

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

IN THE MATTER OF)
)
Lake Charles Export, LNG LLC) FE Docket Nos. 13-04-LNG and 16-109-
) LNG

Motion to Intervene and Protest of Sierra Club

In orders issued July 29, 2016¹ and June 29, 2017,² DOE authorized Lake Charles LNG to export liquefied natural gas to “non free trade agreement” or (non-FTA) countries, with each authorization valid for a term of 20 years.³ Four years after this first authorization was issued, although Lake Charles still had not even commenced construction of the approved export facility, DOE granted a request to extend the operations deadline for both export approvals to December 2025, effectively authorizing non-FTA exports through December 2045.⁴

Lake Charles LNG Export, LLC now asks that the duration of these authorizations be extended through December 31, 2050—in essence, Lake Charles seeks approval to export gas from the years 2046 through 2050.⁵ Sierra Club moves to intervene in this docket and protests this application, pursuant to 10 C.F.R. §§ 590.303(b) and § 590.304.

Sierra Club submits 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

¹ DOE/FE Order 3868, available at <https://www.energy.gov/sites/default/files/2022-06/Lake%20Charles%20LNG%20Export%20Company%20LLC%20DOE%20Application%20Re%202050.pdf>

² DOE/FE Order 4010, available at <https://www.energy.gov/sites/prod/files/2017/06/f35/ord4010.pdf>

³ Order 3868 at 156, Order 4010 at 48.

⁴ DOE/FE Order 3252b, 3868a, & 4010a, available at <https://www.energy.gov/sites/prod/files/2020/10/f79/ord3252b%2C%203868a%2C%204010a.pdf>

⁵ Application to Amend Export Term for Existing Long-Term Authorizations Through December 31, 2050, Docket Nos. 13-04-LNG and 16-109-LNG (May 24, 2022), <https://www.energy.gov/sites/default/files/2022-06/Lake%20Charles%20LNG%20Export%20Company%20LLC%20DOE%20Application%20Re%202050.pdf> [hereinafter “Application to 2050”].

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 to transition off of fossil fuels entirely as quickly as possible.⁶ This transition is also essential to avoiding catastrophic climate change: the International Energy Administration has explained that further expansion of global LNG exports cannot be part of the path to net-zero emissions.⁷ Lake Charles LNG's proposal to extend exports from 2045 through 2050⁸ is not a part of any solution to our short, middle, or long term problems. This request to extend Lake Charles's export authorizations is inconsistent with the public interest and should be denied. 15 U.S.C. § 717b(a).

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." 10 C.F.R. § 590.303(b)-(c). 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's interests are based on the impact the proposed additional exports (via an extended duration of the export term) will have on its members and mission.

The requested exports will harm Sierra Club its members by increasing the prices they pay for energy, including both gas and electricity, over a longer term. As DOE and the Energy

⁶ 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.").

⁷ 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 [hereinafter "IEA, Net Zero by 2050"] (attached).

⁸ Although separate from this extension request, we note that Lake Charles does not expect to even *start* exporting gas until 2028. Application of Lake Charles LNG Export Company, LLC for Amendment to Long-Term Authorizations to Export Liquefied Natural Gas to Non-Free Trade Agreement Countries, Docket Nos. 13-04-LNG and 16-109-LNG (June 21, 2022), <https://www.energy.gov/sites/default/files/2022-06/LCLNG%20Amendment%20Application%20Re%20Commencement%20Date.pdf> [hereinafter "Commencement Extension Application"]..

Information Administration have previously explained, each marginal increase in export volumes is also expected to further increase domestic energy prices.

The proposed export term extension will further harm Sierra Club 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,⁹ and increasing gas production increases ozone pollution, including risking creation of new or expanded ozone non-attainment areas or exacerbating existing non-attainment.¹⁰ Increasing the export term will increase the duration and magnitude of these impacts. Sierra Club has over 3,200 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, and the extended export term will exacerbate the duration of those impacts. 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,¹¹ threatened oceanic whitetip shark,¹² and endangered Rice's whale (formerly designated as the Gulf of Mexico population of the Bryde's whale).¹³

⁹ 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.”).

¹⁰ 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>.

¹¹ Final Rule to List the Giant Manta Ray as Threatened Under the Endangered Species Act, 83 Fed. Reg. 2,916 (Jan. 22, 2018).

¹² Listing the Oceanic Whitetip Shark as Threatened Under the Endangered Species Act, 83 Fed. Reg. 4,153 (Jan. 30, 2018).

¹³ Technical Corrections for the Bryde's Whale (Gulf of Mexico Subspecies), 86 Fed. Reg. 47,022 (Aug. 23, 2021).

The proposed exports will also require new infrastructure with significant direct environmental impacts, including air pollution emissions. These emissions will impact Sierra Club members and others who live, work, or recreate in the vicinity of the proposed project.

Finally, increasing LNG exports via the requested term extension will impact Sierra Club and its members because of the additional greenhouse gases emitted throughout the LNG lifecycle, from production, transportation, liquefaction, and end use. *See Section II.D below.* 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.

In summary, the proposed LNG export term extension will harm Sierra Club its members in numerous ways. Sierra Club accordingly contends that the application should be denied or conditioned, as further described in the following protest.

Pursuant to 10 C.F.R. § 590.303(d), Sierra Club identifies the following person for the official service list:

Louisa Eberle
Staff Attorney
1536 Wynkoop St. Suite 200
Denver, CO 80202
louisa.eberle@sierraclub.org
415-977-5753

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

II. Protest

The requested authorization to extend export terms should be denied because it is contrary to the public interest. 15 U.S.C. § 717b(a). Lake Charles' application relies on DOE's 2020 Policy Statement, which it argues essentially guarantees approval of its request to extend LNG export authorizations through 2050.¹⁴ However, as DOE previously explained, "when reviewing an application for export authorization," DOE evaluates "economic impacts, international impacts, security of natural gas supply, and environmental impacts, among others."¹⁵ Here, the 2020 Policy Statement is not determinative, and each of the public interest factors weighs against granting Lake Charles' request.

A. The 2020 Policy Statement Is Not Determinative, and DOE Must Review Lake Charles's Application Individually.

In the 2020 Policy Statement, DOE recognized that each existing authorization holder would be required to apply for any term extension and provide "relevant facts and argument supporting the term request."¹⁶ DOE would then issue notice and accept public comment before "conduct[ing] a public interest analysis of the application (or amended application) under NGA section 3(a)."¹⁷ DOE also explained that it "would have to comply with NEPA" for each individual application.¹⁸ Thus, the 2020 Policy Statement itself requires DOE to conduct an *individual* examination of Lake Charles's application, not simply rubber stamp the request based on prior findings in the Policy Statement. Doing so requires DOE to take a critical look at the facts and circumstances relevant to Lake Charles's request, including new information that has become available since the Policy Statement was issued.

¹⁴ Application to 2050 at 4-5.

¹⁵ DOE/FE Order No. 4010, FE Docket No. 16-109-LNG at 14-15 (June 29, 2017), available at <https://www.energy.gov/sites/prod/files/2017/06/f35/ord4010.pdf>.

¹⁶ Extending Natural Gas Export Authorizations to Non-Free Trade Agreement Countries Through the Year 2050, 85 Fed. Reg. 52,237, 52,239 (Aug. 25, 2020).

¹⁷ *Id.*

¹⁸ *Id.*

1. DOE has the Authority and Obligation to Revisit Prior Determinations in Deciding Whether to Grant the Proposed Extension Request.

Substantively, in deciding whether to grant the requested extension, nothing prohibits DOE from revisiting determinations made in the 2020 Policy Statement or the initial export authorizations, whether or not circumstances have changed or those determinations have otherwise gone stale. No one is *entitled* to an extension request. Under 10 C.F.R. § 590.404, DOE may “attach such conditions thereto as may be required by the public interest.” Thus, DOE may extend the term, but DOE is not required to do so. Accordingly, in deciding whether to grant an extension request, DOE therefore should and must consider whether such a request is in the public interest based on the particular facts at issue.

In the notice of the extension request, DOE stated that “the public interest analysis will be limited to the application for the term extension—meaning an intervenor or protestor may challenge the requested extension but not the existing non-FTA order.”¹⁹ But DOE has not explained or justified a refusal to consider arguments opposing the 2020 Policy Statement or the existing non-FTA order where those arguments highlight why the extension request itself is not in the public interest. In other words, conducting a full evaluation of the extension request necessitates critically evaluating whether the determinations underlying the initial authorization are still valid. If DOE agrees with its prior determinations and their bases, such consideration would be straightforward. But if DOE disagrees with those prior conclusions, there is no justification for compounding the error by extending the export term.

Reconsidering prior determinations *in response to an extension request* is not a collateral or out-of-time attack on the initial authorization. The initial authorization is still there. Insofar as Lake Charles or any developer wishes to claim the benefit of the original authorization, they may continue to do so, provided that they meet the corresponding obligations. But where, as here, a developer asks that the initial authorization be reopened for purposes of changing the duration, it is appropriate to reopen it for other purposes as well. DOE has broad authority to “amend ... orders ... as it may find necessary or appropriate.” 15 U.S.C. § 717o. And if DOE were to *deny* an extension request after reconsidering one or more conclusions from a prior order, this would not inherently amend the prior order at all.

¹⁹ 87 Fed. Reg. 36,842,36,843 (June 21, 2022).

2. The 2020 Policy Statement's Analysis Contained Several Flaws that DOE Must Address.

Lake Charles appears to urge DOE to rely on the 2020 Policy Statement as determinative in its public interest analysis,²⁰ but such an approach ignores fundamental flaws in the Policy Statement that undermine its conclusions. For example, the 2020 Policy Statement relies heavily on the 2018 LNG Export Study,²¹ but that study failed to account for foreseeable and significant changes in the regulatory and economic environment that will make it nearly impossible to sell or use LNG by 2050, as discussed in Section II.C.

Perhaps more concerning, DOE dodged responding to comments that opposed LNG exports in general, argued for more renewable energy, or challenged the design of the 2018 LNG Export Study, reasoning that those comments were outside the scope of the 2020 Policy Statement.²² Yet, those comments addressed a foundational component of whether extending Lake Charles's export term is in the public interest: Even if some LNG exports in the near term are in the public interest (they are not), is it appropriate now to guarantee an extra five years of exports from Lake Charles LNG, particularly given the mounting evidence demonstrating these facilities will both exacerbate and be in the crosshairs of catastrophic climate change? DOE's failure to engage with that question²³—particularly given the availability of alternatives like renewable energy and energy conservation measures—undermines the 2020 Policy Statement's conclusion that authorizing an additional ten years of LNG exports (or five years for Lake Charles) is nevertheless in the public interest.

²⁰ Application to 2050 at 4 (“With respect to the Non-FTA authorizations, LCE incorporates by reference the Policy Statement, in which DOE/FE “considered its obligations under NGA section 3(a), the public comments supporting and opposing the Proposed Policy Statement, and a wide range of information bearing on the public interest” and adopted a standard export term through December 31, 2050.”).

²¹ See, e.g., 85 Fed. Reg. at 52,240-44.

²² *Id.* at 52,240.

²³ DOE responded, in part, that “[i]mported natural gas can provide reliable standby energy supply immediately, while renewable development is occurring.” *Id.* at 52,246. Even if gas is needed to support renewable energy development in the short term, DOE failed to acknowledge that complementing renewable energy development through the 2020s (and even the 2030s) is a very different proposition than doing so through 2050.

Moreover, the 2020 Policy Statement was itself contradictory, noting both that LNG exports will provide economic benefit and that the likelihood of any individual LNG facility being constructed is low.²⁴ DOE cannot have its cake and eat it too; only LNG facilities that are constructed and operating would provide any alleged benefits, so DOE cannot assume benefits will materialize from facilities that are not built. Thus, if it assumes benefits from those facilities, DOE must also weigh the economic and environmental impacts of those facilities—or most relevant here, the incremental economic and environmental impacts stemming from an additional ten years of LNG exports at a time when the world needs to be fossil-free. DOE cannot accept benefits on the one hand while on the other hand claiming the harms from those facilities will not be realized.

The 2020 Policy Statement also inappropriately assumed that enabling export authorization holders to secure financing via term extensions would inherently provide an overall public benefit. This conclusion failed to account for the actual public interest. In fact, the only commenters that highlighted securing financing as providing public benefit were the very industry groups or LNG facilities that will benefit the most from the extension of the export term.²⁵ These distributional concerns are discussed more in Section II.B.2 below.

3. Recent Developments Have Rendered the 2020 Policy Statement’s Analysis Stale, and DOE Must Reevaluate Its Findings.

Even if the 2020 Policy Statement did not contain significant flaws when it was approved, subsequent events make it unreasonable to rely on the 2020 Policy Statement now. Although Lake Charles’s application fails to address these recent developments, DOE must consider each of them in its public interest evaluation here.

First, as discussed in the next section, recent data undermines several other key findings in the 2020 Policy Statement—including that LNG exports have little impact on domestic natural gas prices and that Henry Hub gas prices are forecasted to remain low.²⁶ To the contrary,

²⁴ Compare 85 Fed. Reg. at 52,242 (touting economic benefits of increased LNG exports) *with id.* at 52,243 (noting that it is unlikely all of the proposed LNG projects will be realized).

²⁵ 85 Fed. Reg. at 52,241.

²⁶ *Id.* 52,244.

domestic energy market responses to an explosion at the Freeport LNG facility and gas prices throughout 2021-2022 demonstrate that DOE's conclusions in its 2020 Policy Statement are inaccurate.

Second, as discussed in Sections II.B and II.D.3 below, recent events in Europe demonstrate that a key assumption underlying the lifecycle greenhouse gas emission analysis is simply incorrect. The analyses essentially assumed that LNG would offset higher-emissions fossil fuels (coal or other gas) used in Europe and Asia.²⁷ Yet, Russia's unprovoked invasion of Ukraine is likely to drive European reliance on fossil-free alternatives like renewable energy and energy conservation over the medium to long term. Therefore, contrary to the assumption made in the 2020 Policy Statement (and lifecycle GHG analyses), LNG exports would be competing with very low or zero emissions alternatives rather than displacing higher-emissions alternatives. DOE must reevaluate its lifecycle GHG emissions analyses to reflect this development.

Third, as discussed in Section II.D.4, mounting scientific evidence—released since the 2020 Policy Statement was finalized—demonstrates that the consequences of and risk to LNG infrastructure from catastrophic climate change are even more severe than previously assumed. Continuing LNG exports through 2050 is inconsistent with reaching any of the Biden administration's climate targets and preventing the worst impacts from catastrophic climate change. Three recent documents from the International Panel on Climate Change's ("IPCC") 6th Assessment Report emphasize the inevitability of a climate-destabilized future absent urgent and aggressive carbon emission reductions, highlighting the need to curb GHG emissions *now*. Even if LNG exports were reasonable in the short term (they are not), extending those impacts through the 2040s flies in the face of mounting scientific evidence about how to avoid the worst impacts of catastrophic climate change. The reports also emphasize the substantial risk that climate-driven extreme weather events will damage infrastructure like Lake Charles LNG along the Gulf Coast.

Moreover, President Biden has acknowledged that we are facing a "profound climate crisis" and have very little time to act to avoid the most catastrophic impacts of climate

²⁷ Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States: 2019 Update, 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

change.²⁸ As such, tackling the climate crisis must be a priority for the actions and decisions of all federal agencies.²⁹ President Biden also reinstated the United States’ commitment to the Paris Agreement³⁰ and made additional commitments in Glasgow.³¹ Meeting those commitments, and more, is critical: a 2021 report by the International Energy Agency concluded that “hav[ing] a fighting chance of . . . limiting the rise in global temperatures to 1.5°C. . . requires nothing short of a total transformation of the energy systems that underpin our economies.”³² In order for the global energy sector to reach net zero emissions by 2050, many of the LNG facilities currently under construction or at the planning stage cannot be built.³³ The report also projects that from 2020 to 2050, natural gas traded as LNG will fall by 60 percent, and global demand will decrease by more than five percent on average in the 2030s alone.³⁴

Under the Administrative Procedure Act, courts must set aside agency actions that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”³⁵ The Supreme Court has explained that agency actions are arbitrary and capricious “if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in

²⁸ Exec. Order 14008, Tackling the Climate Crisis at Home and Abroad (Jan. 27, 2021), 86 Fed. Reg. 7619 (Feb. 1, 2021).

²⁹ See *id.*; Exec. Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, 86 Fed. Reg. 7037 (Jan. 25, 2021).

³⁰ Anthony Blinken, *The United States Officially Rejoins the Paris Agreement*, U.S. Department of State, available at <https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/> (Feb. 19, 2021).

³¹ Jeff Mason and Valerie Volcovici, *Biden tells leaders U.S. will meet climate goals, while his agenda falters at home*, REUTERS (Nov. 2, 2021), available at <https://www.reuters.com/business/sustainable-business/biden-tout-largest-investment-climate-glasgow-2021-11-01/>.

³² IEA, *Net Zero by 2050*, *supra* note 7.

³³ *Id.* at 102–03.

³⁴ *Id.*

³⁵ 42 U.S.C. § 7607(d)(9)(A).

view or the product of agency expertise.”³⁶ Thus, in light of this significant new data contradicting DOE’s prior conclusions, DOE must critically evaluate its 2020 Policy Statement and decline to blindly apply that Policy Statement to Lake Charles’ extension request. DOE must examine whether Lake Charles’ request complies with the public interest requirement for DOE export authorizations based on the facts in this record.

B. Domestic Energy Prices and Supply

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.”³⁷ As recent data shows, exports are increasingly linking domestic gas prices to prices in the global market. These increases harm American households and energy intensive industry. Lake Charles’s application fails to address this data, which demonstrate that a term extension is not in the public interest and also constitute significant new information requiring DOE to revisit its 2020 Policy Statement.

1. The Freeport LNG explosion further affirms the Lake Charles project will increase domestic gas prices, harming consumers.

A recent explosion and fire at the Freeport LNG facility—and the resulting drop in domestic gas prices—provided stark confirmation that increasing LNG exports will cause real and significant increases in domestic gas prices. Thus, the Freeport LNG explosion demonstrates that the requested extension is not in the public interest and constitutes new information requiring DOE to revisit its 2020 Policy Statement.

Less than a month ago, on June 8, 2022, an explosion and fire at the Freeport LNG facility caused an immediate shut down of operations.³⁸ Fortunately, no one was injured during the incident, but the initial report by the Pipeline and Hazardous Materials Safety Administration

³⁶ *Motor Vehicle Mfrs. Ass’n of the United States v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

³⁷ *See, e.g.*, DOE/FE Order No. 3357-B at 10; 85 Fed. Reg. at 52,243 (“In evaluating the public interest, DOE takes seriously the potential economic impacts of higher natural gas prices.”).

³⁸ U.S. Energy Information Administration, Fire Causes Shutdown of Freeport Liquefied Natural Gas Export Terminal (June 23, 2022), <https://www.eia.gov/todayinenergy/detail.php?id=52859> [hereinafter “EIA, Freeport Fire”] (attached).

(PHMSA) concluded that “[c]ontinued operation of Freeport’s LNG export facility without corrective measures may pose an integrity risk to public safety, property or the environment.”³⁹ For these reasons, Sierra Club and over 130 other organizations recently sent a letter asking President Biden, among other things, to “[d]irect DOE to find gas exports not in the public interest due to their climate and safety repercussions and to stop approving new applications.”⁴⁰ Preliminary findings point to “excess pressure in an LNG transfer pipeline that moves LNG from the facility’s storage tank to the terminal’s dock facilities” as the source of the fire.⁴¹ The facility cannot resume operations until an independent investigation of the extent of the damage to the facility and LNG storage tanks is conducted and PHMSA approves a plan to repair the damage.⁴² Thus, Freeport will not return to full service until at least late 2022, though partial operations may begin sooner.⁴³

Most relevant here, the Freeport explosion demonstrates a clear and significant connection between US LNG exports and domestic gas prices. The EIA has estimated that the Freeport shutdown took roughly 17% (or 2 billion cubic feet per day) of the total U.S. LNG export capacity offline.⁴⁴ Immediately after the explosion was reported, domestic gas prices fell by 16 percent,⁴⁵ highlighting the direct connection between gas exports and domestic prices and supply. Despite this initial drop, domestic gas prices remain exceptionally high as a result of LNG exports, as discussed in the next section. DOE must address the Freeport LNG explosion,

³⁹ Gary McWilliams, U.S. Regulator Bars Freeport LNG Plant Restart Over Safety Concerns, REUTERS (July 1, 2022), [https://www.reuters.com/business/energy/us-regulator-finds-unsafe-conditions-freeport-lng-export-facility-bars-restart-2022-06-30/#:~:text=HOUSTON%2C%20June%2030%20\(Reuters\),an%20outside%20analysis%20is%20complete](https://www.reuters.com/business/energy/us-regulator-finds-unsafe-conditions-freeport-lng-export-facility-bars-restart-2022-06-30/#:~:text=HOUSTON%2C%20June%2030%20(Reuters),an%20outside%20analysis%20is%20complete) [hereinafter “U.S. Regulator Bars Freeport LNG Plant Restart”] (attached).

⁴⁰ Coalition letter to Biden on Freeport explosion, June 23, 2022 (attached).

⁴¹ EIA, Freeport Fire, *supra* note 38.

⁴² U.S. Regulator Bars Freeport LNG Plant Restart, *supra* note 39.

⁴³ *Id.*

⁴⁴ EIA, Freeport Fire, *supra* note 38..

⁴⁵ Pippa Stevens, Natural Gas Plummets as Freeport Delays Facility Restart Following Explosion, CNBC (June 14, 2022), <https://www.cnbc.com/2022/06/14/natural-gas-plummets-as-freeport-delays-facility-restart-following-explosion.html> (attached).

and the demonstrated connection between LNG exports and domestic prices, in its public interest analysis.

2. Winter 2021-2022 gas prices demonstrate that LNG exports are harming US 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.⁴⁶ The Wall Street Journal,⁴⁷ S&P Global Platts Analytics,⁴⁸ 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.⁴⁹ 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,⁵⁰ with larger increases elsewhere, including more than quadrupling of the price at the Algonquin Citygate outside Boston,⁵¹ as illustrated in this chart from FERC:⁵²

⁴⁶ FERC, 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> (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).

⁴⁷ 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>.

⁴⁸ 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>.

⁴⁹ FERC, Winter Energy Market and Reliability Report, *supra* note 46 at 2.

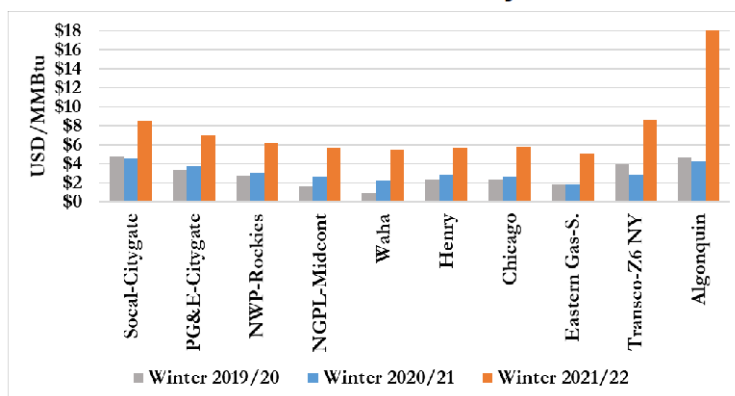
⁵⁰ *Id.* at 2, 11.

⁵¹ *Id.* at 12.

⁵² 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.⁵³ The Industrial Energy Consumers of America, which represents manufacturers that use at least 1 million MMBtu of energy per year,⁵⁴ has repeatedly written to DOE about how export-driven gas prices increases are harming domestic industry.⁵⁵

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.⁵⁶ DOE is charged with protecting the “public” interest, 15 U.S.C. § 717b(a); that is, the

⁵³ *Id.* at 1.

⁵⁴ “Membership Info,” IECA, <https://www.ieca-us.com/membership-info/> (last accessed Dec. 7, 2021).

⁵⁵ 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.

⁵⁶ 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).

interest “of ... all or most of the people” in the United States. *Public*, Merriam-Webster Unabridged Dictionary.⁵⁷ 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.”⁵⁸ 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,⁵⁹ 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.⁶⁰ 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 calls those prior analyses into question, and DOE cannot approve additional exports—or blindly follow previous findings, including its conclusions the 2020 Policy Statement—without carefully examining the continuing validity of those analyses. We understand that DOE and the EIA are currently revisiting the 2012 and 2014 LNG export studies;

⁵⁷ <http://www.merriam-webster.com/dictionary/public> (last visited Dec. 7, 2021).

⁵⁸ 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

⁵⁹ *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>.

⁶⁰ 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).

an updated analysis was expected in the spring of 2022, but appears not to have been released yet.⁶¹ At a minimum, DOE should not approve further export applications or extensions 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,⁶² DOE has stated its reluctance to exercise such authority.⁶³ But if export applications are, in effect, a one-way ratchet on export volumes, DOE cannot issue such authorizations—or extensions of such authorizations 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.”⁶⁴ 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. Similarly, DOE’s conclusion in its 2020 Policy Statement that LNG exports had not increased domestic gas prices⁶⁵ is clearly outdated and must be revisited. Accordingly, even putting aside the numerous and severe environmental impacts of increased LNG exports, Lake Charles’ application is inconsistent with the public interest and should be denied.

⁶¹ <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)

⁶² 15 U.S.C. § 717o

⁶³ 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.

⁶⁴ *Minisink Residents for Env’tl. Pres. & Safety v. FERC*, 762 F.3d 97, 101 (D.C. Cir. 2014) (cleaned up).

⁶⁵ 2020 Policy Statement at 52,244.

C. Global Strategic Interests

1. Short Term Global Interests Do Not Justify Extending LNG Exports Through 2050.

In its application, Lake Charles alludes to Russia's unprovoked invasion of Ukraine, stating that "[g]lobal events following the August 2020 publication of the Policy Statement have only further reinforced that the exportation of natural gas through December 31, 2050 will not be inconsistent with the public interest."⁶⁶ Insofar as this global situation is pertinent to the request here, the proposed export term extension is not needed, or even helpful, for decreasing Europe's reliance on Russian gas. There is undoubtedly a public interest in assisting Europe to transition away from Russian gas. But the best way to get Europe off Russian gas is to get Europe off gas altogether, as Secretary Granholm has recognized.⁶⁷ Although Europe may need additional LNG this year, by the time Lake Charles would be in a position to provide *any* exports (2028 based on Lake Charles latest, parallel application to extend its operational deadline⁶⁸), Europe will have other, better options. And the applications at issue here concern exports that would occur between 2045 (or 2048 if DOE grants Lake Charles's parallel request to extend its in-operation deadline) and 2050. Lake Charles's application fails to demonstrate that this authorization will further this goal, which undermines any determination that the term extension is in the public interest on the basis of supporting European gas supplies.

The European Union ("EU") plans to cut Russian gas use by two thirds *this year*.⁶⁹ 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

⁶⁶ Application to 2050 at 5.

⁶⁷ See, e.g., Ben Lefebvre, 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> [hereinafter DOE declares an Energy War"] (attached) (quoting Sec. Granholm's statement that "Perhaps renewable energy is the greatest peace plan this world will ever know.").

⁶⁸ Commencement Extension Application, *supra* note 8.

⁶⁹ 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](https://ec.europa.eu/commission/presscorner/api/files/document/print/[europa_tokens:europa_interface_language]/ip_22_1511/IP_22_1511_EN.pdf) (attached).

energy, within a year, with greater reductions each following year.⁷⁰ Some analyses conclude that the 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.⁷¹ Similarly, 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.⁷² 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.⁷³ 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.⁷⁴

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.”⁷⁵ 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 2030 goal is pursued, it does not support Lake Charles’s request

⁷⁰ 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).

⁷¹ Briefing: EU Can Stop Russian Gas Imports by 2025, https://9tj4025o153byww26jdkao0x-wpengine.netdna-ssl.com/wp-content/uploads/Briefing_EU-can-stop-Russian-gas-imports-by-2025.pdf (attached).

⁷² 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> (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 and attached).

⁷³ *See, e.g.*, DOE Declares an Energy War, *supra* note 67..

⁷⁴ 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 (attached).

⁷⁵ Fact Sheet: United States and European Union Commission Announce Task Force to Reduce Europe’s Dependence on Russian Fossil Fuels, March 25, 2022, <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/> (attached).

for authorization of exports that will occur more than a decade after 2030. Thus, DOE must reject Lake Charles's attempt to invoke any near-term European need to justify its requested term extension.

2. Fundamental shifts in the global market, highlighted by Lakes Charles's repeated delays, demonstrate that the extension is not in the public interest.

The LNG market has substantially changed since DOE issued the initial export authorizations for Lake Charles, making the completion of this project no longer commercially viable or in the public interest. Lake Charles itself has acknowledged this change in the global market conditions by repeatedly requesting additional time to begin construction and operations at the Lake Charles LNG facilities.⁷⁶ Currently Lake Charles is requesting authorization to delay its in-operation deadlines to December 2028, more than a decade after DOE issued the initial authorization. Its application asserts that, since 2020, "the world has experienced significant changes in the global LNG market caused by the ongoing COVID-19 pandemic, including difficulties in securing long-term offtake contracts in light of the uncertainty of future LNG demand resulting from declines in economic activity around the world."⁷⁷ This request follows prior requests to extend the construction/in-operation deadlines for its facilities that pre-date the COVID-19 pandemic.⁷⁸ Thus, it is clear that the need for LNG proposed for export to meet global market demands no longer exists at the rate anticipated over five years ago, and DOE must re-examine its conclusion that the project is in the public interest before doubling down by authorizing the requested extension.

There is also growing international recognition that avoiding the worst impacts of climate change requires abandoning large fossil fuel development or expansion. As discussed in Section II.D.4, the IPCC's 6th Assessment Report provides overwhelming evidence that climate hazards

⁷⁶ Concurrently with the pending applications for extensions of the Lake Charles export terms through 2050, the company also seeks to delay its in-operation deadlines until 2028. Commencement Extension Application, *supra* note 8.

⁷⁷ *Id.* at 1-2, 4. Lake Charles seeks to amend orders 3324 and 4011, which were issued in 2013 and 2017, respectively. Application to 2050 at 1-3.

⁷⁸ Lake Charles Exports, LLC, DOE/FE Order Nos. 2987-A, 3324-B-A, 4011-A (Oct. 6, 2020) (extending the commencement date for each non-FTA export authorization to December 16, 2025).

are more urgent and severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoiding the most devastating climate change harms. Similarly, the Biden administration has prioritized tackling the climate crisis, including by reinstating and expanding the U.S.’s international commitments to reduce GHG emissions. A 2021 International Energy Agency report also reiterates that LNG exports cannot be part of a net-zero by 2050 future, projecting that natural gas traded as LNG will drop by 60 percent from 2030 to 2050 and global demand will decrease by over five percent in the 2030s alone.⁷⁹ Thus, European buyers recognize that LNG, long touted as a climate solution, is in fact a climate problem.⁸⁰

Nor is Lake Charles the only LNG facility experiencing these delays. A recent study by Global Energy Monitor notes that 21 export terminals totaling 265 million tonnes per annum (“MTPA”) of capacity continue to report Final Investment Decision (“FID”) delays or other serious setbacks amid an uncertain market.⁸¹ Those terminals represent 38 percent of the 700 MTPA export capacity under development worldwide. With increased delays in FIDs⁸³ and project construction, the probability increases that these projects, including that proposed by Lake Charles, will become obsolete long before the end of their intended lifespans.⁸⁴ These market changes underscore the absence of and/or rapidly declining demand for construction of U.S. LNG export terminals.

Given the significant changed economic, political and scientific circumstances that have developed since DOE first issued an export authorization to Lake Charles LNG in 2013, FERC must reevaluate its original public interest finding. This new information also “constitutes significant new circumstances or information relevant to environmental concerns and bearing on

⁷⁹ IEA, *Net Zero by 2050*, *supra* note 7.

⁸⁰ Lydia Plante and Ted Nace, *Nervous Money*, *Global Energy Monitor*, 4 (June 2021), <https://globalenergymonitor.org/report/nervous-money/> (attached).?

⁸¹ *Id.* at 3.

⁸³ Multiple LNG projects, including Port Arthur LNG and Cameron LNG have delayed making final investment decisions due to changes in the global LNG market, including decreased demand from LNG market oversaturation. Sempra likely to delay Texas Port Arthur LNG decision to 2022, *REUTERS* (May 5, 2021), <https://www.reuters.com/business/energy/sempra-likely-delay-texas-port-arthur-lng-decision-2022-2021-05-05/> (attached).

⁸⁴ *Id.*

the proposed action or its impacts” and therefore triggers DOE’s obligation to conduct supplemental NEPA review. At a minimum, DOE must address these changed circumstances in considering Lake Charles’s extension request.

D. 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 that both the Natural Gas Act and NEPA require DOE to consider. As noted in the public notice, DOE must comply with its environmental review obligations, and “[n]o final decision [on the term extension] will be issued in this proceeding until DOE has met its environmental responsibilities.”⁸⁵ To do so, DOE must reject the prior administration’s conclusion that LNG export extension approvals could be categorically excluded from NEPA review, and DOE must revisit its deeply flawed analysis of the climate impacts of LNG exports.

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 has recognized that a key consideration in its public interest determinations is the effect increased export volumes will have on gas production and use. This consideration similarly applies to the export extension at issue here, where DOE has argued that term extensions are justified because they will facilitate greater volumes of LNG exports over a facility’s lifetime.⁸⁶ DOE therefore must consider the environmental impacts the extension will have on gas production and use. As the D.C. Circuit has affirmed, the Natural Gas Act’s public interest standards provide authority and obligation to consider indirect effects on

⁸⁵ 87 Fed. Reg. at 36,843.

⁸⁶ 85 Fed. Reg. at 52,239 (“DOE explained that, by extending the period over which these exports would occur, a term extension would provide a mechanism for existing authorization holders to increase the total volume of LNG exports over the life of their authorization.”).

gas production and use, and the environmental consequences thereof, as part of the public interest inquiry.⁸⁷

Similarly, under NEPA, DOE must take a hard look at reasonably foreseeable impacts across the LNG lifecycle, including upstream impacts relating to the production and supply of the gas that is exported, and downstream impacts relating to transportation and use of exported LNG. These reasonably foreseeable impacts include greenhouse gas emissions. NEPA's statutory text requires agencies to consider the "effects" of proposed actions.⁸⁸ This requirement is not limited to only some "effects," and the statute demands a broad perspective, including consideration of the "worldwide and long-range character of environmental problems."⁸⁹ Accordingly, cases have interpreted this language to mean that the statute itself requires consideration of both direct and indirect effects.⁹⁰ The plain meaning of "effects" includes indirect but foreseeable or intended consequences, such as effects proximately caused by the action.⁹¹ And here, the gas to be exported must come from somewhere and be used somewhere: these are plainly "effects" of the requested export authorization. Although non-climate impacts

⁸⁷ 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).

⁸⁸ 42 U.S.C. § 4332(2)(F).

⁸⁹ *Id.*

⁹⁰ *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 decisionmaking," requires consideration of cumulative effects) (citations omitted).

⁹¹ 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 decisionmaking, even if that effect could, in the tort sense, be said to be someone else's fault.

may be location-dependent and therefore difficult to foresee, location is in many ways irrelevant to the analysis of greenhouse gas emissions, as DOE has admitted.⁹²

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.”⁹³ And even under 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.⁹⁴ Thus, while NEPA’s statutory text 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 extending the duration of the LNG lifecycle through the export term extensions at issue here.

2. The Proposed Export Extensions Cannot be Categorically Excluded from NEPA Review.

In its application, Lake Charles urges DOE to invoke a categorical exclusion from NEPA review “because the request involves only an amendment to the term of the existing authorizations and does not involve any new construction or modifications to existing facilities.”⁹⁵ In December 2020, DOE adopted a categorical exclusion for LNG export approvals, codified at 10 C.F.R. Part 1021 Part D Appendix B, B5.7. However, the 2020 Policy Statement declined to automatically apply this (or any other) categorical exclusion to term extensions like

⁹² *E.g.*, Final Addendum To Environmental Review Documents Concerning Exports Of Natural Gas From The United States at 2, available at <https://www.energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf> [hereinafter “Final Environmental Addendum”] (“*With the exception of greenhouse gases (GHG) and climate change, potential impacts of expanded natural gas production and transport would be on a local or regional level.*”) (emphasis added).

⁹³ 40 C.F.R. § 1508.1(g)(2).

⁹⁴ 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).

⁹⁵ Application to 2050 at 5.

that here, noting DOE must conduct an application-specific review of the potential environmental impacts to comply with NEPA.⁹⁶ For the reasons discussed below, 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. Thus, DOE must complete a full NEPA review prior to approving Lake Charles’s requested term extension.

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. Cir. 2016) (“*Freeport I*”).⁹⁷ 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.⁹⁸ 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.”⁹⁹ Because DOE *has* such authority, the categorical exclusion was adopted unlawfully, cannot be relied upon here, and

⁹⁶ 85 Fed. Reg. at 52,246 (“DOE therefore declines to decide whether all applications requesting term extensions for existing non-FTA authorizations will fit within categorical exclusion B5.7 (or any other categorical exclusion). When implementing the Final Policy Statement for existing authorization holders, DOE will review the record and comply with its NEPA obligations in each individual application proceeding, consistent with its NEPA implementing regulations.”).

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

⁹⁸ 827 F.3d at 40-41, 46.

⁹⁹ *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.

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.¹⁰⁰ 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.¹⁰¹ Insofar as DOE contends that these impacts can be difficult to foresee, that affirms, rather than refutes, the need for case-by-case analysis.¹⁰² Even if DOE determines that upstream impacts can only be discussed generally, in something like the Environmental Addendum, this does not dictate 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.¹⁰³ 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

¹⁰⁰ Final Environmental Addendum at 27-28.

¹⁰¹ 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. (attached).

¹⁰² *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).

¹⁰³ 85 Fed. Reg. at 78,202.

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.¹⁰⁴ This is legally and factually incorrect. LNG exports are rapidly expanding, and this expansion depends upon and is caused by authorizations like the term extension Lake Charles has requested here. Moreover, the term extension here will result in expanded operations during the 2040s, requiring DOE to examine the future prospects for marine vessel traffic in light of projected LNG development. 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 if 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 Lake Charles’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.

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.”¹⁰⁵ This integral element is missing

¹⁰⁴ The proposed rule ignored wildlife impacts entirely.

¹⁰⁵ 10 C.F.R Part 1021 Subpart D Appendix B.

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 exports via a term extension threaten a violation of Executive Order 14,008, Tackling the Climate Crisis at Home and Abroad.¹⁰⁶ As noted, 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.”¹⁰⁷ 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.¹⁰⁸ Even if DOE somehow contends that expanded export volumes through extended export durations 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.¹⁰⁹ Potentially impacted species include the black rail, giant manta ray,¹¹⁰ oceanic whitetip shark,¹¹¹ and Rice’s whale (formerly designated as the Gulf of Mexico population of the Bryde’s whale).¹¹² These species are all at risk from ship strikes and noise from vessel traffic, impacts that will be increased by the proposed extended duration of exports.¹¹³ As with integral element 1, integral

¹⁰⁶ 86 Fed. Reg. 7619 (Jan. 27, 2021).

¹⁰⁷ *Id.* § 101.

¹⁰⁸ IEA, Net Zero by 2050, *supra* note 7, at 102-03.

¹⁰⁹ 10 C.F.R Part 1021 Subpart D Appendix B.

¹¹⁰ 83 Fed. Reg. 2916 (Jan. 22, 2018).

¹¹¹ 83 Fed. Reg. 4153 (Jan. 30, 2018).

¹¹² 86 Fed. Reg. 47,022 (Aug. 23, 2021).

¹¹³ 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.

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,¹¹⁴ sea turtles,¹¹⁵ and giant manta rays.¹¹⁶ Ship traffic also causes noise, which “can negatively impact ocean animals and ecosystems in complex ways.”¹¹⁷ 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.”¹¹⁸ Unsurprisingly, many animals display a suite of stress-related responses to increased noise. Because the proposed export extension will increase the duration and magnitude of these impacts, the proposal does not satisfy integral element 4.

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.¹¹⁹ Although the lifecycle analyses can inform NEPA

¹¹⁴ 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).

¹¹⁵ National Oceanic and Atmospheric Administration Fisheries, *Understanding Vessel Strikes* (June 25, 2017), available at <https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes> (attached).

¹¹⁶ National Oceanic and Atmospheric Administration Fisheries, *Giant Manta Ray*, <https://www.fisheries.noaa.gov/species/giant-manta-ray> (attached).

¹¹⁷ National Oceanic and Atmospheric Administration, *Cetacean & Sound Mapping: Underwater Noise and Marine Life*, <http://cetsound.noaa.gov/index> (attached).

¹¹⁸ *Id.*

¹¹⁹ *E.g.*, 85 Fed. Reg. at 78,202 (The life cycle “reports are not part of DOE’s NEPA review process”).

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.

Lake Charles seeks authorization to extend exports through 2050. DOE therefore must take a hard look at the environmental impact of expanded exports of LNG across that thirty-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 or extending LNG export 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?"¹²⁰ 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 2040s, when the requested term extension would become relevant.

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 Energy Agency,¹²¹ Intergovernmental Panel on Climate Change,¹²² and others. Executive Order 14,008 appropriately instructs federal agencies to work to discourage other countries from "high

¹²⁰ 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

¹²¹ IEA, Net Zero by 2050, *supra* note 7, at 101-02.

¹²² 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).

carbon investments” or “intensive fossil fuel-based energy.”¹²³ 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.¹²⁴ Similarly, DOE has acknowledged that “U.S. LNG Exports may ... compete with renewable energy ... as well as efficiency and conservation measures” in overseas markets.¹²⁵ As discussed in Section II.C.1 above, Europe is already taking steps to increase renewable energy and conservation in order to reduce its reliance on gas from any source. Indeed, while DOE has refused to address the likely share of U.S. LNG exports that will be displaced by fossil fuels, peer reviewed research concludes that such exports are likely to play only a limited role in displacing foreign use of coal, such that U.S. LNG exports are likely to increase net global GHG emissions.¹²⁶

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 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

¹²³ Executive Order 14,008 at § 102(f), (h).

¹²⁴ U.S. Energy Information Agency, *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets* (Oct. 2014) at 12, 19, available at <https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf> (attached).

¹²⁵ DOE/FE Order 3638 at 202-03.

¹²⁶ 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).

jurisdiction.”¹²⁷ 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, including via term extensions like that requested by Lake Charles, 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 NRDC have previously explained.

For example, 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.¹²⁸ 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%.¹²⁹ 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

¹²⁷ 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 (attached).

¹²⁸ Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States: 2019 Update at 27, *available at* <https://fossil.energy.gov/app/docketindex/docket/index/21>.

¹²⁹ *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).

fraction of upstream emissions.¹³⁰ 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.¹³¹ At a minimum, DOE must review and to respond to this research before approving any further LNG export applications.

4. The IPCC’s 6th Assessment Report Constitutes Substantial New Information that DOE Must Consider.

DOE must also address mounting scientific evidence highlighting the severe need to curb GHG emissions now and the substantial risk of extreme weather events facing infrastructure like Lake Charles LNG along the Gulf Coast. Specifically, DOE must address three recent documents from the IPCC’s 6th Assessment Report (“AR6”)—issued after DOE’s 2020 Policy Statement—that paint a staggering picture of a climate-destabilized future absent urgent and aggressive carbon emission reductions.

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.”¹³² 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.¹³³ 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.”¹³⁴ The IPCC forecasts with *high confidence* that flooding will become more likely in coastal cities due to “the combination of more frequent

¹³⁰ 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> (attached).

¹³¹ 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); Kayrros, *U.S. Methane Emissions from Fossil Fuels at Risk of Worsening In 2022, Extending 2021 Trend* (June 2022) (attached).

¹³² 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”].

¹³³ *Id.* at 8, A.3.

¹³⁴ *Id.* at 11, A.4.3.

extreme sea level events (due to sea level rise and storm surge).”¹³⁵ 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*).¹³⁶

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 percent increase in the intensity of extreme daily precipitation events (*high confidence*).¹³⁷ 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.”¹³⁸

Second, the IPCC’s February 2022 report—on *Impacts, Adaptation, and Vulnerability*—highlights the increasing climate-related risks to coastal infrastructure like Lake Charles 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[.]”¹³⁹ 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,”¹⁴⁰ the IPCC also predicts, with high to

¹³⁵ *Id.* at 25, C2.6.

Id. at C.2.2. . With 2°C or more of global warming, changes in droughts and heavy and mean precipitation will be even more dramatic. *Id.* at C.2.3.

¹³⁷ *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.

¹³⁸ *Id.* at 28, D.1.1.

¹³⁹ See IPCC, *Climate Change 2022 Impacts, Adaptation and Vulnerability, Summary for Policy Makers* 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”].

¹⁴⁰ *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

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.¹⁴¹ 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).”¹⁴²

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.”¹⁴³ 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).¹⁴⁴

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).”¹⁴⁵ 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). 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 sediment (very high confidence).”).

¹⁴¹ *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.

¹⁴² *Id.* at SPM.B.5.2.

¹⁴³ *Id.* at SPM.B.4.

¹⁴⁴ *Id.* at SPM.C.2.

¹⁴⁵ *Id.* at Figure SPM.2.

confidence),”¹⁴⁶ the IPCC also concludes that “[a]ctions that focus on sectors and risks in isolation 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).”¹⁴⁷

Third, the IPCC’s April 2022 *Mitigation of Climate Change* report¹⁴⁸ further demonstrates that LNG exports will need to be significantly curtailed well before 2050. For example, the IPCC concludes that, to remain consistent with current internal climate pledges, global GHG emissions reductions must undergo “an unprecedented acceleration” between 2030 and 2050 (medium confidence).¹⁴⁹ Without additional abatement, projected GHG “emissions over the lifetime of existing and currently planned fossil fuel infrastructure” will result in global warming over 1.5°C.¹⁵⁰ Moreover, to reduce GHG emissions, the energy sector will “require[] major transitions, including a substantial reduction in overall fossil fuel use, the deployment of low-emission energy sources, switching to alternative energy carriers, and energy efficiency and conservation.”¹⁵¹ On the other hand, “[t]he continued installation of unabated fossil fuel infrastructure will ‘lock-in’ GHG emissions” (high confidence).¹⁵² The required transition in the energy sector “is projected to reduce international trade in fossil fuels.”¹⁵³ Because limiting warming to 2°C “could strand considerable fossil fuel infrastructure,” the IPCC estimates that gas assets “are projected to be more at risk of being stranded towards mid-century” (high

¹⁴⁶ IPCC Impacts Summary, *supra* note 139, at SPM.B.1.6.

¹⁴⁷ *Id.* at SPM.C.4.1.

¹⁴⁸ See IPCC, *Climate Change 2022: Mitigation of Climate Change, Summary for Policy Makers*, available at https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf (Apr. 2022) (attached).

¹⁴⁹ *Id.* at B.6.3.

¹⁵⁰ *Id.* at B.7.

¹⁵¹ *Id.* at C.4.

¹⁵² *Id.*

¹⁵³ *Id.* at C.4.4.

confidence),¹⁵⁴ reiterating the risk that new LNG facilities like Lake Charles must cease operations well before 2050.

In short, the IPCC's AR6 reports add to the mounting evidence demonstrating the dual climate risks associated with the Lake Charles 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. DOE must consider this significant new information in its public interest analysis and NEPA review.

III. Conclusion

For the reasons stated above, Sierra Club's motion to intervene in this docket should be granted. The proposed export extension 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; Lake Charles' proposal for a project that will not start exports until 2028 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.

¹⁵⁴ *Id.*

/s/ Louisa Eberle

Louisa Eberle
Sierra Club
1536 Wynkoop St., Suite 200
Denver, CO 80202
(415) 977-5753
louisa.eberle@sierraclub.org

Nathan Matthews
Sierra Club
2101 Webster Street, Suite 1300
Oakland, CA 94612
(415) 977-5695
nathan.matthews@sierraclub.org
Attorneys for Sierra Club

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

IN THE MATTER OF)
)
Lake Charles Export, LNG LLC) FE Docket Nos. 13-04-LNG and 16-109-
) LNG

SIERRA CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE

Pursuant to 10 C.F.R. § 590.103(b), I, Louisa Eberle, 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 Denver, CO this 6th day of July, 2022

Louisa Eberle
Sierra Club
1536 Wynkoop St., Suite 200
Denver, CO 80202
(415) 977-5753
Louisa.eberle@sierraclub.org
Attorney for Sierra Club

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SIERRA VERIFICATION

Pursuant to 10 C.F.R. § 590.103(b), I, Louisa Eberle, 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 Denver, CO on July 6, 2022

Louisa Eberle
Sierra Club
1536 Wynkoop St., Suite 200
Denver, CO 80202
(415) 977-5753
Louisa.eberle@sierraclub.org
Attorney for Sierra Club

UNITED STATES OF AMERICA
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CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 590.107, I, Louisa Eberle, 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 6, 2022.

Louisa Eberle
Sierra Club
1536 Wynkoop St., Suite 200
Denver, CO 80202
(415) 977-5753
Louisa.eberle@sierraclub.org
Attorney for Sierra Club