

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews)	Docket No. PL21-3-000
)	
Certification of New Interstate Natural Gas Facilities)	Docket No. PL18-1-000
)	

**COMMENTS OF THE INSTITUTE FOR POLICY
INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW**

Pursuant to the Federal Energy Regulatory Commission’s (FERC or Commission) Order on Policy Statements issued March 24, 2022¹ in the above captioned proceeding, the Institute for Policy Integrity at New York University School of Law (Policy Integrity)² respectfully submits the following comments on the Commission’s draft policy statements.³ Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

Under the draft policy statements, the Commission would improve its evaluation of applications for natural gas infrastructure under both the Natural Gas Act (NGA) and the National Environmental Policy Act (NEPA). In line with recent decisions from the U.S. Court of Appeals for the D.C. Circuit, the draft policy statements recognize FERC is required to consider reasonably foreseeable effects of infrastructure projects, including direct and indirect greenhouse gas emissions.⁴ The draft policy statements clarify that climate impacts must not only be

¹ Order on Draft Policy Statements, Docket Nos. PL18-1 & PL21-3 (Mar. 24, 2022).

² These comments do not reflect the views of NYU School of Law, if any.

³ Policy Integrity attorneys, along with a group of academic scholars, will additionally submit comments that support the Commission’s authority to consider climate impacts resulting from new infrastructure projects—including direct, downstream, and upstream emissions—under NEPA and as part of FERC’s consideration of the public convenience and necessity.

⁴ *Sierra Club v. Fed. Energy Regul. Comm’n (Sabal Trail)*, 867 F.3d 1357 (D.C. Cir. 2017); *Birckhead v. Fed. Energy Regul. Comm’n*, 925 F.3d 510 (D.C. Cir. 2019); *Food & Water Watch v. Fed. Energy Regul. Comm’n*, 28 F.4th 277 (D.C. Cir. 2022).

identified and assessed under NEPA, but also evaluated on a level playing with other beneficial and adverse impacts under the NGA.

Both the draft policy statement on “Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews” (Draft GHG Policy Statement)⁵ and the “Updated Policy Statement on Certification of New Interstate Natural Gas Facilities” (Draft Updated Certificate Policy Statement)⁶ serve as an important step toward ensuring that upstream and downstream emissions are properly considered under NEPA and the NGA. The draft guidance provides a flexible compliance framework that can account for efforts made by developers and other stakeholders to limit the climate impacts of new natural gas infrastructure. The flexibility provided can incentivize developers to properly weigh risks and propose more efficient and cost-effective (and less environmentally harmful) infrastructure. It also can spur a more robust market for mitigation tools that can minimize climate impacts of needed infrastructure. In particular, the Draft GHG Policy Statement is intentionally flexible to allow developers and stakeholders to craft a proposal that demonstrates the need for a project. While the draft policy statements generally provide for a robust and reasonable consideration of climate impacts, the Commission can improve on the guidance in the final version in several respects:

- The Commission should presume that upstream emissions are reasonably foreseeable, and develop a default methodology for estimating emissions using national or regional information. The Commission should consider using the Environmental Protection Agency’s (EPA) suggested methodology for quantifying emissions to craft a reasonable default estimate in the absence of project-specific information from the applicant or other stakeholders;

⁵ Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 178 FERC ¶ 61,108 (2022) [hereinafter Draft GHG Policy Statement].

⁶ Certification of New Interstate Natural Gas Facilities, 178 FERC ¶ 61,107 (2022) [hereinafter Draft Updated Certificate Policy Statement].

- The Commission should ensure that project-specific information used to demonstrate displacement or minimization of climate impacts aligns with any information provided to justify project need;
- The Commission should use the social cost of greenhouse gases when assessing the climate impacts of a proposed project; and
- The Commission should ensure that it has a way to verify that any mitigation efforts are additional and real, and should recognize that renewable energy credits (as they currently exist) are not a good option for offsets because they do not always represent a decrease in GHG emissions from overall energy use and production, as the Commission assumes.

Additionally, this letter offers brief comment specifically in support of the Draft Updated Certificate Policy Statement. In that draft guidance, the Commission explains that even precedent agreements between non-affiliated developers and shippers may be insufficient evidence on their own of market need. While likely better evidence than affiliate agreements, these private contracts may be insufficient because these arrangements do not reflect social costs and benefits, and contracting decisions are not influenced by a robust objective indication of need for new investment given that gas transportation markets do not provide granular price information on capacity constraints. Given that precedent agreements, even between non-affiliated entities, may not reflect market need and may not drive efficient infrastructure investments, the Commission should generally require other market studies be presented to demonstrate the market requires a project, and FERC should rigorously consider any evidence indicating that market need is limited.

I. FERC Should Presume a Project’s Upstream Emissions Are Reasonably Foreseeable and Develop a Methodology for Estimating these Emissions

In the past, the Commission has claimed it is not required to analyze upstream emissions under NEPA because such effects were not reasonably foreseeable.⁷ The Commission has also

⁷ See Draft GHG Policy Statement, *supra* note 5, at P 12.

argued it cannot know whether a project is likely to induce natural gas production or what greenhouse gas emissions would result from such production, rendering upstream emissions too speculative and making estimates not useful in its analysis.⁸ While somewhat softening this position in the Draft GHG Policy Statement, the Commission states that it will consider upstream emissions on a case-by-case basis, but with an approach that is notably different from its proposed treatment of downstream emissions.⁹ This implies that FERC continues to have concerns about the feasibility of estimating upstream emissions and therefore presumes that upstream emissions are not reasonably foreseeable.¹⁰ Yet, as several commenters have previously pointed out,¹¹ upstream emissions are a reasonably foreseeable effect of approving new natural gas infrastructure, and there are methods FERC could readily employ to estimate these emissions.

⁸ See, e.g., Delta Lateral Project Final Environmental Impact Statement at 4-76, Kern River Transmission Co., Docket No. CP21-197 (Feb. 2022) (“Related to comments on upstream emissions impacts, the specific sources of natural gas to be transported by the Project are unknown and would likely change throughout the Project’s operational lifetime. It is also unknown whether transported gas would come from new or existing production. Therefore, we conclude the environmental impacts of upstream natural gas production, including hydraulic fracturing activities, would not be caused by the Project or be a reasonably foreseeable consequence of the Project.”); Enhancement by Compression Project Final Environmental Impact Statement at 33, Iroquois Gas Transmission Sys., L.P., Docket No. CP20-48 (Nov. 2021) (“The specific source of natural gas to be transported via the ExC Project is currently unknown and would likely change throughout the Project’s operation. . . . As the Commission has previously concluded in numerous natural gas infrastructure proceedings, the environmental effects resulting from natural gas production are likely neither caused by a proposed project nor are they reasonably foreseeable consequences of its approval of a project, as contemplated by CEQ regulations. To date, the Commission has not found upstream emissions to be an effect of any proposed project, primarily because of the following unknown factors: the location of the supply source; whether transported gas will come from new or existing production; and whether there will be any potential associated development activities, and if so, its location.”).

⁹ Draft GHG Policy Statement, *supra* note 5, at PP 31, 42–43 (stating that FERC will consider upstream emissions on a case-by-case basis, but providing significantly less discussion compared to downstream emissions). For downstream emissions, the Commission finds that there is a “substantial likelihood” of GHG emissions from end-use combustion and asks project applicants to submit evidence regarding why downstream emissions are not reasonably foreseeable. *Id.* at P 38. However, the Commission does not reach this conclusion for upstream emissions, and reiterates uncertainties around upstream emissions. *Id.* at P 43.

¹⁰ See *id.* at P 43.

¹¹ See *infra* notes 12–15; see also, e.g., Comments of Public Interest Orgs. at 28–33, *Certification of New Interstate Pipeline Facilities*, Docket No. PL18-1 (May 26, 2021); Comments of the Sabin Ctr. for Climate Change Law at Colum. Univ. Law School at 21–25, *Certification of New Interstate Pipeline Facilities*, Docket No. PL18-1 (May 26, 2021).

A. FERC Should Presume that Upstream Emissions Are Reasonably Foreseeable

Natural gas infrastructure projects are likely to induce additional natural gas production, and FERC should presume that the resulting emissions are reasonably foreseeable. As stakeholders have argued, FERC should recognize that upstream natural gas extraction is “necessary to fill the proposed pipeline expansion.”¹² EPA provides a succinct explanation of why upstream emissions from production are a reasonably foreseeable indirect effect of FERC certification of a new pipeline: “The purpose of the proposed project is to transport natural gas for consumption; that natural gas must be produced.”¹³ Likewise EPA has advised FERC that upstream emissions “are reasonably foreseeable and are causally linked to natural gas transportation infrastructure and capacity for market access.”¹⁴ EPA has also highlighted the Council on Environmental Quality’s position that greenhouse gas emissions are “often a reasonably foreseeable indirect effect of proposed fossil-fuel extraction that agencies should evaluate in the NEPA process, even if the pollution is remote in time or geographically remote from a proposed action.”¹⁵

Even if FERC does not know the exact source of the extracted gas that will be transported by a particular pipeline, that does not mean that such emissions will not occur or are

¹² Comments of Food & Water Watch at 3, Regional Energy Access Expansion Project, Transcon. Gas Pipe Line Co., LLC, Docket No. CP21-94 (Nov. 19, 2021) [hereinafter FWW Scoping Comments on REAE Project].

¹³ Comments of U.S. Env’t Prot. Agency at 1–2, Enhancement by Compression Project Final Environmental Impact Statement, Iroquois Gas Transmission Sys., L.P., Docket No. CP20-48 (Dec. 20, 2021) [hereinafter EPA Comments on Iroquois FEIS]; *see also* Comments of U.S. Env’t Prot. Agency at 4, Delta Lateral Project Draft Environmental Impact Statement, Kern River Transmission Co., Docket No. CP21-197 (Dec. 27, 2021) [hereinafter EPA Comments on Delta Lateral DEIS].

¹⁴ Comments of U.S. Env’t Prot. Agency at 7, Wisconsin Access Project, ANR Pipeline Co., Docket No. CP21-78 (Sept. 24, 2021) [hereinafter EPA Scoping Comments on Wisconsin Access Project].

¹⁵ Comments of U.S. Env’t Prot. Agency at 3, Regional Energy Access Expansion Project, Transcon. Gas Pipe Line Co., LLC, Docket No. CP21-94 (Nov. 18, 2021) [hereinafter EPA Scoping Comments on REAE Project] (quoting National Environmental Policy Act Implementing Regulations Revisions, 86 Fed. Reg. 55,757, 55,763 (proposed Oct. 7, 2021)).

unforeseeable.¹⁶ The Commission can deduce the likely upstream impacts of a project, regardless of whether it has specific information about the source of gas. In some instances, the expected lifespan of a project is enough to infer that it will induce natural gas production.¹⁷ Similarly, FERC often assumes a project will yield upstream benefits—the Commission considers access to new supply sources to be a benefit of natural gas projects.¹⁸ But, new supply is a benefit only because of *upstream* extraction of new gas.¹⁹ Yet, while considering the benefit of this newly extracted supply of gas, FERC inappropriately disregards the adverse climate impacts of that new gas.²⁰ FERC should use its expert judgment to determine if a project is likely to induce production—which is often the case with infrastructure projects—and base its conclusion on the presence of upstream greenhouse gas emissions on that determination, regardless of whether it has specific information on the source of gas being transported.

¹⁶ See Comments of the Inst. for Pol’y Integrity at N.Y.U. School of Law at 27, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (July 25, 2018) [hereinafter Policy Integrity 2018 NOI Comments]; Comments of the Inst. for Pol’y Integrity at N.Y.U. School of Law at 5, *Certification of New Interstate Pipeline Facilities*, Docket No. PL18-1 (May 26, 2021) [hereinafter Policy Integrity 2021 NOI Comments].

¹⁷ Comments of U.S. Env’t Prot. Agency at 1, Delta Lateral Project Final Environmental Impact Statement, Kern River Transmission Co., Docket No. CP21-197 (Apr. 4, 2022) [hereinafter EPA Comments on Delta Lateral FEIS] (“Because the expected life of the gas generators at the [Intermountain Power Project] is decades long, this project will effectively lock-in the production of the gas needed to support those generators. In other words, the purpose of the proposed project is to transport natural gas for consumption; that natural gas must be produced. Upstream emissions from that production are therefore demonstrably reasonably foreseeable indirect effects of the proposed action and should be considered under NEPA.”).

¹⁸ *E.g., Tex. E. Transmission, LP*, 164 FERC ¶ 61,037, at P 13 (2018) (identifying connection of “diverse supply basins with emerging Gulf Coast markets” as a “benefit[] that will result from the project”); see also Statement of Policy, 88 FERC ¶ 61,227, at 25 (1999) (identifying potential benefits when evaluating need, including “access to new supplies”).

¹⁹ Policy Integrity 2018 NOI Comments, *supra* note 16, at 14.

²⁰ See *Ctr. for Biological Diversity v Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1200 (9th Cir. 2008) (“First, while the record shows that there is a range of values, the value of carbon emissions reduction is certainly not zero. NHTSA conceded as much during oral argument when, in response to questioning, counsel for NHTSA admitted that the range of values begins at \$3 per ton carbon. *NHTSA insisted at argument that it placed no value on carbon emissions reduction rather than zero value. We fail to see the difference.* The value of carbon emissions reduction is nowhere accounted for in the agency’s analysis, whether quantitatively or qualitatively.” (emphasis added)).

And, while FERC has continued to argue that it lacks the information to estimate emissions,²¹ stakeholders and reviewing courts have consistently noted that the necessary information is often available to interested parties, including project developers, shippers, and local distributors.²² This information is likely readily available “[g]iven that the majority of transmission lines are owned by a handful of large vertically integrated parent corporations.”²³ In other words, FERC need only ask project applicants and it will often be provided with information to make reasonably accurate estimates of a project’s upstream emissions. The D.C. Circuit recently (and for a second time) noted it was “‘troubled’ by the Commission’s failure to seek out relevant information” that could be used to estimate upstream emissions.²⁴ The court explained that “an initial lack of information does not afford an agency carte blanche to disregard indirect effects,”²⁵ and that FERC must “at least attempt to obtain the information necessary.”²⁶ The Commission should direct applicants and stakeholders to provide this information, just as it has done regarding downstream emissions.²⁷

Disclosing information on upstream emissions is critical to a well-informed determination. EPA highlights the importance of including such information in NEPA review documents, noting that including estimates of upstream emissions helps communicate “the scale

²¹ See Draft GHG Policy Statement, *supra* note 5, at P 28 (assuming operational and downstream emissions will be reasonably foreseeable, but omitting upstream emissions; *id.* at PP 43, 83 (continuing to emphasize that it will look at upstream emissions on a case-by-case basis given concerns around foreseeability); see also *Iroquois Gas Transmission Sys., L.P.*, 178 FERC ¶ 61,200, at P 63 (2022) (“The environmental effects resulting from natural gas production are generally neither caused by a proposed pipeline project nor are they reasonably foreseeable consequences of our approval of an infrastructure project, as contemplated by CEQ regulations, where the supply source is unknown. Here, the specific source of natural gas to be transported via the Enhancement by Compression Project is currently unknown and may change throughout the project’s operation.”).

²² FWW Scoping Comments on REAE Project, *supra* note 12, at 2; see also Policy Integrity 2018 NOI Comments, *supra* note 16, at 26–27.

²³ FWW Scoping Comments on REAE Project, *supra* note 12, at 3.

²⁴ *Food & Water Watch*, 28 F.4th at 286 (quoting *Birckhead*, 925 F.3d at 519).

²⁵ *Id.* at 285.

²⁶ *Id.* at 286 (quoting *Birckhead*, 925 F.3d at 520).

²⁷ See Draft GHG Policy Statement, *supra* note 5, at PP 45, 50–51.

of the project’s indirect impacts and the long-term public interests at stake.”²⁸ EPA also warns FERC that “[o]mitting such emissions would result in an underestimation of the proposal’s indirect impacts.”²⁹ FERC’s assessment of a project’s climate impacts is incomplete without this information, and so FERC will continue to fall short of meeting its obligations if it presumes that upstream emissions are not reasonably foreseeable.

B. FERC Should Develop a Methodology for Estimating Upstream Emissions Where Project-Specific Information Is Not Provided

FERC has options for estimating upstream emissions even where it lacks specific details on the exact origin of the gas being transported or where the point of extraction may change over time. Absent project-specific information about the point of production, the Commission can use its expert judgment and estimate upstream emissions based on regional or national gas production data. EPA provides guidance for the latter, as discussed below, which FERC could adopt. While project-specific information can help craft a more accurate estimate of upstream emissions, quantifying those emissions based on regional or national averages can provide a reasonable forecasts and useful information for understanding the climate impacts of a project.

In some instances, upstream emissions are simple to estimate because the source of the gas that will be transported by the project is disclosed in application documents.³⁰ For example, where the applicant specifically states that the project will be transporting gas “from the Marcellus Shale production areas in northeastern [Pennsylvania],”³¹ the Commission has enough

²⁸ *E.g.*, EPA Scoping Comments on Wisconsin Access Project, *supra* note 14, at 7.

²⁹ *E.g.*, *id.*

³⁰ FWW Scoping Comments on REAE Project, *supra* note 12, at 3 (commenting on and citing Application for Certificate of Public Convenience and Necessity and for Order Permitting and Approving Abandonment Facilities (Regional Energy Access Expansion), Resource Report No. 1: General Project Description at 1-3 to -4, Transcon. Gas Pipe Line Co., LLC, Docket No. CP21-94 (2021)).

³¹ *Id.*

information “to determine how many wells within the Marcellus Shale production area would be needed to fill the proposed pipeline infrastructure over the course of its useful life.”³² Using default estimates already developed by the Department of Energy,³³ FERC can then calculate upstream effects of approving the project.

Given the ease of estimating upstream emissions with this information, the Commission should ask applicants to provide as much information as possible about foreseeable environmental effects of a proposed project, including information on expected source. The burden is on FERC to ensure it gathers adequate information in the NEPA and NGA processes, and it has authority to direct applicants to provide the information necessary for it to meet its obligations.³⁴

But even if FERC lacks project-specific information on the source of gas being transported, it can still estimate upstream emissions. The Commission could use reasonable default estimates and available tools to calculate upstream emissions,³⁵ which can be made even without project-specific information on precise supply sources.³⁶ In particular, EPA has explained that “[t]hrough the originating hydrocarbon resource may not be known,” the

³² *Id.*

³³ See NAT’L ENERGY TECH. LAB’Y, U.S. DEP’T OF ENERGY, DOE/NETL-2014/1646, LIFE CYCLE ANALYSIS OF NATURAL GAS EXTRACTION AND PRODUCTION (2014), <https://perma.cc/7SVA-MBTE> [hereinafter DOE 2014 Life Cycle Analysis].

³⁴ See, e.g., *Food & Water Watch*, 28 F.4th at 285–86; *Ocean Advocates v. U.S. Army Corps of Engr’s*, 402 F.3d 846, 871 (9th Cir. 2004) (finding that the Army Corps failed to consider the potential for increased tanker traffic and oil spill and “acted arbitrarily and capriciously in failing to gather this quantifiable data”); Policy Integrity 2018 NOI Comments, *supra* note 16, at 24–27.

³⁵ Policy Integrity 2018 NOI Comments, *supra* note 16, at 27; see also EPA Comments on Iroquois FEIS, *supra* note 13, at 1 (“Reasonable ranges of emissions forecasts can be produced for upstream GHG emissions to give the public and the Commission the appropriate context for considering estimated climate damages associated with the proposal and relevant GHG reduction policies, and for the Commission’s public convenience and necessity determination.”).

³⁶ Policy Integrity included more details on the steps FERC can take to estimate upstream emissions in its 2018 comments on FERC’s notice of inquiry. See Policy Integrity 2018 NOI Comments, *supra* note 16, at 27–43.

Commission should still include “a description of regionally relevant [hydrocarbon] accumulations,” as this information would allow the Commission to reasonably estimate the project’s upstream emissions.³⁷

Default estimates of upstream emissions are also available even when rough regional information is not available. Specifically, EPA advises FERC that it should avail itself of “generic estimates” from natural gas production that have been developed by the Department of Energy’s (DOE) National Energy Technology Laboratory.³⁸ DOE’s 2014 document, *Life Cycle Analysis of Natural Gas Extraction and Power Generation*, includes detailed information based on the source of natural gas, its composition, extraction and processing methods, and more.³⁹ DOE’s research in the field of emissions quantification is ongoing, so FERC should make use of the best available data for its estimates.

EPA has even helpfully provided the Commission with a basic methodology for estimating upstream emissions using DOE’s estimates. Specifically, EPA has suggested that the Commission quantify upstream emissions by (1) looking at total national upstream emissions to get an average of emissions per unit of production, and (2) multiplying that average by the amount of gas to be transported (i.e., the amount of production that will occur).⁴⁰ FERC should use this straightforward method to estimate upstream emissions where project-specific information is not provided.

³⁷ EPA Scoping Comments on Wisconsin Access Project, *supra* note 14, at 7.

³⁸ *Id.*

³⁹ DOE 2014 LIFE CYCLE ANALYSIS, *supra* note 33.

⁴⁰ EPA Comments on Iroquois FEIS, *supra* note 13, at 3–4; EPA Comments on Delta Lateral DEIS, *supra* note 13, at 4–5.

II. The Commission Should Ensure that Project-Specific Information on Downstream Emissions Aligns with Justifications of Need

The draft policy statements explain that the Commission will use the projected utilization rate as the default for estimating downstream emissions. As project developers begin submitting this project-specific information and seek to explain why a project’s utilization rate will be lower than 100% for the purpose of estimating adverse impacts, the Commission should carefully scrutinize claims of need. While FERC should keep in mind that pipeline contracts are often set based on peak demand, which may only occur for a few days a year, and so may often operate below 100% utilization,⁴¹ the fact that a project is not going to be fully utilized save a few days a year suggests the Commission should rigorously assess the need for the project in the first place.

Where project developers agree that emissions will be low because utilization will be low, this should signal to the Commission to closely consider whether the stated demand could be met using existing infrastructure or non-gas alternatives. Currently, however, the draft policy statements do not address aligning use of the utilization rate with the assessment of the project need. FERC’s assessment of the costs and benefits of a project should align throughout the evaluation process. The Commission should be sure that in implementing the policy statements it holds pipeline applicants and stakeholders to a high standard of need when evidence indicates that utilization will be low.

III. The Commission Should Use the Social Cost of Greenhouse Gases to Assess Climate Impacts

The Draft GHG Policy Statement asserts that “[t]o the extent permitted by law, the Commission could consider the social cost of greenhouse gases in the future,” citing pending

⁴¹ Assuming that the firm capacity is not resold or that the pipeline does not contract for interruptible service. KRISTINA MOHLIN, ENV’T DEF. FUND, THE U.S. GAS PIPELINE TRANSPORTATION MARKET: AN INTRODUCTION GUIDE WITH RESEARCH QUESTIONS FOR THE ENERGY TRANSITION 17–19 (2021) (discussing the secondary market for pipeline capacity).

court challenges to the use by federal agencies of the Interagency Working Group's (Working Group) interim values by federal agencies.⁴² The Draft GHG Policy Statement was released just days after the U.S. District Court for the Western District of Louisiana issued a nation-wide injunction halting use of the Work Group's interim values.⁴³ However, the U.S. Court of Appeals for the Fifth Circuit has now stayed the district court's order,⁴⁴ and the U.S. District Court for the Eastern District of Missouri rejected a similar lawsuit on nearly identical grounds.⁴⁵ Thus, there is no judicial prohibition on FERC's use of the Working Group's interim values, and pending litigation should not prevent it from using this metric to assess climate impacts if the Commission finds it to be a useful tool.

Policy Integrity's previous comments in response to both Notices of Inquiry⁴⁶ and various NEPA documents⁴⁷ have explained why the social cost of greenhouse gases is a rigorous and useful tool for the Commission to use in assessing the climate impacts of proposed natural gas

⁴² Draft GHG Policy Statement, *supra* note 5, at P 96.

⁴³ *Louisiana v. Biden*, No. 2:21-CV-01074 (W.D. La. Feb. 22, 2022) (granting preliminary injunction).

⁴⁴ *Louisiana v. Biden*, No. 22-30087 (5th Cir. Mar. 16, 2022) (granting motion to stay the district court's preliminary injunction).

⁴⁵ *Missouri v. Biden*, ___ F. Supp. 3d ___, 2021 WL 3885590 (E.D. Mo. Aug. 31, 2021), appeal filed, No. 21-3013 (8th Cir.).

⁴⁶ See generally Joint Comments of Env't Def. Fund et al., *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 27, 2021) [hereinafter 2021 Joint NOI Comments]; Joint Comments of Env't Def. Fund et al., *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (July 25, 2018).

⁴⁷ See, e.g., Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, Alberta Xpress and Lease Capacity Abandonment Projects Draft Environmental Impact Statement, ANR Pipeline Co., Docket Nos. CP20-484 & CP20-286 (Sept. 20, 2021); Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, Evangeline Pass Expansion Project Draft Environmental Impact Statement, Tenn. Gas Pipeline Co., LLC, Docket Nos. CP20-50 & CP20-51 (Sept. 7, 2021); Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, North Baja Xpress Project Draft Environmental Impact Statement, N. Baja Pipeline, LLC, Docket No. CP20-27 (Aug. 30, 2021); Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, East 300 Upgrade Project Draft Environmental Impact Statement, Tenn. Gas Pipeline Co., LLC Docket No. CP20-493 (Aug. 23, 2021); Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, East Lateral Xpress Project Draft Environmental Impact Statement, Columbia Gas Transmission Co., LLC, Docket No. CP20-527 (Aug. 16, 2021) [hereinafter Policy Integrity Comments on the East Lateral Xpress Project DEIS]; Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, Iroquois Enhancement by Compression Project Draft Environmental Impact Statement, Iroquois Gas Transmission Sys., L.P., Docket No. CP20-48 (Aug. 9, 2021); Comments of the Inst. for Pol'y Integrity at N.Y.U. School of Law, Marcus Hook Electric Compression Project Draft Environmental Impact Statement, Adelphia Gateway, LLC, Docket No. CP21-14 (Aug. 9, 2021).

infrastructure projects. As noted in the Draft GHG Policy Statement, use of the metric is “consistent with the Commission’s practices for determining the significance of other monetized effects, such as economic impacts.”⁴⁸ It can therefore be used to contextualizes climate impacts and readily facilitates comparison to other project effects.⁴⁹ The social cost of greenhouse gases can also be used outside of a formal cost-benefit analysis to facilitate a rational balancing of beneficial and adverse impacts.⁵⁰ Finally, the metric is a rigorous and reliable tool for monetizing impacts,⁵¹ and is a research method generally accepted in the scientific community, thus meriting usage under NEPA rules.⁵² For all these reasons, FERC should strengthen its commitment in the final GHG Policy Statement to using the social cost of greenhouse gases when assessing natural gas infrastructure projects.⁵³

IV. The Commission Should Ensure that Mitigation Tools Provide Real and Verifiable Emissions Benefits

The Commission’s draft policy statements seek to incentivize the use of mitigation tools to ensure that needed projects can be approved while minimizing environmental impacts (including climate impacts). As the Commission recognizes, offsets can be a useful tool for minimizing project impacts.⁵⁴ However, as developers begin to put forward project proposals

⁴⁸ Draft GHG Policy Statement, *supra* note 5, at P 70 (citing 2021 Joint NOI Comments, *supra* note 46).

⁴⁹ *See, e.g.*, Policy Integrity Comments on the East Lateral Xpress Project DEIS, *supra* note 47, at 6–7. These and similar comments on other environmental impact statements, *see supra* note 47, provide a detailed response to the Commission’s previous stance on use of the social cost of greenhouse gases, rebutting the incorrect arguments the Commission has made to avoid using this tool.

⁵⁰ Policy Integrity Comments on the East Lateral Xpress Project DEIS, *supra* note 47, at 7–8.

⁵¹ *Id.* at 8–10

⁵² *Id.* at 10–12.

⁵³ Notably, FERC employed the social cost of greenhouse gases in two recent orders. While the Commission stated that it was only “disclosing Commission staff’s estimates” and “not relying on or using the social cost of carbon estimates to make any finding or determination regarding either the impact of the project’s GHG emissions or whether the project is in the public convenience and necessity,” the Commission successfully calculated the social cost of carbon from the project’s direct annual operational emissions to be over \$476 million dollars in one case, and over \$417 in another. *Columbia Gulf Transmission, LLC*, 178 FERC ¶ 61,198, at PP 51–52 (2022); *Tenn. Gas Pipeline Co. LLC*, 178 FERC ¶ 61,199, at PP 92–93 (2022). The Commission, however, did not attempt to balance those climate impacts against other monetized project effects, but the metric enables such a comparison.

⁵⁴ Policy Integrity 2021 NOI Comments, *supra* note 16, at 15–21.

that include offsets, the Commission should ensure that the offsets are additional, verifiable, real, and permanent.⁵⁵

While the Commission need not create or administer its own offset program, it should require evidence that any credits represent real offsets of emissions,⁵⁶ and grapple with counter evidence presented in the record. The Commission can place the burden on developers to demonstrate that offsets are verifiable,⁵⁷ but should be prepared to address concerns from stakeholders on the issue. This is true even though the Commission is not requiring developers to purchase offsets⁵⁸—if the Commission plans to credit projects for purchasing offsets in its evaluation under NEPA and the NGA, it should ensure that those offsets actually represent a reduction in emissions.

Renewable Energy Credits (RECs) are not a suitable offset option because the Commission cannot ensure that these credits represent a reduction in emissions. In the Draft GHG Policy Statement, the Commission rejects arguments from commenters that REC’s cannot “represent any specific amount of avoided or reduced emissions,” concluding instead that while RECs may not be a perfect offset, and “may not represent a 100% offset per unit of GHG emitted, they do represent a decrease in GHG emissions from overall energy use and

⁵⁵ U.S. GOV’T ACCOUNTABILITY OFF., GAO-08-1048, CARBON OFFSETS: THE U.S. VOLUNTARY MARKET IS GROWING, BUT QUALITY ASSURANCE POSES CHALLENGES FOR MARKET PARTICIPANTS 2-3 (2008), <https://perma.cc/936C-KAN9>. Offset programs have been subject to criticism for sometimes failing to create emission reductions that meet these key criteria. See, e.g., Anja Kollmuss et al., *Has Joint Implementation Reduced GHG Emissions?* (Stockholm Env’t Inst., Working Paper No. 2015-07, 2015), <https://perma.cc/7M6Y-VVXF> (concluding that roughly three-quarters of offsets permitted under Kyoto Protocol likely did not represent additional emissions reductions).

⁵⁶ Adoption of Recommendations, 82 Fed. Reg. 61,728, 61,733 (Dec. 29, 2017); JASON A. SCHWARTZ, CONSULTANT REPORT TO THE ADMIN. CONF. OF THE U.S., MARKETABLE PERMITS: RECOMMENDATIONS ON APPLICATIONS AND MANAGEMENT vi, 55–58 (2017), <https://perma.cc/E624-MPEH>. This report contains detailed recommendations on ensuring additionality and permanence, minimizing leakage, and avoiding double-counting. *Id.* at 55–61.

⁵⁷ Draft GHG Policy Statement, *supra* note 5, at PP 123–24, 112 (“We believe it best to allow project sponsors to demonstrate that their proposed mitigation measures are verifiable and propose means for the Commission to monitor or track the proposed measures through the life of the project.”).

⁵⁸ *Id.* at PP 123–24.

production.”⁵⁹ As such, the Commission will consider RECs as a tool to offset emissions associated with new natural gas infrastructure.

The Commission should revisit this conclusion. REC programs are an important tool for states to incentivize entry of clean energy resources and pay for the environmental attributes that clean energy resources provide but which are otherwise uncompensated in the market. However, RECs should not be used as an offset for emissions associated with new infrastructure projects because they are not good proxies for avoided emissions. While RECs may incentivize the new entry of clean resources, they do not necessarily drive the exit of dirtier ones. There is no way to know what energy production a REC (as they exist today) displaces because these products do not include a locational- or time-based matching component.⁶⁰ Without this information, one cannot assume that a MWh that is associated with a REC is replacing a MWh that would have come from an emitting resource. If it does not, then the REC does not represent a decrease in GHG emissions from overall energy and production, as the Commission assumes.

A REC simply represents one MWh of renewable energy production. It does not necessarily equate to a decrease in emissions from energy production. Whether a REC represents a decrease in emissions depends crucially on which electricity generator is the marginal generator and would reduce its output in response to the MWh of clean energy associated with the REC.⁶¹ Determining the marginal generator depends on the location and timing of dispatch of

⁵⁹ *Id.* at PP 115–16.

⁶⁰ See, e.g., Duncan S. Callaway et al., *Location, Location, Location: The Variable Value of Renewable Energy and Demand-Side Efficiency Resources*, 5 J. ASS’N ENV’T & RES. ECONOMISTS 39 (2018).

⁶¹ Cf. MATT BUTNER, PH.D. ET AL., POLICY INTEGRITY, MAKING THE MOST OF DISTRIBUTED ENERGY RESOURCES: SUBREGIONAL ESTIMATES OF THE ENVIRONMENTAL VALUE OF DISTRIBUTED ENERGY RESOURCES IN THE UNITED STATES 3–4 (2020) [hereinafter E-VALUE OF DER REPORT]; see also JEFFREY SHRADER, PH.D., ET AL., POLICY INTEGRITY, VALUING POLLUTION REDUCTIONS: HOW TO MONETIZE GREENHOUSE GAS AND LOCAL AIR POLLUTANT REDUCTIONS FROM DISTRIBUTED ENERGY RESOURCES 6–9 (2018) (discussing need an feasibility of determining what generator will be displaced by DERs).

the MWh associated with the REC.⁶² Even when the marginal generator is an emitting resource, the amount of emissions displaced, and hence what the REC can offset, vary significantly depending on the type of the marginal generator. And, if the marginal generator is another renewable resource or other clean technology, then that REC cannot be said to represent any reduction in emissions from energy production. This possibility is exacerbated by the fact that REC eligibility requirements vary across states, some of which issue RECs to only new resources of certain types, leading to the possibility that these new resources are displacing existing non-emitting resources.⁶³ To make the determination, and be certain, that a REC represents real and additional emissions reductions, a REC must have a location- and time-based component, which can then be compared to marginal emissions rates in that particular time and location. While policy-makers and private actors are working to create such a product, existing REC programs lack this necessary granular detail.⁶⁴ Given the problem with ensuring that RECs represent avoided emissions, FERC should not credit developers with emission offsets based on the purchase of undifferentiated RECs.

⁶² E-VALUE OF DER REPORT, *supra* note 61, at 8–9 (explaining that e-value of DER varies by region and time).

⁶³ *E.g.*, N.Y. STATE ENERGY RSCH. & DEVEL. AUTH., NEW YORK STATE CLEAN ENERGY STANDARD RES TIER 1 CERTIFICATION: SUBMISSION INSTRUCTIONS AND ELIGIBILITY GUIDELINES 10 (Jan. 2022), <https://perma.cc/6ENN-86N2> (“Qualifying hydroelectric resources are *new* low-impact, run-of-river or incremental upgrades.” (emphasis added)).

⁶⁴ *Cf.* Jeff St. John, *Can 24/7 Carbon-Free Energy Become a Global Standard?*, CANARY MEDIA (Mar. 31, 2022) <https://perma.cc/VP52-CREA> (discussing EnergyTag program that would trade more granular time-based certificates); Jeff St. John, *A Deeper Dive into 24/7 Carbon-Free Energy*, CANARY MEDIA (Apr. 4, 2022) <https://perma.cc/2QVH-V2RA> (discussing various more granular crediting programs like WattTime).

V. The Commission’s Draft Updated Certificate Policy Statement Appropriately Recognizes that Precedent Agreements with Unaffiliated Entities May Not Adequately Reflect Market Need and that the Commission Should Give Due Consideration to Contrary Evidence

The Draft Updated Certificate Policy Statement (along with Commissioner dissents) demonstrate consensus that affiliate agreements are particularly poor evidence of market need.⁶⁵ Stakeholders have concisely explained why the combination of captive customers to whom affiliate shippers can pass costs with a high return on pipeline investment can lead to affiliate agreements for capacity that may be unnecessary and inefficient.⁶⁶ But it is not just affiliate agreements that present problems for assessing market need—precedent agreements with unaffiliated shippers and end-users, too, may be inadequate to demonstrate need.

The Draft Updated Certificate Policy Statement recognizes that precedent agreements with unaffiliated shippers and end-users may be important evidence, but may not be sufficient in themselves.⁶⁷ Yet, despite this language, recent pipeline certification decisions suggest a majority of the Commission may implement the policy statement in a way that still heavily relies on precedent agreements with unaffiliated shippers and end-users (particularly with local distribution companies) in evaluating market need.⁶⁸

⁶⁵ Draft Updated Certificate Policy Statement, *supra* note 6, at P 60; *id.* at P 1 (Christie, Comm’r, dissenting); *see also* Env’t Def. Fund v. Fed. Energy Regul. Comm’n, 1 F.4th 953, 975–76 (D.C. Cir. 2021).

⁶⁶ *See generally* Brief of Env’t Def. Fund at 19–25, *EDF v. FERC*, 1 F.4th 953 (D.C. Cir. 2021); Request for Rehearing of Env’t Def. Fund at 10–14, *Spire STL Pipeline LLC*, Docket Nos. CP17-40-000 & CP17-40-001 (Sept. 4, 2018). Some of these incentives, including the high return promised to pipeline developers, are similarly strong even where there is no affiliate agreement. *See* Policy Integrity 2021 NOI Comments, *supra* note 16, at 36–37 & n.135 (discussing the Averch-Johnson Effect and explaining that because a project developer’s profits are directly proportional to incurred capital investment, the project developer has a direct incentive to incur excessive capital costs). And, where LDCs are the shippers and have captive utility customers to pass the costs onto, the buyer too may not “have an incentive to find least-cost alternatives.” Thuy Doan, Matthias Fripp & Michael J. Roberts, *Are We Building Too Much Natural Gas Pipeline? A Comparison of Actual US Expansion of Pipeline to an Optimized Plan of the Interstate Network* at 4 (Apr. 25, 2022), <https://perma.cc/LNE4-GWL7>.

⁶⁷ Draft Updated Certificate Policy Statement, *supra* note 6, at P 54.

⁶⁸ *Columbia Gulf Transmission, LLC*, 178 FERC ¶ 61,198, at P 15 (2022) (“A precedent agreement with an unaffiliated shipper for 100% of the project’s capacity is significant evidence of the need for the proposed project.”); *Tenn. Gas Pipeline Co. LLC*, 178 FERC ¶ 61,199, at P 30 (2022) (same); *Iroquois Gas Transmission Sys., L.P.*, 178 FERC ¶ 61,200, at P 13 (2022) (same). While these decisions did not apply the new policy statements, Chairman

But while these contracts can be important evidence, the Commission should be clear that applicants and stakeholders should provide additional market support and that it will not simply disregard contrary evidence on the issue of need. Even unaffiliated precedent agreements may be inadequate evidence of market need because these agreements, like affiliate agreements, reflect only private costs and benefits and may not yield efficient infrastructure investments given the lack of a coordinating mechanism in the natural gas transportation market.

To begin, precedent agreements—with affiliated or unaffiliated shippers—reflect only private costs and benefits that accrue to the parties to a given transaction. Because of this private nature, they fail to reflect social costs and benefits, like market externalities, and instead seek to maximize private returns. Yet efficient infrastructure investment should aim to maximize the social welfare.⁶⁹ Without accounting for social welfare implications, precedent agreements cannot provide a holistic picture of whether a project is truly needed from a social welfare perspective and may lead to inefficiently duplicative infrastructure investment.⁷⁰ And, by relying on private agreements, the Commission might end up approving projects that lead to inefficient infrastructure development from a societal perspective. As the “guardian of the public interest,”⁷¹ the Commission’s role is to balance private and public interests in determining whether a project

Glick’s separate statement in the Iroquois decision suggests that the final Updated Certificate Policy Statement may not be implemented in a way that moves the Commission away from its heavy reliance on precedent agreements. *See id.* at P 1 (Glick, Chairman, concurring) (“In my view, a project sponsor’s precedent agreements with nonaffiliates for the use of a substantial portion of the project’s capacity, particularly when serving local distribution companies, constitutes significant evidence of need for the project, which the protests do not rebut.”).

⁶⁹ Cf. William W. Hogan, *A Primer on Transmission Benefits and Cost Allocation*, 7 *ECON. ENERGY & ENV’T POL’Y* 25, 26–28 (2018) (discussing efficient investment frameworks, including consideration of externalities); Luis Olmos et al., *Transmission Expansion Benefits: The Key to Redesigning the Regulation of Electricity Transmission in a Regional Context*, 7 *ECON. ENERGY & ENV’T POL’Y* 47, 50, 55 (2018) (discussing the benefits to be considered in determining efficient infrastructure development, including social welfare increases, and explain that the “approach adopted should maximize to the extent possible the increase in the net social benefits produced by the selected reinforcements”).

⁷⁰ Discussed below, new modeling demonstrates that this system has resulted in uneconomic overbuild of the pipeline network. *See infra* notes 79–86 and accompanying text.

⁷¹ *Fed. Power Comm’n v. Transcon. Gas Pipe Line Corp.*, 365 U.S. 1, 7 (1961).

is in the public convenience and necessity. Private contracts alone are insufficient to allow the Commission to properly weigh those interests.

Additionally, precedent agreements may not yield efficient infrastructure investment because there is no proper and transparent market price signal influencing contract decisions and driving development to where it is needed to address capacity constraints. Precedent agreements may reflect private desires of individual customers to purchase firm capacity, but efficient development must be guided by something more. Yet, unlike the wholesale electricity markets, the natural gas transportation market lacks robust, granular price information to indicate capacity constraints.⁷² Thus, there is no coordinating mechanism for efficient natural gas transportation capacity expansion—there is no market signal capable of influencing precedent agreements in a way that directs new infrastructure investment to where it is actually needed.⁷³ As such, precedent agreements may fail to reflect true market need.

This setting differs significantly from the electric sector, where both generation and transportation capacity investments are coordinated through price signals and planning processes. In RTO/ISO wholesale power markets, price signals drive generation infrastructure expansion in line with market need and the public interest.⁷⁴ Where there is no RTO/ISO, an Integrated Resource Planning process is available to coordinate such expansion. For electric transmission, FERC’s regional planning processes ensure some level of coordination exists to bring about efficient infrastructure investment and guide development toward alleviating

⁷² MOHLIN, *supra* note 41, at 23–24.

⁷³ *Id.*

⁷⁴ See SYLWIA BIALK, PH.D., ET AL., INST. FOR POL’Y INTEGRITY, RESOURCE ADEQUACY IN A DECARBONIZED FUTURE: WHOLESALE MARKET DESIGN OPTIONS AND CONSIDERATIONS (2021), <https://perma.cc/UED5-AM4L> (discussing wholesale market mechanisms to incentivize sufficient generation capacity, including scarcity pricing in energy markets, and capacity remuneration mechanisms).

capacity constraints.⁷⁵ This is true even for merchant transmission developers, whose projects must go through the transmission planning process and may be subject to competitive solicitation processes. At least some of these merchant transmission projects have crafted private arrangements with anchor customers. Yet, FERC requires these projects to go through the planning process to coordinate investment. This is one example where the Commission has concluded that such private arrangements are not sufficient to demonstrate alignment with the public interest and responsiveness to a market need. To ensure merchant transmission projects are needed, they are integrated into the infrastructure planning process.

Yet, for natural gas infrastructure, there is no such mechanism to efficiently direct new transportation capacity where it is most needed to address system need constraints. While spot market prices could provide such a basis, these secondary markets “do not provide granular price information that can indicate time- and location-specific capacity constraints and serve as a basis for robust objective assessment of the need for new infrastructure investment.”⁷⁶ And, even these spot markets are not centralized in the way electricity markets are, but rather are made up of bilateral contracts facilitated through brokers and exchanges.⁷⁷ While better than pure bilateral contracting, these markets do not provide a sufficient level of transparency to ensure proper price signals are sent and can influence investment and the signing of precedent agreements. And there is no planning process for projects like on the electric transmission side to plan the build out of transportation capacity in line with a region’s needs.⁷⁸

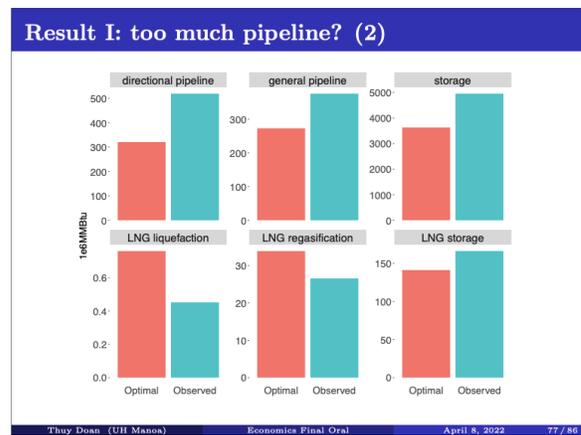
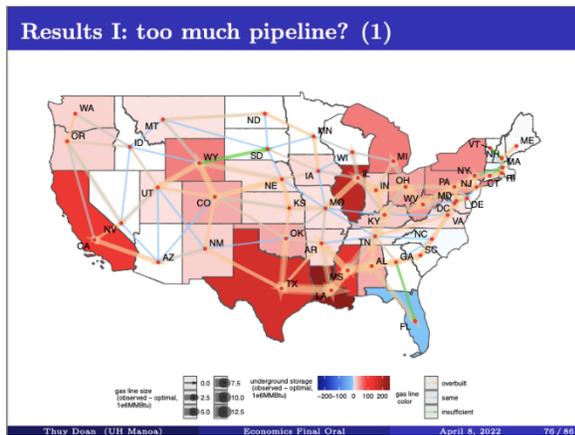
⁷⁵ See generally *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051 (2011) (requiring regional planning entities to consider a variety of transmission drivers including economic, reliability, and public policy needs).

⁷⁶ MOHLIN, *supra* note 41, at 24.

⁷⁷ *Id.* at 17–18.

⁷⁸ *Cf.* Policy Integrity 2021 NOI Comments, *supra* note 16, at 29–32 (discussing the Commission’s recognition of the benefits of a regional assessment of need in the electricity context).

The inefficiency of the current approval process and the Commission’s reliance on precedent agreements is evidenced in recent work from the University of Hawaii.⁷⁹ Economists have produced a detailed model to compare observed expansion of the pipeline network with a model of the network optimized for cost minimization.⁸⁰ The model builds out interstate pipeline development that would have occurred since the early 2000’s if infrastructure was built to match supply and demand at least cost—that is, it models the optimal pipeline system given historical supply and demand, while also optimizing storage and liquefied natural gas (LNG).⁸¹ The authors conclude that significant pipeline overbuild has occurred in much of the United States, and demonstrates the importance of holistically considering other alternatives like storage and LNG as they can be substitutes for each other.⁸² And, where there is significant overbuild, there is also significant underutilization of existing lines.⁸³ Overbuild of gas infrastructure (including both pipelines and storage) resulted in \$179 billion additional dollars paid by consumers.⁸⁴



Source: Thuy Doan, *Are We Building Too Much Natural Gas Pipeline? A Comparison of Actual US Expansion of Pipeline to an Optimized Model of the Interstate Network* (Apr. 8, 2022)

⁷⁹ Doan et al., *supra* note 66.

⁸⁰ *Id.* at 5.

⁸¹ *Id.* at 6, 13.

⁸² *Id.* at 6.

⁸³ *Id.* at 26–27 (noting some lines connecting the Mid-Atlantic states and East-North-Central states have a utilization rate of 0% to 10%).

⁸⁴ *Id.* at 27.

Given that natural gas pipeline infrastructure is built to meet peak demand and is often underutilized, efficient infrastructure development would have resulted in building fewer rarely-used pipelines in favor of storage and LNG to meet peak demand requirements.⁸⁵ In addition to the economic principles outlined above, this modeling work also indicates that the regulatory framework and its heavy reliance on precedent agreements over the past two decades has resulted in economically inefficient expansion of the natural gas transportation system.

It is important to note that, even setting aside non-gas alternatives, the Commission's prior system has failed to consider more economically efficient gas alternatives that could have been used to meet demand at a lower cost and without overbuild and the risk of stranded assets. Reliance on precedent agreements to demonstrate market need ensures the Commission has only partial picture of what the market needs and is in the public interest. The modeling results should not be taken to mean that no new infrastructure should be built, but rather that the FERC's current process has not resulted in economically efficient expansion. As the results show, there is need for expansion in certain areas.⁸⁶ The Commission's updated framework should facilitate the approval of only needed infrastructure to avoid continuing the overbuild of the network.

Given these concerns—that precedent agreements do not reflect social costs and benefits and may not drive efficient infrastructure investments due to a lack of an efficient and transparent coordinating mechanism to ensure investment is in the public interest—other market evidence should be presented to the Commission to demonstrate that the market requires a proposed project. The Commission should also be willing to give proper consideration to studies that demonstrate a project is not needed, even where a precedent agreement has been presented.

⁸⁵ *Id.* at 8–9, 31–32. Supply and demand is exogenous in the model, meaning it takes those inputs as a given, and therefore the model does not integrate consideration of non-gas alternatives, like increased transmission infrastructure, to meet demand.

⁸⁶ *Id.* at 26–28 (finding insufficient capacity in the Northeast and certain lines in the west).

FERC should implement the final Updated Certificate Policy Statement in a way that ensures it will review give due weight to evidence that suggests a project is not needed or would be inefficient given trends in supply and demand driven by market changes and government policies, like decarbonization and electrification.⁸⁷

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⁸⁷ See Policy Integrity 2021 NOI Comments, *supra* note 16, at 32–34, 38–45 (discussing the importance of accounting for these changes in assessing need).