term, there would be "unavoidable increases in multiple climate hazards" that would "present multiple risks to ecosystems and humans (very high confidence)." Although "[n]ear-term actions that limit global warming to close to 1.5°C would substantially reduce projected losses and damages related to climate change in human systems and ecosystems," the IPCC confirmed that, at this point, those actions cannot eliminate all of the harms (very high confidence). [105]

Because climate change impacts cannot be eliminated entirely, the IPCC also highlights critical adaptation strategies, including restoring wetlands to "further reduce flood risk (medium confidence)."[106] Noting that "siting of infrastructure" and other factors have "contributed to the exposure of more assets to extreme climate hazards increasing the magnitude of the losses (high confidence)," [107] the IPCC also concludes that "[a]ctions that focus on sectors and risks in isolation

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sediment (very high confidence).").

[102] *Id.* at Figure SPM.2. Risks from climate change to "key infrastructure will rise rapidly in the mid- and long-term with further global warming, especially in places . . . along coastlines, or with high vulnerabilities (high confidence)." *Id.* at SPM.B.4.5.

[103] *Id.* at SPM.B.5.2.

[104] *Id.* at SPM.B.4.

[105] *Id.* at SPM.C.2.

[106] *Id.* at Figure SPM.2. Notably, the Plaquemines LNG facility will destroy over 368 acres of existing coastal wetlands. *See* Plaquemines LNG 2019 FEIS, *supra* note 16, at 4-41.

[107] IPCC Impacts Summary, *supra* note 87, at SPM.B.1.6.

and on short-term gains often lead to maladaptation if long-term impacts of the adaptation option and long-term adaptation commitment are not taken into account (high confidence)."[108] For example, although seawalls like that proposed by Plaquemines LNG might "effectively reduce impacts to people and assets in the short-term," the IPCC warns they "can also result in lock-ins and increase exposure to climate risks in the long-term unless they are integrated into a long-term adaptive plan (high confidence)."[109] "Climate resilient development is already challenging at current global warming levels (high confidence)" and "is most constrained in regions/subregions in which climate impacts and risks are already advanced, including low-lying coastal cities and settlements" (high confidence).[110]

In short, both AR6 reports add to the mounting evidence demonstrating the dual climate risks associated with Venture Global's Plaquemines LNG facility: (1) that the facility's staggering GHG emissions will fuel climate change, and (2) that the climate-driven hazards at the project site will increase the risk of significant contamination being released into the surrounding communities and ecosystems.

### b) DOE must consider increased air emissions resulting from the proposed export capacity increase.

DOE cannot blindly rely upon Venture Global's assertion that the increased export capacity will not increase air pollution emissions. DOE must conduct its own emissions analysis for the proposed export capacity which must also consider increased emissions from marine vessel traffic in the Mississippi River.

In regards to lifecycle emissions, the proposed export capacity increase from 1,240 Bcf/yr, which is approximately 24 million metric tonnes per annum ("MTPA") to 1,405.33 Bcf/yr, which is approximately 27.2 MTPA will result in increased air emissions. Using the 20-year global warming potential greenhouse gas emissions equivalency estimates for LNG production from a recent study,[111] the emissions from burning the produced LNG at requested 27.2 million metric

[108] *Id.* at SPM.C.4.1.

[109] *Id.* at SPM.C.4.1.

[110] *Id.* at SPM.D.5.1.

[111] When the plant operates at the lower "design capacity" of 20.0 MTPA, the produced LNG would emit 121 million metric tons of carbon dioxide equivalent (MMT CO2e) per year, which is equivalent to the annual emissions from **31 coal plants or 26.3 million cars**. At the current peak capacity of 24.0 MTPA, the produced LNG would

ton per annum (MMTPA) peak capacity is roughly equivalent to the greenhouse gas emissions from **42 coal plants**. The increase in peak capacity from 24.0 to 27.2 MTPA alone would result in about 19 million metric tons of additional carbon dioxide equivalent (MMT CO2e) per year from the exported LNG—equivalent to the annual emissions from over **5 coal plants**.[112] These statistics do not account for any increase emissions from vessel traffic in the Mississippi River.[113]

In addition to lifecycle emissions, DOE must also consider direct emissions from the proposed export capacity increase as it is implausible to suggest that Venture Global can increase terminal output without also increasing emissions from gas pretreatment.[114] In principle, if the liquefaction process operates more efficiently, the liquefaction process can produce additional LNG without increasing hours or intensity of operations. But for pretreatment, the amount of sulfur that is removed and must be dealt with is necessarily a function of the amount of gas received and processed. Increasing capacity means taking in more pipeline gas, and thus more hydrogen sulfide on the input side, and that sulfur has to go somewhere – whether as increased sorbent from the acid gas removal system, additional sulfur dioxide emissions from the four thermal oxidizers,[115] or most likely, both. Both gas pretreatment and thermal oxidizers are significant sources of emissions and a proportional increase in these emissions needs to be carefully scrutinized.

Moreover, a report commissioned by Sierra Club which utilized based modeling provided as part of Plaquemines LNG's air permitting process demonstrates clear and persistent exceedances of the maximum 1-hour $NO_2$ standard in Acadiana, Jefferson, Lafourche,

represent 145 million metric tons of carbon dioxide equivalent (MMT CO2e) per year, which is equivalent to the annual emissions from **37 coal plants or 31.6 million cars**. GHG equivalency calculations are based on the 20-year global warming potential equivalency estimates from *Life Cycle Greenhouse Gas Emissions from U.S. Liquified Natural Gas Exports: Implications for End Uses*, available at https://pubs.acs.org/doi/suppl/10.1021/es505617p/suppl_file/es505617p_si_001.pdf (attached) (hereinafter "GHG Emissions from U.S. LNG Exports") and *Greenhouse Gas Equivalences Calculator*, EPA, available at https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator (hereinafter "GHG Equivalencies Calculator").

[112] *Id*.

[113] FERC's final environmental impact statement estimated that 310 vessels would emit 140 tons per year ("tpy") of NOx, 72 tpy of CO, 22 tpy of VOC, and 31,942 tpy of CO2e. *FEIS* at 4-180. Plaquemines LNG 2019 FEIS, *supra* note 16, at 4-180.

[114] Plaquemines LNG 2019 FEIS, *supra* note 16, at 2-5 to 2-7.

[115] *Id*. at 4-176 to 4-178.

Plaquemines, and St. Bernard Parishes.[116] This modeling is based off current export capacities and will likely increase as a result of the proposed capacity increase. DOE must take a hard look at the increased air pollution that will result from the proposed export capacity increase.

### c) DOE must consider impacts faced by Environmental Justice communities from the proposed export capacity increase.

In determining whether the proposed increase in capacity is in the public interest, DOE must consider impact to environmental justice communities near the Plaquemines LNG export facility, who will be directly impact by the additional emissions from the facility. Executive Order 14008 directs federal agencies to develop "programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts."[117]

The Council on Environmental Quality has also issued guidance on incorporating environmental justice considerations in the NEPA process. The guidance states in part:

> In preparing an EIS or an EA, agencies must consider both impacts on the natural or physical environment and related social, cultural, and economic impacts. Environmental justice concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes, or from related social or economic impacts.

The Plaquemines LNG export facility will be located in close proximity to several predominantly Black and low-income communities, including Ironton and West Pointe a la Hache. The facility is also near several other communities referred to jointly as Lake Hermitage.[118] The 2019 final environmental impact statement issued by FERC states that the closest residential communities are within 2.3 and 2.6 miles of the terminal site.[119]

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[116] Steven Klafka, *et al*., *Plaquemines LNG Plaquemines Parish, Louisiana, Evaluation of Compliance with the 1-hour NAAQS for NO2* (May 22, 2022) (attached).

[117] Exec. Order No. 14008, 86 Fed. Reg. 7,619 (Jan. 27, 2021).

[118] Plaquemines LNG 2019 FEIS, *supra* note 16, at 4-153.

[119] *Id*.

As stated above, the proposed increase in export capacity will result in increased air pollution to the surrounding areas, many of which include environmental justice communities. DOE must consider the effects that increased air pollution as a result of the proposed capacity increase will have on the air quality in these environmental justice communities.

## III. Conclusion

For the reasons stated above, Sierra Club and Healthy Gulf's motion to intervene in this docket should be granted. The proposed export increase is not consistent with the public interest and should be denied. Recent events in Ukraine have demonstrated yet another reason why the world needs to transition away from fossil energy as quickly as possible; Venture Global's proposed export capacity increase is not part of a solution to current geopolitical problems. And DOE must not approve the application without reviewing whether current gas price spikes call into question DOE's prior analyses and assumptions about the effects of increased exports on domestic gas production and prices. Finally, DOE cannot approve the application without taking a hard look at foreseeable environmental impacts occurring throughout the LNG lifecycle.

Ultimately, the United States and nations around the globe have set ambitious but necessary goals for reducing greenhouse gas emissions during the proposed authorization period. Expanded gas exports and use cannot be reconciled with those goals, and this proposal should be denied.

*/s/ Lisa M. Diaz*
Lisa M. Diaz
Sierra Club
935 Gravier Street, Ste. 700
New Orleans, LA 70119
(305) 336-2258
lisa.diaz@sierraclub.org
*Attorney for Sierra Club*

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

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| IN THE MATTER OF | ) | |
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| Venture Global Plaquemines LNG, LLC | ) | FE Docket No. 16-028-LNG |
| | ) | |

**SIERRA CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE**

Pursuant to 10 C.F.R. § 590.103(b), I, Lisa Diaz, 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 New Orleans, LA this 11th day of July, 2022

*/s/ Lisa M. Diaz*

Lisa M. Diaz
Sierra Club
935 Gravier Street, Ste. 700
New Orleans, LA 70119
(305) 336-2258
lisa.diaz@sierraclub.org
*Attorney for Sierra Club*

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**HEALTHY GULF CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE**

Pursuant to 10 C.F.R. § 590.103(b), we, Naomi Yoder and Cynthia Sarthou, hereby certify that we are duly authorized representatives of Healthy Gulf, and that we are authorized to sign and file with the Department of Energy, Office of Fossil Energy and Carbon Management, on behalf Healthy Gulf, the foregoing documents and in the above captioned proceeding.

Dated at Houston, TX this 11th day of July, 2022

*/s/ Naomi Yoder*
Naomi Yoder
Staff Scientist
PO Box 66226
Houston, TX 77266
naomi@healthygulf.org
504-525-1528 ext. 213
*Staff Scientist for Healthy Gulf*

*/s Cynthia Sarthou*
Cynthia Sarthou
Executive Director
PO Box 2245
New Orleans, LA 70176
cyn@sierraclub.org
504-525-1528
*Executive Director for Healthy Gulf*

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**SIERRA VERIFICATION**

Pursuant to 10 C.F.R. § 590.103(b), I, Lisa Diaz, 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.

Executed at New Orleans, LA on July 11, 2022

*/s/ Lisa M. Diaz*
Lisa M. Diaz
Sierra Club
935 Gravier Street, Ste. 700
New Orleans, LA 70119
(305) 336-2258
lisa.diaz@sierraclub.org
*Attorney for Sierra Club*

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**HEALTHY GULF VERIFICATION**

Pursuant to 10 C.F.R. § 590.103(b), we, Naomi Yoder and Cynthia Sarthou, hereby verify under penalty of perjury that we are authorized to execute this verification, that we have read the foregoing document, and that the facts stated therein are true and correct to the best of our knowledge.

Dated at Houston, TX this 11th day of July, 2022

/s/ Naomi Yoder
Naomi Yoder
Staff Scientist
PO Box 66226
Houston, TX 77266
naomi@healthygulf.org
504-525-1528 ext. 213
*Staff Scientist for Healthy Gulf*

/s Cynthia Sarthou
Cynthia Sarthou
Executive Director
PO Box 2245
New Orleans, LA 70176
cyn@sierraclub.org
504-525-1528
*Executive Director for Healthy Gulf*

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**CERTIFICATE OF SERVICE**

Pursuant to 10 C.F.R. § 590.107, I, Lisa Diaz, hereby certify that I caused the above documents to be served on the persons included on the official service list for this docket, as provided by DOE/FE, on July 11, 2022.

*/s/ Lisa M. Diaz*

Lisa M. Diaz
Sierra Club
935 Gravier Street, Ste. 700
New Orleans, LA 70119
(305) 336-2258
lisa.diaz@sierraclub.org
*Attorney for Sierra Club*