

# The Need for Regulatory Modernization in Domestic LNG: Harmonizing Commercial Interests and Net-Zero Goals

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## I. INTRODUCTION

The United States has increased production and export of Liquefied Natural Gas (LNG) over the past decade, becoming the world’s largest exporter in the first half of 2022.<sup>1</sup> Natural Gas has been described as a bridge fuel for the oil and gas industry to transition away from more carbon-intensive energy sources toward renewables.<sup>2</sup> However, natural

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1. *The United States Became the World’s Largest LNG Exporter in the First Half of 2022*, U.S. ENERGY INFO. ADMIN. (July 25, 2022), <https://www.eia.gov/todayinenergy/detail.php?id=53159>; see L. Agosti & B. Moselle, *Carbon Neutral LNG: Price and Prejudice*, OGE 1, 1 (June 2022).

2. *Natural Gas Explained*, U.S. ENERGY INFO. ADMIN. (Mar. 28, 2023), <https://www.eia.gov/energyexplained/natural-gas/> (explaining that burning 1 MMBtu of natural gas emits roughly fifty percent less CO<sub>2</sub> than burning 1MMBtu of coal).; see also ROB BUTLER ET AL.,

gas produces significant greenhouse gas (GHG) lifecycle emissions from extraction and production, delivery to liquefaction plants, processing and liquefaction, shipment to its final destination, methane leakage, and downstream consumption.<sup>3</sup> There is no industry standard methodology for measuring GHG lifecycle emissions for an LNG cargo. As a result, there is limited GHG measurement data for agencies to accurately evaluate a project's emission impacts.<sup>4</sup>

The United States rejoined the Paris Agreement in 2021 as part of its goal to achieve net-zero carbon emissions and prevent a global temperature rise of 1.5°C by 2050.<sup>5</sup> The White House released its 2021 Long-Term Strategy emphasizing the importance of delivering the 2030 Nationally Determined Contribution to the Paris Agreement: 50-52 percent reduction in greenhouse gas emissions by 2030. In the same year, the United States announced the Global Methane Pledge to join with the European Union and other countries in reducing global methane emissions by 30 percent of 2020 levels by 2030.<sup>6</sup>

This Comment examines litigation surrounding Federal Energy Regulatory Commission (FERC) Authorization Orders for domestic LNG pipeline and export projects to show how the current regulatory environment lacks cohesion with domestic and global climate goals. The LNG market is examined with a focus on GHG and Carbon measurement. This Comment proposes regulatory and legislative measures that align with U.S. climate goals, striking a balance between commercial interests the pursuit of net-zero emissions.

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LOWER-CARBON, CARBON-NEUTRAL, AND "GREEN" LNG, PRACTICAL LAW OIL & GAS, Westlaw W-031-1408 (database updated 2023); see Agosti & Moselle, *supra* note 1, at 1.

3. See ROB BUTLER ET AL., LOWER-CARBON, CARBON-NEUTRAL, AND "GREEN" LNG, PRACTICAL LAW OIL & GAS, WESTLAW W-031-1408 (database updated 2023); see also Agosti & Moselle, *supra* note 1, at 3-4.

4. J.E.B Atkin et al., *Greenhouse Gas (GHG) Neutral LNG, An Essential Evolution*, OGEL, June 2022, at 1, 3.

5. US DEP'T OF STATE, EXEC. OFF. OF THE PRESIDENT, THE LONG-TERM STRATEGY OF THE UNITED STATES: PATHWAYS TO NET-ZERO GREENHOUSE GAS EMISSIONS BY 2050 1, 1 (2021); see also INTERNATIONAL ENERGY AGENCY, *NET ZERO BY 2050: A ROADMAP FOR THE GLOBAL ENERGY SECTOR* 32 (2021), [https://ica.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector\\_CORR.pdf](https://ica.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf).

6. US DEP'T OF STATE, EXEC. OFF. OF THE PRESIDENT, *supra* note 5; see also *Global Methane Pledge*, CLIMATE & CLEAN AIR COAL., (Mar. 25, 2023), <https://www.globalmethanepledge.org>.

## II. BACKGROUND

### A. *The Natural Gas Act*

Under the Natural Gas Act (NGA), the Federal Energy Regulatory Commission (FERC or Commission) and the Department of Energy (DOE) share responsibility for regulatory oversight of all LNG export projects.<sup>7</sup> NGA Section 3(a) requires an authorization order for any exports of natural gas from the U.S. to a foreign country.<sup>8</sup> Section 3 “sets out a general presumption favoring such authorization.”<sup>9</sup> DOE is ultimately responsible for the regulatory functions of Section 3(a) and export of natural gas, but it delegated authority to approve or deny applications for siting, construction, expansion, or operation of LNG terminals to the Commission.<sup>10</sup> Under NGA Section 7, authority over the construction and operation of interstate natural gas pipelines also rests with the Commission.<sup>11</sup> In contrast to the presumption favoring authorization in Section 3, Section 7 requires a finding that a proposal “is or will be required by the present or future public convenience and necessity.”<sup>12</sup>

There are two components to a public convenience and necessity analysis under the NGA.<sup>13</sup> First, an applicant must demonstrate that a proposed project will be financially sound by meeting a “market need.”<sup>14</sup> Applicants can demonstrate market need by providing “evidence of preconstruction contracts for gas transportation service.”<sup>15</sup> Next, if FERC also finds that there is a market need, it must balance the benefits and harms of a proposed project, granting certification only where the harms are outweighed by the benefits.<sup>16</sup>

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7. *EarthReports, Inc. v. FERC*, 828 F.3d 949, 952 (D.C. Cir. 2016); *see also Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1325 (D.C. Cir. 2021).

8. 15 U.S.C. § 717b(a); *see also EarthReports*, 828 F.3d at 952.

9. *W. Va. Pub. Servs. Comm’n v. Dep’t of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982).

10. 42 U.S.C. § 7151(b); 15 U.S.C. § 717b(e); DOE Delegation Order No. 00-004.00A (effective May 16, 2006); *see also EarthReports*, 828 F.3d at 952; *Comunidad Costera*, 6 F.4th at 1325.

11. *See* 15 U.S.C. § 717f(c)(1)(a); *see also* 42 U.S.C. §§ 7151(b), 7172(a)(1); *EarthReports*, 828 F.3d at 953; *Consol. Edison Co. of N.Y., Inc. v. FERC*, 315 F.3d 316, 319 (D.C. Cir. 2003); *Comunidad Costera*, 6 F.4th at 1325.

12. *EarthReports*, 828 F.3d at 953 (citing 15 U.S.C. § 717f(e)).

13. *Sierra Club v. FERC*, 867 F.3d 1357, 1379 (D.C. Cir. 2017).

14. *Id.*

15. *Birckhead v. FERC*, 925 F.3d 510, 517-18 (D.C. Cir. 2019) (citing *Sierra Club*, 867 F.3d at 1379).

16. *Sierra Club*, 867 F.3d at 1379.

*B. National Environmental Policy Act*

The National Environmental Policy Act (NEPA) requires federal agencies to issue an environmental impact statement for “every recommendation or report on proposals for . . . major Federal actions significantly affecting the quality of the human environment.”<sup>17</sup> Where an EIS is required, the agency must take a “hard look” at the proposed action’s environmental impact, unavoidable environmental impacts that would result from implementation, available alternatives to the proposed action, the “relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity,” as well as “any irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented.”<sup>18</sup> Courts have compared the reasonable causal relationship requirement between an environmental effect and its alleged cause to the tort law doctrine of proximate cause.<sup>19</sup> Further, “NEPA analysis necessarily involves some reasonable forecasting, and . . . agencies may sometimes need to make educated assumptions about an uncertain future.”<sup>20</sup> At a minimum, agencies are required to attempt to obtain necessary information to meet their statutory mandates.<sup>21</sup> An EIS that does not sufficiently inform public comment and agency decision making is deficient.<sup>22</sup>

The Council on Environmental Quality promulgated regulations requiring agencies to prepare an environmental assessment where their procedures do not require preparation of an EIS.<sup>23</sup> The purpose of the environmental assessment is to provide evidence and analysis for the decision of whether to prepare an EIS, and it must include the environmental impacts of the proposed action and alternatives.<sup>24</sup> Further, the indirect effects, cumulative impact of the action, and reasonably foreseeable future actions must be considered in the assessment.<sup>25</sup> An

17. 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1508.11.

18. *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1325-26 (D.C. Cir. 2021).

19. *Department of Transportation v. Public Citizen*, 541 U.S. 752, 767 (2004); *see Sierra Club v. FERC (Freeport)*, 827 F.3d 36, 47 (D.C. Cir. 2016).

20. *Sierra Club*, 867 F.3d at 1374 (quoting *Delaware Riverkeeper Network v. FERC*, 753 F.3d 1304, 1310 (D.C. Cir. 2014)) (internal quotes omitted).

21. *Birckhead v. FERC*, 925 F.3d 510, 517-18 (D.C. Cir. 2019).

22. *Sierra Club*, 867 F.3d at 1368.

23. *See* 40 C.F.R. § 1501.4; *EarthReports, Inc. v. FERC*, 828 F.3d 949, 953 (D.C. Cir. 2016).

24. *See* 40 C.F.R. § 1508.9; *EarthReports*, 828 F.3d at 953.

25. *See* 40 C.F.R. §§ 1508.8(b), 1508.7.

agency is required to issue a finding of no significant impact (FONSI) if its environmental assessment concludes that an EIS is not required.<sup>26</sup>

NEPA does not create a private right of action for litigants to challenge the sufficiency of an agency's preparation of an EIS.<sup>27</sup> Therefore, all NEPA challenges must be brought under the Administrative Procedure Act (APA), which mandates a deferential standard of review.<sup>28</sup> The reviewing court must determine whether the agency adequately considered and disclosed the environmental impact of its action and whether the agency decision is arbitrary or capricious.<sup>29</sup>

In addition to the requirements under the NGA and NEPA, Executive Order 12,898 requires federal agencies to “make achieving environmental justice part of its mission by identifying, addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”<sup>30</sup> The Executive Order does not create a private right of action, but petitioners may challenge an environmental justice analysis under NEPA and the APA.<sup>31</sup>

Impact on the environment and environmental justice communities can be a topic of intense debate throughout the authorization process for an LNG project. As such, the Commission should take significant time to prepare an environmental assessment for any given project in order that it meets the “hard look” requirement.<sup>32</sup> Commission orders are often the subject of litigation, with litigants appealing some aspect of the decision-making process regarding the EIS or EA. Petitioners may challenge a FERC order granting authorization of an LNG export project for several reasons including environmental, safety, economic, or procedural concerns, as well as for lack of necessity.

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26. See 40 C.F.R. § 1508.13.

27. *Sierra Club*, 867 F.3d at 1367 (citing *Theodore Roosevelt Conservation P'ship v. Salazar*, 616 F.3d 497, 507 (D.C. Cir. 2010)).

28. *Id.* (citing *Salazar*, 616 F.3d at 507).

29. *WildEarth Guardians v. Jewell*, 738 F.3d 298, 308 (D.C. Cir. 2013).

30. *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1326 (D.C. Cir. 2021); see Exec. Order No. 12898, § 1-101, 59 Fed. Reg. 7629 (Feb. 11, 1994).

31. *Comunidad Costera*, 6 F.4th at 1330.

32. *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983) (explaining that the “hard look” requirement requires agencies to have adequately considered the environmental effects, not “elevate environmental concerns over other appropriate considerations.”).

### C. *Social Cost of Greenhouse Gases*

Federal agencies have long considered the effects of GHG emissions as part of their cost-benefit analyses for review by Presidents and the public.<sup>33</sup> Prior to the standardization of estimates under the Obama Administration, agencies used their professional discretion, basing their estimates on studies they deemed appropriate.<sup>34</sup> In 2017, the Trump Administration ended this practice, disbanding the working group established by Obama, and agencies were again left to use their professional discretion in the absence of standardized estimates.<sup>35</sup> Under the Biden Administration, in 2021 the working group was reconvened through executive order.<sup>36</sup>

The climate impacts of agency rulemaking can also be estimated through use of the social cost of carbon (SC-CO<sub>2</sub>).<sup>37</sup> The SC-CO<sub>2</sub> is a dollar measurement of long-term damage caused by a ton of CO<sub>2</sub> emissions in a given year, and also represents the value of a benefit in CO<sub>2</sub> reduction.<sup>38</sup>

## III. LITIGATION OF AUTHORIZATION ORDERS

### A. *Indirect Effect Challenges*

Where an agency has no ability to prevent an environmental effect due to that agency's limited statutory authority over the relevant action, that action "cannot be considered a legally relevant cause of the effect" under NEPA.<sup>39</sup> For example, in *Sierra Club v. FERC (Freeport)*, the court held that the Commission did not have to address the indirect environmental effects of anticipated export of natural gas in its NEPA analysis for a proposed redesign of an LNG terminal.<sup>40</sup> Similarly, in

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33. See Exec. Order No. 12044, 43 Fed. Reg. 12661; see also *Louisiana by & through Landry v. Biden*, No. 22-30087, 2023 WL 2780821, at \*1-2 (5th Cir. Apr. 5, 2023).

34. See *Landry*, 2023 WL 2780821, at \*1-2; see also Exec. Order No. 12866, 58 Fed. Reg. 51735 (Feb. 2010) (explaining that Obama established an interagency working group to quantify the social cost of greenhouse gases designed for use in the agency rulemaking process and collecting examples of agency analysis of greenhouse gas emissions from 2008).

35. See Exec. Order No. 13783, § 5(b), 82 Fed. Reg. 16093 (Mar. 28, 2017).

36. See Exec. Order No. 13990, § 5, 86 Fed. Reg. 7037 (Jan. 20, 2021); see also *Landry*, 2023 WL 2780821, at \*1.

37. *The Social Cost of Carbon*, EPA (Dec. 2016), [https://www.epa.gov/sites/default/files/2016-12/documents/social\\_cost\\_of\\_carbon\\_fact\\_sheet.pdf](https://www.epa.gov/sites/default/files/2016-12/documents/social_cost_of_carbon_fact_sheet.pdf).

38. *Id.*

39. *Sierra Club v. FERC (Freeport)*, 827 F.3d 36, 47 (D.C. Cir. 2016) (quoting *Dep't. of Transp. v. Public Citizen*, 541 U.S. 752, 767 (2004)).

40. *Id.*

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*EarthReports, Inc. v. FERC*, petitioners challenged the Commission's failure to consider increased upstream domestic natural gas production that would result from a proposed expansion of an import LNG facility to a mixed use export/import facility.<sup>41</sup> Likewise, in *Sierra Club v. FERC (Sabine Pass)*, petitioners challenged FERC orders authorizing increased production capacity at an LNG terminal on identical grounds.<sup>42</sup>

In all three cases, the U.S. Court of Appeals for the D.C. Circuit held that the indirect effect of increased exports on natural gas production would be the result of DOE action, not Commission action, and therefore the Commission acted reasonably by declining to consider those effects in its NEPA analyses.<sup>43</sup> Petitioners in those cases argued that increased domestic natural gas production is a reasonably foreseeable effect resulting from implementation of FERC orders to expand the facilities.<sup>44</sup> Ultimately, the fact that DOE was legally responsible for determining whether or not to increase domestic LNG production shielded the Commission from being required to include otherwise relevant considerations in EAs or EISs.

Unlike in the three abovementioned cases, courts have held that indirect increases in carbon emissions from gas-burning power plants *can* be reasonably foreseeable and may require consideration by the Commission when approving a new pipeline.<sup>45</sup> In *Sierra Club v. FERC*, the court reasoned that the Commission, not some other agency, must determine whether the pipeline will be too harmful to the environment.<sup>46</sup> Therefore, the Commission "is a legally relevant cause of the direct and indirect environmental effects of [a] pipeline it approve—even where it lacks jurisdiction over the producer or distributor of the gas transported by the pipeline."<sup>47</sup> However, this holding did not create a bright-line rule that downstream gas combustion emissions are always reasonably foreseeable indirect effects of pipeline projects.<sup>48</sup> Rather, that question

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41. 828 F.3d 949 (D.C. Cir. 2016).

42. 827 F.3d 59 (D.C. Cir. 2016).

43. See *EarthReports*, 828 F.3d at 949; *Freeport*, 827 F.3d at 36; *Sabine Pass*, 827 F.3d at 59.

44. See *EarthReports*, 828 F.3d at 956; *Freeport*, 827 F.3d at 50; *Sabine Pass*, 827 F.3d at 59.

45. *Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017).

46. *Id.*

47. *Birckhead v. FERC*, 925 F.3d 510, 519 (D.C. Cir. 2019) (citing *Sierra Club*, 867 F.3d at 1372).

48. See *Birckhead*, 925 F.3d at 519; *Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm.*, 449 F.2d 1109, 1122 (D.C. Cir. 1971).

must be determined “on a case-by-case basis because every . . . project is different.”<sup>49</sup>

In contrast, in *Birckhead v. FERC*, the D.C. Circuit held that the Commission did not act arbitrarily or capriciously in declining to evaluate the environmental impacts of upstream gas production in its NEPA analysis concerning authorization for a new natural gas compression facility.<sup>50</sup> There, the court reasoned that petitioners failed to identify evidence on the record that supports their assertion that additional wells would in fact be drilled as a result of demand increases created by the project.<sup>51</sup>

### B. GHG Emissions Impact Challenges

If there is incomplete or unavailable information where an agency seeks to evaluate reasonably foreseeable adverse environmental effects in an EIS, then the agency must disclose that such information is incomplete or unavailable.<sup>52</sup> Such a failure to disclose was litigated in *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, where the D.C. Circuit held that the Commission’s failure to address, and subsequently analyze, the impact of an LNG project’s greenhouse gas emissions rendered its NEPA analysis deficient.<sup>53</sup> There, Petitioners argued that 40 C.F.R. § 1502.21(c) mandated the Commission to use the “social cost of carbon” protocol or some other relevant accepted methodology to evaluate the impact of the project’s GHG emissions.<sup>54</sup>

The Commission determined that the project would contribute to climate change impacts but could not obtain relevant information to analyze those impacts because the means were unknown.<sup>55</sup> The Commission explained that it would not use the social cost of carbon protocol but declined to consider any 40 C.F.R. § 1502 requirements.<sup>56</sup> The court reasoned that under 40 C.F.R. § 1502 the Commission was required to “evaluate . . . such impacts based upon theoretical approaches or research methods generally accepted in the scientific community,” and

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49. *Birckhead*, 925 F.3d at 519.

50. *Id.* at 518.

51. *Id.* at 517.

52. 40 C.F.R. § 1502.21.

53. *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1329 (D.C. Cir. 2021).

54. *Id.* at 1328.

55. *Id.* at 1329.

56. *Id.* at 1328.



failure to discuss, cite, or in any way address that requirement resulted in a deficient NEPA analysis under the APA.<sup>57</sup>

In this case, the Commission provided the same three reasons for not using the social cost of carbon protocol that it previously provided in a successful motion to block rehearing requests in *EarthReports Inc. v. FERC*.<sup>58</sup> Those three reasons were that:

no consensus exists as to the appropriate discount rate to use for analyses spanning multiple generations; the tool does not measure the actual incremental impacts of a project on the environment; and there are no established criteria identifying the monetized values that are to be considered “significant” for the purpose of a NEPA analysis.<sup>59</sup>

However, in *EarthReports*, petitioners did not raise a 40 C.F.R. § 1502 argument, and thus the court did not consider those requirements in its holding.<sup>60</sup> Notably, the court recognized that the Commission previously declined to dispute that the social cost of carbon protocol is a generally accepted method to analyze the impact of GHG emissions.<sup>61</sup> As a result, 40 C.F.R. § 1502 may mandate use of the protocol in a NEPA analysis including the impacts of GHG emissions, or it at least necessitates that the Commission considers the statute when a petitioner has raised it as an issue in litigation.<sup>62</sup>

### C. *Public Convenience and Necessity/Environmental Justice Challenges*

The scope of FERC’s environmental justice analysis is in part the subject of litigation in *Vecinos para el Bienestar de la Comunidad Costera v. FERC*.<sup>63</sup> There, the Commission examined the project’s impacts on communities within a two-mile radius of the site, in census block groups.<sup>64</sup> Agreeing with petitioner’s argument, the D.C. Circuit held that the decision to analyze groups only within those census block groups was arbitrary in light of the Commission’s determination that environmental effects extended beyond that two mile range.<sup>65</sup> The court

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57. *Id.* at 1329 (citing 40 C.F.R. § 1502.21(c)(4)).

58. *Vecinos*, 6 F.4th at 1329; *see also* *EarthReports, Inc. v. FERC*, 828 F.3d 949, 956 (D.C. Cir. 2016).

59. *Vecinos*, 6 F.4th at 1328-29.

60. *Id.* at 1329 (citing *EarthReports, Inc.*, 828 F.3d at 956 (D.C. Cir. 2016)).

61. *Id.*

62. *Id.*

63. *Id.* at 1330.

64. *Id.*

65. *Id.*

reasoned that an agency's demarcation of a potentially affected area must be "reasonable and adequately explained."<sup>66</sup> Further, it must include a rational connection between the Commission's provided facts and the agency's decision.<sup>67</sup>

Where, as in *Vecinos*, the Commission's environmental justice analysis is deficient, the agency is required to "revisit its determinations of public interest and convenience under Sections 3 and 7 of the NGA."<sup>68</sup> This follows from the decision resting on "infirm ground" and thus rendering the decision arbitrary and capricious.<sup>69</sup> In *Vecinos*, the Commission's approval order found the project was required by present or future public convenience and necessity and refused to find that the project was not consistent with public interest, in part by using its NEPA analyses on environmental justice communities to explain its decision.<sup>70</sup> Therefore, those determinations were "deficient to the extent that they relied on [the Commission's] NEPA analyses of the project's impacts on . . . environmental justice communities."<sup>71</sup>

In *Sierra Club v. FERC*, petitioners objected to alleged deficiencies in the Commission's EIS and a subsequent certification of public convenience and necessity for three pipeline projects because of failure to consider principles of environmental justice.<sup>72</sup> The D.C. Circuit held that FERC satisfied the required standard through its discussion of environmental justice in its EIS.<sup>73</sup> The court reasoned that the Commission "discussed the intensity, extent, and duration of the pipelines' environmental effects, and also separately discussed the fact that those effects will disproportionately fall on environmental-justice communities," evaluated alternative routes, considered the environmental-justice communities that each route would cross, and how much pipeline each route would place in those communities.<sup>74</sup>

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66. *Id.* (citing *Cmtys. Against Runway Expansion v. F.A.A.*, 355 F.3d 678, 689 (D.C. Cir. 2004)).

67. *Id.* (citing *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

68. *Id.* at 1331.

69. *Id.*

70. *Id.*

71. *Id.*

72. 867 F.3d 1357, 1366, 1369.

73. *Id.* at 1368.

74. *Id.* at 1369.

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## III. GHG/CARBON MEASUREMENT AND PRICING

The international gas market is largely made up of long-term contracts between upstream and downstream players, a result of a necessarily capital-intensive industry.<sup>75</sup> From upstream costs of exploration, development, production, transmission, and processing to downstream costs of transmission, distribution, and storage, enormous amounts of capital are required before any profit can be returned. Therefore, parties seek to minimize risk wherever possible in order to ensure returns on their investments. Long-term take-or-pay contracts commonly have durations ranging from ten to twenty years and require intense negotiations to balance commercial interests between buyers and sellers.<sup>76</sup>

Recently, there have been sales of “carbon neutral” LNG cargos.<sup>77</sup> However, these sales have primarily fallen within the small spot-market, lacking consistency in the definition of carbon or GHG neutrality among contracts.<sup>78</sup> Additionally, less than one percent of LNG trades have been declared GHG neutral, or equivalent.<sup>79</sup> No industry accepted uniform standard of measurement for carbon or GHG content in LNG currently exists, nor are there content mandates from U.S. regulators.<sup>80</sup> Price review for long-term contracts will inevitably become a contentious issue with the evolving nature of decarbonization efforts from both private parties and eventually regulators.<sup>81</sup> The issue of how to mandate uniform measurement as policy for reaching climate goals must consider the international and long-term nature of LNG contracts.<sup>82</sup>

Contractual issues will inevitably arise for buyers and sellers in the absence of uniform GHG/carbon pricing and measurement methodologies. For example, if a U.S. exporter—subject to no carbon

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75. Agosti & Moselle, *supra* note 1, at 11.

76. *Id.* at 11-12.

77. *Id.* at 5-6.

78. *Id.* (explaining that in 2021, at least twenty-seven out of 5000 LNG cargos were branded as carbon neutral. However, the definitions ranged from offsetting only downstream emissions, only upstream emissions, and both downstream and upstream emissions).

79. Atkin et al., *supra* note 4, at 2.

80. *Id.* at 5-6 (explaining that there is no industry standard defining carbon neutral LNG cargo, resulting in differing levels of carbon neutrality depending on particular emission offsets).

81. See M. Secomb & P. Tan, *Decarbonisation and Gas/LNG Price Reviews*, OGEL 1,1 (June 2022) (explaining that price review clauses are common provisions in long-term LNG contracts, permitting parties to revise the sale price under new conditions to ensure stability of the business relationship).

82. *Id.* at 6; see also Agosti & Moselle, *supra* note 77, at 4 (explaining that most LNG is traded via medium and long-term contracts).

content mandates for his production and exports—contracts with a buyer in a jurisdiction with content requirements, then ensuring compliance from both parties in the absence of a uniform standard will be very difficult. Such a situation could lead sellers to be wholly left out of key import jurisdictions for their cargo, leaving them with no buyer and the buyer frantic to find new supply.<sup>83</sup> Further, what happens in the event of a content breach in a long-term contract with provisions for carbon content requirement? The nonbreaching party could elect to terminate for breach: however, this is incompatible with the sacred principle of security of supply and ultimately energy security, which is vital to national security in the U.S. and in many other countries.<sup>84</sup>

Alternatively, parties can contract to allocate this risk through various other means. One solution is to have a damage-only remedy for breach of carbon content requirements. Carbon credits could potentially be used by the contracting parties to cover some or all of the damages associated with such a breach. In the event of repeated breaches over time, or if significant damages accrue, the right to terminate could still be invoked. But termination would not be the only remedy for the nonbreaching party, and such provisions would encourage indemnification rather than an end to the business relationship. However, the issue of carbon neutrality's meaning in the specific contract will continue to vary widely in the absence of industry uniformity.<sup>85</sup> Market participants must ultimately agree on a standard method for pricing and measurement of GHG/carbon into LNG trades to reduce uncertainty amid decarbonization efforts.<sup>86</sup>

Until such a standard methodology—for both measurement and neutrality—is adopted, U.S. regulators are largely operating in the dark in terms of ensuring progress toward net-zero goals. FERC must have sufficient data on GHG emissions in order to properly analyze project impacts and issue authorization orders that are not arbitrary and capricious. The public must also have access to that data in order to have the opportunity for informed comment. Further, the LNG industry will suffer without sellers' ability to establish a reliable baseline of emissions

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83. See Atkin et al., *supra* note 4, at 5.

84. Genevieve Macatram, *To What Extent Does the Emerging Policy on Climate Change Support Energy Security Objectives?*, OGEL, Nov. 2007, at 2, 9 (citing L.D. Guruswamy, *A New Framework: Post Kyoto Energy and Environmental Security* 16 COLO. J. INT'L ENV'T. L & POL'Y 333 (2005)).

85. See also Atkin et al., *supra* note 4, 1-2 (explaining that in their article, the authors adopt specific terminology from the International Group of LNG Importers as their definition of "GHG Neutral LNG" because there is no standard definition within the industry).

86. See Agosti & Moselle, *supra* note 1, at 11.

associated with production, and buyer's ability to accurately compare LNG cargos.<sup>87</sup>

#### IV. REGULATORY BARRIERS TO NET-ZERO

H.R. 1130, introduced by the 118th Congress, poses a significant threat to the United States' ability to achieve net-zero goals.<sup>88</sup> The bill would amend Section 3 of the Natural Gas Act and lift all restrictions on the import and export of natural gas, including LNG. The proposed legislation seeks to streamline the regulatory process for energy infrastructure projects, such as LNG pipelines and terminals, while avoiding the traditional considerations of potential harm to public health and the environment.<sup>89</sup> The negative impacts of H.R. 1130 are clear: prioritization of commercial interests over public health and the environment.

The Committee on Energy and Commerce submitted a report on the proposal. The Committee cites DOE studies among others for the assertion that as LNG exports increase, domestic production will rise to meet global demand.<sup>90</sup> The report states "the legislation would lift all restrictions on the import and export of natural gas" with exceptions only for trade with sanctioned persons or foreign countries, or persons listed as state sponsors of terrorism.<sup>91</sup> Additionally, benefits to U.S. energy and national security are purported to flow from reduction of Russian and OPEC influence in global markets and from decreased European reliance on Russian natural gas.<sup>92</sup> The report points to "duplicative and unnecessary" regulatory requirements that hinder economic growth and create regulatory uncertainty.<sup>93</sup> The Committee found that H.R. 1130 directs "FERC's review to be limited to the facility itself, and not to extend upstream or downstream beyond those effects that are direct or reasonably foreseeable."<sup>94</sup>

In the Minority Views for H.R. 1130, the dissent argues that the legislation would "substantially weaken" federal regulation for exports of

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87. Atkin et al., *supra* note 4, at 3.

88. H.R. Rep. on H.R. 1130, Unlocking Our Domestic LNG Potential Act of 2023 (Mar. 13, 2023), <https://rules.house.gov/sites/republicans.rules118.house.gov/files/documents/118/Reports/H.R.%201130%20Report.pdf>.

89. *Id.*

90. *Id.* at 1-2.

91. *Id.* at 1.

92. *Id.* at 2.

93. *Id.* at 2-3.

94. *Id.* at 3.

natural gas by requiring the Commission to find any export or import of natural gas consistent with public interest.<sup>95</sup> The dissent points to testimony from a joint legislative hearing—“Unleashing American Energy, Lowering Energy Costs, and Strengthening Supply Chains”—that increased LNG exports will result in increased domestic heating and electricity prices for consumers.<sup>96</sup> Additionally, that testimony suggested increased LNG exports would cause domestic prices to rise to meet international gas prices.<sup>97</sup>

## V. CONCLUSION

The public convenience and necessity analysis under the NGA should be statutorily updated to require authorization order applicants to include upstream carbon content disclosures from data in their preconstruction contracts in their applications. Such a requirement would benefit market players by forcing a rapid shift toward uniform carbon content measurement. Further, FERC and DOE would be better able to (1) conduct an informed balance of the proposed project’s benefits and harms to the public and (2) more accurately fulfill statutory mandates under NEPA. Finally, this will set the groundwork for U.S. regulators to create independently verified carbon content requirements for domestic LNG that allow commercial stability and national security of supply to exist in harmony.

Currently, it is difficult to reconcile NEPA’s requirements that agencies create sufficiently informative EISs for proposed agency action with the lack of uniformity for carbon measurements in LNG and effects of GHG emission on climate change.<sup>98</sup> Carbon capture and storage capabilities and improvements in data collection for emissions—throughout the entire value chain—should be top priorities for industry regulators to ensure there is adequate information for agencies to create sufficient EISs.<sup>99</sup> Without that data, the Commission’s public convenience and necessity analysis will always be lacking. Further, Executive Order 12,898’s requirement of agency adherence to environmental justice principles cannot truly be followed without sufficient information regarding a project’s emissions.<sup>100</sup> Tragically, climate change will have disproportionate effects on the low-income

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95. *Id.* at 9.

96. *Id.*

97. *Id.*

98. *See* 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1508.1(j).

99. *Cf.* Atkin et al., *supra* note 4, at 2.

100. *See* Executive Order 12,898, § 1-101, 59 Fed. Reg. 7629 (Feb. 11, 1994).

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populations that environmental justice principles were designed to protect.

Legislation should be enacted requiring the creation of an intra-agency committee between DOE and the Commission to share information and responsibility in fulfilling their NEPA requirements for LNG projects and export. Without joint consideration of upstream and downstream emissions, the pursuit of carbon-neutrality will be fruitless. In light of the fact that DOE delegated NGA Section 3 authority to the Commission, it is odd that the Commission can escape responsibility for considering increased domestic LNG production resulting from increases in exports in its NEPA analyses.<sup>101</sup> It makes little sense to sever otherwise mandatory NEPA requirements from an agency, delegated with authority to approve major federal actions, because a latter agency who delegated the former's authority is legally responsible for the indirect effects of that approved action. DOE studies determined that as LNG exports increase, domestic production rises to meet demand; petitioners unsuccessfully argued this point in several NEPA challenges to the sufficiency of Commission EISs.<sup>102</sup>

The DOE has previously been tasked by Congress with promoting “demonstration projects” in developing countries to reduce their GHG emissions.<sup>103</sup> Requiring agency EISs to consider emissions impacts in foreign countries and contributions to global climate change would be beneficial and necessary to fully analyze the effects of a specific project on climate change. Cooperation between the two dominant agencies responsible for regulatory oversight of LNG will improve judicial uniformity in litigation challenging authorization orders, leading to less uncertainty for market players.

Carbon offset should be allowed as a consideration in agency NEPA analyses to further drive policy toward meeting climate goals. This would incentivize expanding LNG projects as an alternative to more carbon-intensive alternatives, such as coal or oil, by adding an additional factor to a Commission NEPA analyses that could favor authorization. However, this should be limited to expansion of already constructed

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101. See 42 U.S.C. § 7151(b); 15 U.S.C. § 717b(e); DOE Delegation Order No. 00-004.00A (effective May 16, 2006).

102. *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets*, U.S. ENERGY INFO. ADMIN., U.S. DEP'T. ENERGY 1, 11 (Oct. 2014), <https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf>; see *EarthReports, Inc. v. FERC* 828 F.3d 949, 956 (D.C. Cir. 2016); *Sierra Club v. FERC*, 827 F.3d 36, 50 (D.C. Cir. 2016); *Sierra Club v. FERC*, 827 F.3d 59 (D.C. Cir. 2016).

103. Energy Policy Act of 2005, H.R. 6, 109th Cong. § 736(b) (2005); see Macatram, *supra* note 81, at 20.

facilities so that those facilities can maximize liquefaction, domestic transportation, and export capacity. Allowing carbon offset to be considered in NEPA analyses would incentivize the industry to accept a uniform standard for measurement of carbon content and to ensure compliance from U.S. exporters to buyers in jurisdictions with carbon content requirements. Minimizing the risks associated with content breach would strengthen the interests of parties to new long-term LNG contracts seeking to incorporate carbon neutrality into their contracts.

Legislative proposal HR 1130 moves us toward further unchecked GHG emissions in the general energy industry and in domestic LNG. Further, it subtracts from industry and international decarbonization trends by strengthening a domestic regulatory environment that is inconsistent with the pursuit of net-zero goals. In order for the United States to pursue a realistic drive to net-zero carbon emissions, increasing infrastructure and project authorizations for LNG production and export must be a function of domestic climate policy rather than a function of global LNG demand and energy industry shareholder interests. Creating value for shareholders is the undeniable primary factor for chief executive officers of global energy companies. Although there is a marked increase in the willingness of market players toward carbon neutral LNG, this will continue to be limited only by costs in the absence of regulatory modernization.<sup>104</sup> U.S. legislators and regulators must update the regulatory framework surrounding domestic LNG to reflect the purported goals of globally touted U.S. treaties and pledges. Until then, LNG market players will continue to do what they do best: prioritize value to their shareholders without sufficient regard for the effects of GHGs on the environment.

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104. See Agosti & Moselle, *supra* note 1, at 8.