UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Magnolia LNG LLC Docket No. 13-132-LNG

Sierra Club's Request for Rehearing of DOE/FECM Order No. 3909-C, Amending Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations

The Biden administration, and allies around the globe, have recognized the need to transition off fossil fuels as quickly as possible. This transition is needed to avoid the worst of climate change: it is not enough to halt increases in greenhouse gas emissions; instead, the world must reduce emissions as drastically and as quickly as possible. But this transition is also essential to global strategic interests: European allies have recognized that the best way to end dependence on *Russian* gas is to end use of *all* gas.

The Department of Energy ignored these issues when it authorized the proposed, not-yet-under-construction Magnolia LNG project to increase LNG exports.[1] These increased exports will not occur until 2026, too late to play any role in the short-term response to Russia's invasion of Ukraine, but they are authorized through 2050, *far* beyond the date at which global use of fossil fuels must essentially end. And DOE issued this order without the comprehensive review required by the National Environmental Policy Act ("NEPA")—a process that would have helped shine a light on these issues. For these reasons and the others set forth below, Sierra Club requests rehearing of this order, pursuant to Section 19(a) of the Natural Gas Act, 15 U.S.C. § 717r(a), and 10 C.F.R. § 590.501.

I. Introduction

Previously, DOE/FE authorized exports of 394.2 billion cubic feet per year ("bcf/y") of gas, equivalent to approximately 8 million tons per annum (mtpa) of LNG, from the proposed Magnolia LNG terminal to non-free trade agreement countries. DOE/FE Order 3909 at 1 (Nov.

[1] DOE/FE Order No. 3909-C, "Order Amending Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations" (Apr. 27, 2022). https://www.energy.gov/sites/default/files/2022-04/ord3909c.pdf

30, 2016).[2] Notwithstanding this and other approvals, construction of Magnolia LNG terminal has not yet started: indeed, the backers of the project have not even made a final investment decision, and do not expect to do so until "the end of 2023."[3] Construction will not start until that decision is made. Based on the construction schedule presented in FERC's final EIS, construction will then take 45 months.[4] Accordingly, Magnolia is unlikely to be completed before mid 2027.

The order challenged here, Order 3909-C, authorizes an additional 54.8 bcf/y of non-FTA exports, for a total of 449 bcf/y, or 8.8 mtpa.[5] These added exports would only occur once the terminal is complete, in mid 2027 or thereafter, because earlier, initial shipments are authorized by Magnolia's prior DOE authorization. In approving this increase, DOE relied on environmental and economic studies that Sierra Club has extensively commented on and criticized.[6] For the reasons Sierra Club articulated in those prior comments, which we further explain below, Sierra Club requests that this order be withdrawn and the underlying application denied, or in the alternative, that the order be withdrawn pending further inquiry and public process regarding the impact of the proposed exports.

All communications regarding this motion should be addressed to and served upon Nathan Matthews, Senior Attorney, and Meral Basit, Research Analyst, at Sierra Club, 2101 Webster St., Suite 1300, Oakland, California 94612.

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[2] That order granted Sierra Club's intervention in this docket. *Id.* at 132.

[3] S&P Global, GASTECH 2021: Bullish prices for suppliers could temper long-term LNG demand (Sept. 21, 2021), available at https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/lng/092121-gastech-2021-bullish-prices-for-suppliers-could-temper-long-term-lng-demand and attached; Businesswire, Glenfarne Group's Magnolia LNG Project Receives Non-FTA Approval Permit from U.S. Department of Energy for Capacity Increase (Apr. 27, 2022), available at https://www.businesswire.com/news/home/20220427006176/en/Glenfarne-Group's-Magnolia-LNG-Project-Receives-Non-FTA-Approval-Permit-from-U.S.-Department-of-Energy-for-Capacity-Increase and attached.

[4] FEIS at 2-24, *available at* https://cms.ferc.gov/sites/default/files/2020-05/20151113-4001%2831020450%29.pdf

[5] Order 3909-C at 1.

[6] *See, e.g., id.* at 19.

II. Concise Statement of Alleged Errors

1. DOE's discussion of greenhouse gases and climate change falls short of what both NEPA and the Natural Gas Act require.
    a. DOE acted arbitrarily by failing to consider the impact of LNG export authorizations on U.S. emissions, commitments, and goals.
    b. By limiting its greenhouse gas analysis to comparing lifecycle greenhouse gas emissions of LNG and other fossil fuels, DOE arbitrarily refused to consider global emission reduction targets and goals.
    c. In concluding that it was impossible to predict the extent to which U.S. LNG exports would displace other fossil fuels, displace renewables, or increase energy use, DOE failed to address available information regarding where additional exports would go or how those markets would be likely to respond.
    d. Peer-reviewed, published literature indicates that gas production emits significantly more greenhouse gases than is estimated by the materials DOE relies on here. DOE's dismissal of this literature as "skew[ed]" by "superemitters" is arbitrary, because one of the key findings of this literature is that superemitters are tremendously significant but improperly accounted for by estimates like those DOE uses here, but DOE neither provides a basis for disagreeing nor demonstrates that it has adequately accounted for such emissions.
2. DOE's conclusion that the additional exports approved here will help Europe transition off of Russian gas is arbitrary because DOE has not compared the timing of when these exports would occur (no earlier than 2027, continuing through 2050) and of Europe's need for additional LNG (principally this year, then likely dramatically declining).
3. DOE failed to provide the analysis required by NEPA.
    a. NEPA requires DOE to take a hard look at reasonably foreseeable upstream and downstream effects, including climate impacts.
    b. DOE cannot cure gaps in the FERC's supplemental environmental impact statement by citing other, non-NEPA materials

III. Argument

A. DOE's Treatment of Greenhouse Gas Emissions Violates NEPA and the Natural Gas Act.

Secretary of State Antony Blinkin has explained that

> [the Biden administration] see[s] the challenge of climate change as the existential challenge of our time. And if you see it that way, you're going to make sure that you're doing your part and doing everything necessary to meet the challenge, irrespective of what else is going on, what your other commitments are.[7]

Secretary of Energy Granholm has similarly affirmed that Russia's invasion of Ukraine "has only accelerated the urgency with which we must move to electrify transportation and to move toward clean energy."[8] And President Biden himself explained that this invasion "should motivate us to accelerate our transition to clean energy," affirming that "This is a perspective … that our European allies share."[9]

In approving an increase in exports from Magnolia, however, DOE refused to grapple with the question of whether increasing U.S. LNG exports would undermine this transition or other efforts to reduce greenhouse gas emissions and avoid catastrophic climate change. DOE merely stated that it "is unable to conclude that an increase in exports of U.S. LNG associated with Magnolia LNG's Application will increase global GHG emissions in a material or predictable way."[10] DOE did not find exports *won't* increase emissions; instead, DOE argues that it simply has no idea, and that any analysis of how U.S. LNG exports will influence energy use in importing countries (including whether U.S. LNG will displace coal, gas, or other energy

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

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

[9] 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/.

[10] Order 3909-C at 58.

sources) would be "too speculative to inform the public interest determination in DOE's non-FTA proceedings."[11]

But DOE is asking the wrong questions.[12] First, while DOE claims that the impact on *global* emissions is unforeseeable, DOE does not and cannot dispute that it can and must foresee the impact on *domestic* emissions. Second, even if the global impact of additional impacts is uncertain in the near term, DOE's authorization lasts through 2050, and it is clear that in the intermediate and long term, increasing international use of U.S. LNG is incompatible with global climate goals.

Beyond simply ignoring these key issues, other aspects of DOE's climate analysis are also arbitrary. DOE overstates the difficulty in foreseeing impacts of additional exports, and available evidence indicates that, even in the intermediate term, additional exports will increase global emissions. And DOE continues to underestimate the emissions associated with domestic gas production.

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

Even if DOE is truly incapable of reasonably forecasting how increased exports will influence overseas emissions, there is no doubt that increasing exports will increase *domestic* emissions associated with gas production and liquefaction.[13] Studies DOE relies on here indicate that if the 54.8 bcf/y of exports approved here draw entirely on new gas production, this production will emit 373,000 metric tons per year of carbon dioxide equivalent.[14] To the extent that these 54.8 bcf/y of exports are supplied by displacement of other domestic gas demand (*e.g.*,

[11] *Id.*

[12] DOE argues that its approach here was approved by the D.C. circuit in *Sierra Club v. Department of Energy*, 867 F.3d 189, 202 (D.C. Cir. 2017). Order 3909-C at 58 & n.304. In that case, the Court began by stating that "[a]s for 'downstream emissions' … Sierra Club does not challenge the method employed by the Department to address them." 867 F.3d at 202. We present such a challenge here. Moreover, both the record and the conclusions reached by DOE here differ from that case.

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

[14] Final Environmental Addendum at 44 (estimating 6.8 million metric tons of CO_2e emissions per trillion cubic feet of gas produced); *but see* 2019 Lifecycle GHG Update (acknowledging changes to estimates used in the 2014 Final Environmental Addendum).

gas-to-coal shifting in the electric sector), rather than an increase in domestic production, the impact on domestic emissions will likely be even higher.[15] In contrast, FERC recently proposed to treat projects with lifecycle CO_2e emissions above 100,000 tpy as significant.[16] DOE cannot refuse to disclose and analyze the entirely foreseeable and presumptively-significant volume of upstream emissions "just because the emissions in question might be partially offset by reductions elsewhere." *Sierra Club v. FERC*, 867 F.3d 1357, 1374-75 (D.C. Cir. 2017) ("*Sabal Trail*"); *accord WildEarth Guardians v. U.S. Bureau of Land Mgmt*., 870 F.3d 1222, 1236 (10th Cir. 2017).

Indeed, even if overseas offsets were perfectly foreseeable, DOE would still need to discuss impacts on domestic emissions. The U.S.'s own emission reduction goals, and international climate agreements to which the U.S. is a party, specifically call on the U.S. to address territorial emissions, regardless of whether domestic emission increases might be offset by foreign emission reductions.[17] Compliance with commitments made under the Paris Accord is evaluated based on "greenhouse gas emissions and removals taking place within national territory and offshore areas over which the country has jurisdiction."[18] There are sound policy reasons for these agreements' focus on domestic emissions. As DOE itself acknowledges, impacts on domestic emissions can be more reasonably verified than impacts in other countries; asking each country to demonstrate reductions in domestic emissions improves both accuracy and accountability. In addition, it would be unfair and thus nonstrategic for the U.S. to argue that although the world must transition *away from* fossil fuels as quickly as possible for climate reasons, the U.S. can enjoy the purported economic benefits of *increased* fossil fuel production, based on the argument that our increased emissions will be offset by other nations' reductions.

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[15] *See, e.g.*, EIA, Effects of Increased Natural Gas Exports, at 18-19 (Jan. 2012).

[16] FERC, Interim Policy Statement on Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Reviews, Dkt. PL21-3, 187 FERC ¶ 61,108 P79 (Feb. 18, 2022).

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

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

Executive Order 14,008, Tackling the Climate Crisis at Home and Abroad,[19] affirms that "Responding to the climate crisis will require … net-zero global emissions by mid-century or before."[20] As an interim step, President Biden has announced a "commitment to reduce U.S. emissions by 50-52% from 2005 levels in 2030."[21] Increasing LNG exports is likely to interfere with achieving these goals, and that interference is both contrary to the public interest, as interpreted for purposes of the Natural Gas Act, and an effect that must be analyzed under NEPA. But DOE entirely failed to consider the impact of LNG exports, individually or cumulatively, on efforts to attain U.S. emission reduction targets.

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

Globally, avoiding catastrophic climate change by limiting global warming to 1.5° C—or even 2° C—will require drastic reductions in global emissions, which can only be achieved by phasing out fossil fuels as quickly as possible.[22] The world must transition to net-zero emissions by 2050, and reduce global carbon dioxide (CO2) emissions by 45 percent by 2030—we need "rapid, deep and sustained reductions in global greenhouse gas emissions."[23] According to the United Nations Intergovernmental Panel on Climate Change (IPCC), to achieve these reductions, we must move to renewable energy as extensively and as quickly as possible.[24] The International

[19] 86 Fed. Reg. 7619 (Jan. 27, 2021).

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

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

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

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

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

Energy Agency (IEA) similarly concludes that, globally, "there is no need for investment in new fossil fuel supply in our net zero pathway."[25] Accordingly, Executive Order 14,008 instructs federal agencies to discourage "high carbon investments" or "intensive fossil fuel-based energy."[26] Global LNG export volumes, specifically, must *decline* below present levels in just the next few years: as the International Energy Agency recently affirmed, further expansion of LNG export facilities cannot be part of the path to net-zero emissions.[27]

Despite this broad consensus, and the fact that U.S. LNG exports are significantly reshaping the U.S. and global energy landscapes, DOE has never measured U.S. LNG exports against the world we need to achieve, instead solely comparing U.S. LNG exports to the energy landscape we have now. The only questions asked by DOE's lifecycle analyses are "How does exported LNG from the United States compare with" other fossil fuels (coal or other gas) currently used "in Europe and Asia, from a life cycle [greenhouse gas] perspective?"[28]

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

3. Reasonable Forecasting Indicates that Additional U.S. LNG Exports Will Increase Global Emissions Even in the Intermediate Term

While DOE fundamentally failed to ask the right questions, DOE also provided an arbitrary answer to the question DOE did ask. DOE's assertion that it cannot reasonably foresee how overseas energy markets might respond or balance in response to additional U.S. LNG

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

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

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

[28] 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

exports, Order 3909-C at 58, fails to address any of the actual analyses or forecasts of those markets.[29]

Multiple sources of evidence enable DOE to reasonably forecast where additional LNG might go. As discussed below, any additional demand from Europe will likely be limited to the short or intermediate term, expiring far before the authorization's 2050 expiration. In Asia, according to the International Energy Agency, "Demand from traditional LNG buyers, namely Japan and Korea, is likely to be flat or decline gradually depending on use in power generation;"[30] "demand from traditional buyers is expected to be stagnant."[31] Any growth in Asian LNG demand "is being driven by newer importers"[32] or "non-traditional emerging buyers, namely Bangladesh, China, India and Pakistan."[33] Like the IEA, the EIA also uses tools to estimate the extent to which foreign markets are actually likely to buy US LNG.[34] And here—where DOE is deciding whether to approve *additional* U.S. LNG exports, from this particular facility—the question before DOE is where demand for this additional gas might come from, throughout the approved 25-year term.

Other evidence also indicates how these receiving markets will shift in response to additional LNG. Peer reviewed research concludes that US LNG exports are likely to play only a limited role in displacing foreign use of coal.[35] Thus, while DOE may have thought that common sense suggested that LNG would primarily compete against other fossil fuels in 2014, when the

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[29] *See* Sierra Club Comments on 2019 Lifecycle Greenhouse Gas Update at 3.

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

[31] *Id.* at 4.

[32] *Id.*

[33] *Id.* at 11.

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

[35] 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 and attached.

first life cycle analysis report was published, subsequently-developed evidence shows that this unlikely to be the case, and DOE has not provided any evidence suggesting that LNG exports will primarily compete with coal or other sources of gas.

Even if, after taking a hard look at this additional information, DOE reaffirms its assertion that it cannot reasonably forecast how, individually or cumulatively, additional U.S. LNG exports will displace coal, other gas, renewables, or conservation, DOE must provide additional analysis of the range of possible outcomes. On the record here, DOE has juxtaposed U.S. LNG with other sources of fossil fuels, but has failed to provide similar juxtaposition for renewables and conservation. Providing only one comparison but not the other presents a misleadingly incomplete picture, especially where DOE concedes that *some* displacement of renewables will occur. If DOE were to provide this analysis, it would show that while the difference between U.S. LNG and other fossil fuels may not be great, the difference between LNG and renewables or conservation is stark. This analysis would reveal what percentage of exported LNG must displace other fossil fuels to avoid increasing emissions, relative to the status quo. Simply identifying that threshold would provide meaningful information to the public and to decisionmakers. For example, if DOE were to determine that the breakeven point is 98% displacement of other fossil fuels, the public and decisionmakers could form judgments about whether additional LNG exports could plausibly have that little of an impact on renewables and conservation, even absent specific forecasts.

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

The 2019 analysis concludes that the "upstream emission rate" or "leak rate" of U.S. LNG exports—the amount of methane that is emitted to the atmosphere during production, processing, and transportation of gas to the export facility—is 0.7% of the gas delivered.[36] But studies measuring actual emissions find much higher leak rates. One such study, which we previously presented to DOE, estimates an average leak rate or 2.3%.[37] As we explained, there are many reasons to believe that this study's atmospheric measurements, and others like it, are

[36] 2019 Life Cycle GHG Perspective at 27.

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

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.[38] DOE, in its response to this comment, explained the difference between its estimate and this study's by arguing that the "higher leakage rates cited by Alvarez are merely indicative of the type of irregular behavior expected in highly variable natural gas systems, which have many contributors with skewed probability distribution functions (e.g., superemitters)." 85 Fed. Reg. 72, 84 (Jan. 2, 2020). But that's the point: superemitters *do* skew the overall emission rate for gas production, but that doesn't make superemitters any less real or important, and superemitters are not, or are not adequately, accounted for in NETL's bottom-up estimates. Subsequent research has consistently affirmed the importance of superemitters and the fact that actual emissions exceed NETL's bottom-up estimates. A 2020 study that found that oil and gas production in the Permian basin, the likely source of supply for many Gulf Coast export projects, had a leak rate of roughly 3.5% or 3.7%.[39] More broadly, every year, new research further affirms that gas production emits greater amounts of methane than what DOE's analyses have assumed, despite ongoing efforts to reduce methane emissions.[40] DOE's dismissal of the role of superemitters, and continued reliance on estimates that are contradicted by peer-reviewed, real-world measurements, is arbitrary.

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[38] 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.

[39] *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).

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

B. The Additional Exports Approved Here Are Not Necessary to Support Europe's Transition Away from Russian Gas.

We agree that there is a public interest in assisting Europe in transitioning away from Russian gas. *See* Order 3909-C at 53. But the best way to get Europe off Russian gas is to get Europe off gas altogether, as Secretary Granholm has recognized.[41] Although Europe may need additional LNG this year, by the time Magnolia would be in a position to provide the additional exports at issue here (2027 at the earliest), Europe will have other, better options. Here, DOE fails to demonstrate that this authorization will further this goal, which undermines a key element to its determination that the increase in exports is in the public interest.

The European Union plans to cut Russian gas use by two thirds *this year*.[42] The International Energy Agency has concluded that heat pumps, building efficiency, and similar measures can significantly reduce the European Union's gas use, and thus the impact of Russian energy, within a year, with greater reductions each following year.[43] Some analyses conclude that EU can entirely eliminate reliance on Russian gas by 2025, with efficiency and renewable energy making up for two thirds of the former Russian supply.[44] 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.[45] European Energy Commissioner Kadri Simson has

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

[42] 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 and attached

[43] 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 and attached.

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

[45] 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-

emphasized that Europe remains committed to renewable energy goals, and is looking to additional gas imports only for the short term.[46] 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.[47]

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."[48] This goal is ill-advised and self-refuting, as increased production and use of LNG through 2030 cannot be made consistent with the shared net-zero goals. But even if this goal is pursued, it does not support DOE's authorization of additional LNG exports here. For one, some of this additional demand can be satisfied by existing, already-operating facilities. Some existing facilities sell gas on spot markets, and even facilities with long-term contracts with Asian buyers may be interested in redirecting cargoes.[49] Two, previously-approved non-FTA exports from facilities under construction (including previously-approved capacity at Golden Pass) will already provide an additional 3.06 bcf/d of U.S. export supply.[50] And three, DOE has already authorized a whopping 30 bcf/d of additional

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change/news/heat-pumps-russian-gas-north-sea-b2032017.html and 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).

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

[47] 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 and attached

[48] 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/ and attached.

[49] *See, e.g.,* Reuters, Europe draws more LNG from Asia as china imports slump (Apr. 28, 2022), https://www.reuters.com/markets/commodities/europe-draws-more-lng-asia-china-imports-slump-2022-04-28/ and attached; Bloomberg, China Looks to Sell Spare LNG as Virus Lockdowns Hit Demand (Apr. 24, 2022), https://www.bloomberg.com/news/articles/2022-04-25/china-looking-to-sell-spare-lng-as-virus-lockdowns-hit-demand

[50] *See* Order 3909-C at 44 n.248 (citing U.S. Energy Info. Admin., *U.S. Liquefaction Capacity*

non-FTA LNG exports beyond the 15.54 bcf/d previously authorized from facilities that are already in operation or under construction.[51] Given DOE's general refusal to revisit already-approved exports,[52] DOE cannot authorize still further exports to meet demand that would be satisfied several times over by existing authorizations, even if DOE concludes that the proposed additional authorization would be a better way to meet that demand. To be clear, we believe that DOE *should* consider exercising its authority under 15 U.S.C. § 717*o* to amend and/or rescind existing export authorizations, but unless and until DOE does so, DOE cannot continue to allow approved export volumes to ratchet higher and higher.

Europe may need some additional LNG this year. But the exports authorized here will not be available until 2026. On that timescale, the best way to support our allies, and the U.S.'s own interests, is to help Europe transition off of gas,[53] rather than to offer additional supply. But even if DOE were to conclude that Europe needed *additional* supply through 2030, that would at most justify authorizing exports to that date—not for the additional 20 years, through 2050, DOE has authorized here.[54]

Finally, if DOE contends that the exports at issue here are in the public interest because Europe will need the gas, then DOE should ensure that the gas goes to Europe. DOE has broad authority to grant the requested additional authorization "in whole or in part, with such modification and upon such terms and conditions as [DOE] find[s] necessary or appropriate." 15 U.S.C. § 717b(a). If providing additional gas to Europe is the justification for these exports, DOE

(Dec. 8, 2021), https://www.eia.gov/naturalgas/U.S.liquefactioncapacity.xlsx).

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

[52] *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.

[53] *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 and 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/ and attached.

[54] Order 3909-C at 53.

should explore whether to impose conditions that ensure that the authorization is actually used for that purpose. If DOE fails to impose such conditions, DOE must take a hard look at whether the exports are likely to actually assist Europe, and if not, whether this undermines DOE's overall conclusion that the exports are not inconsistent with the public interest.

C. DOE's Approval Violated NEPA

1. NEPA Requires A Hard Look at Greenhouse Gas Emissions Occurring Across The Entire LNG Lifecycle

NEPA requires DOE to 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. Specifically, although non-climate impacts 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.[55] In a closely-related context regarding FERC's approval of interstate gas pipelines, the D.C. Circuit has repeatedly affirmed that the Natural Gas Act and NEPA require analysis of reasonably foreseeable upstream and downstream effects. *Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) ("*Sabal Trail*"); *Food & Water Watch v. FERC*, 28 F.4th 277, 288-89 (D.C. Cir. 2022).

These holdings apply with equal force to DOE's approval of LNG exports. The D.C. Circuit did not hold otherwise in *Sierra Club v. Dep't of Energy*, 867 F.3d 189 (2017) ("*Freeport II*"), decided shortly before *Sabal Trail*. Here, insofar as DOE suggests that *Freeport II* categorically excused DOE from considering exports' effects caused by increased gas production, Order 3909-C at 20-21, DOE mischaracterizes that case. *Freeport II* first noted that Sierra Club had not disputed that DOE could rely on materials other than the EIS to meet DOE's NEPA obligations, and the Court therefore assumed, without deciding, that such reliance was permissible.[56] 867 F.3d at 197. *Freeport II* then credited DOE for examining upstream impacts in

[55] *E.g.*, Final Environmental Addendum at 2 ("*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).

[56] We challenge such reliance here, as explained *infra*.

the Addendum and LNG Lifecycle report, *id.* at 198, 200, 202. The issue was not whether "effects pertaining to increased [natural] gas production were not reasonably foreseeable" *at all*, Order 3909-C at 21 (quoting *Freeport II*, 867 F.3d at 198); the issue was whether DOE acted arbitrarily in concluding that these effects could not be foreseen *in additional detail*. Nothing in the decision suggests that NEPA would have permitted DOE to dismiss upstream impacts as entirely unforeseeable and to provide no analysis of these impacts whatsoever. And while the Court accepted DOE's assertion that *local* and *regional* impacts could not reasonably be foreseen in greater detail, nothing in the opinion suggests that analysis of the *greenhouse gas* impacts of upstream production required information that was not reasonably available or foreseeable.

More broadly, effects occurring upstream and downstream of the point of export are plainly the types of indirect effects that NEPA requires agencies to consider. In determining what effects can be attributed to the proposed action, and that therefore must be included in the scope of NEPA review, courts have analogized the concept of "proximate cause" in tort law. *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 754 (2004). Thus, at a minimum, NEPA requires analysis of the "normal consequence[s]" of the action under review, regardless of whether a link in the chain of events is a third party acting predictably. Restatement (Second) of Torts §§ 440-443 (1965). The NEPA regulations FERC applied here reflect this principle by requiring analysis of "reasonably foreseeable" indirect effects, including "growth inducing" effects. 40 C.F.R. § 1508.8 (2019). Here, the numerous analyses DOE relies on all predict that exports will lead to increased gas production; an increase in production is a normal, and often intended, consequence of additional exports.

2. The Various Studies and Reports DOE Cites Cannot Compensate for The Supplemental EIS's Incomplete Scope

NEPA is a procedural statute, and NEPA's procedural requirements have two, interrelated aims:

> First, [NEPA] ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts. Second, it guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.

Oregon Natural Desert Ass'n v. Bureau of Land Mgmt., 625 F.3d 1092, 1099-100 (9th Cir. 2010) (internal citations and some internal quotation marks removed).

Because NEPA is a procedural statute, agencies are not free to ignore NEPA's required procedures or substitute their own. And one of NEPA's procedural requirements is that the analysis of environmental impacts actually be discussed in the NEPA document—here, the supplemental EIS. The NEPA document can incorporate or tier off of other materials, but it must do so explicitly, and these materials must be summarized in the NEPA document. Put differently, a defective NEPA document cannot be cured by pointing to other material not properly incorporated therein. *Dubois v. U.S. Dep't of Agric.*, 102 F.3d 1273, 1289 (1st Cir. 1996); *Com. of Ky. ex rel. Beshear v. Alexander*, 655 F.2d 714, 718-19 (6th Cir. 1981); *I-291 Why? Ass'n v. Burns*, 517 F.2d 1077, 1081 (2d Cir. 1975).

Here, however, DOE in no way claims that FERC's supplemental EIS, which DOE adopted, was itself sufficient to satisfy DOE's NEPA obligations. Nor could DOE make such a claim. The SEIS provides no analysis of the upstream or downstream impacts of exports, nor does it provide any guidance or reference to where such analysis could be found. *See* 40 C.F.R. § 1502.21 (2019) (material incorporated by reference "shall be cited in the statement and its content briefly described"). Instead, DOE implicitly concedes the inadequacy of the SEIS by stating that DOE is "supplement[ing]" it with various other documents.[57] But NEPA does not permit DOE to fragment its environmental review across multiple documents; DOE cites no authority suggesting that it may supplement a deficient SEIS in this way.

Moreover, while requiring members of the public to track down this many different documents to assemble a complete analysis would itself violate NEPA, the problem here is more profound. The non-NEPA documents DOE cites here do not contain all of the information NEPA requires regarding effects that were excluded from the scope of FERC's SEIS. This information includes a discussion of opportunities for mitigation and a rigorous exploration of alternatives that might reduce environmental impacts. Nor are the analyses DOE cites project specific. For example, although DOE previously concluded that it was difficult to predict where gas would come from or where it would go for exports in general, for Magnolia, DOE has the benefit of at

[57] Order 3909-C at 6.

least one contracts for proposed gas delivery.[58] But DOE entirely failed to address whether this contract provided information that enabled a more detailed or particularized analysis.

3. DOE Did Not, and Could Not, Categorically Exclude Its Export Authorization from NEPA Review

Finally, although not an error, we note that DOE does not claim that the proposal to increase exports could be categorically excluded from NEPA review. *See, e.g.,* Order 3909-C at 23 (acknowledging the categorical exclusion promulgated in 2020 without suggesting that DOE believed the request here to be categorically excluded). We emphasize that DOE could not have lawfully done so. The 2020 categorical exclusion was itself unlawful, and in any event, the additional exports approved here do not have the integral elements of an exempt project.

In adopting the 2020 categorical exclusion, the prior administration misunderstood DOE's authority and ability to foresee the consequences of LNG exports. DOE plainly has the authority and obligation to consider upstream and downstream impacts of exports: indeed, the D.C. Circuit previously held that FERC lacked such authority specifically because DOE retained it exclusively. *Compare Sierra Club v. FERC*, 827 F.3d 36, 40-41, 46 (D.C. Cir. 2016) *with* Proposed Rule, 85 Fed. Reg. 24,340, 25,341. And DOE can, and in fact has, foreseen these impacts, as discussed in the Environmental Addendum, Lifecycle GHG reports, and other documents. And the 2020 categorical exclusion failed to support its assertion that the effects LNG shipping traffic on wildlife were *de minimis*: it compared LNG traffic to total U.S. vessel traffic, rather than to traffic in the affected area or affecting the pertinent species, and its argument that LNG traffic was a small percentage of the total did not address whether, in absolute terms, LNG traffic's impacts would nonetheless be significant.

Moreover, DOE cannot rely on a categorical exclusion because the export authorization here does not have the "integral elements" of an exempt project, as defined in Appendix B to 10 C.F.R. Part 2021 Subpart D. For example, the proposed exports lack integral element 1, because they threaten a violation of Executive Order 14,008, Tackling the Climate Crisis at Home and

58 https://www.energy.gov/sites/prod/files/2019/01/f58/Magnolia%20LT%20LNG%20Summary.pdf

Abroad.[59] 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."[60] The proposed increase also lacks integral element 4, because of the potential to impact listed species, as recognized in the EA.

IV. Conclusion

For the foregoing reasons, Sierra Club respectfully requests that DOE grant rehearing of Order 3909-C. The request for authorization of additional exports should be denied, or in the alternative, DOE should withdraw the authorization and reconsider after conducting the additional analyses required by the Natural Gas Act and NEPA, as described above.

Respectfully submitted,

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[59] 86 Fed. Reg. 7619 (Jan. 27, 2021).

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

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Magnolia LNG LLC Docket No. 13-132-LNG

CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE

Pursuant to 10 C.F.R. § 590.103(b), I, Nathan Matthews, 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 Oakland, CA this 27th day of May, 2022.

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DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Magnolia LNG LLC Docket No. 13-132-LNG

VERIFICATION

Pursuant to 10 C.F.R. § 590.103(b), I, Nathan Matthews, 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 Oakland, CA on May 27, 2022

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UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Magnolia LNG LLC Docket No. 13-132-LNG

CERTIFICATE OF SERVICE

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

Dated at Oakland, CA this 27th Day of May, 2022.

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