



September 18, 2017

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Via e-filing and U.S. Mail

Re: Notice of New Authority and Request for Supplemental Environmental Impact Statement for the Atlantic Coast Pipeline and Supply Header Project (Docket Nos. CP15-554-000, CP15-554-001, CP15-555-000)

Dear Secretary Bose:

On behalf of Allegheny Defense Project, Appalachian Voices, Center for Biological Diversity, Chesapeake Climate Action Network, Christians for the Mountains, Dominion Pipeline Monitoring Coalition, Eight Rivers Council, Friends of Nelson, Mountain Lakes Preservation Association, Ohio Valley Environmental Coalition, Sierra Club (including its West Virginia, Virginia, and North Carolina Chapters), West Virginia Highland Conservancy, West Virginia Rivers Coalition, and Wild Virginia, the Sierra Club submits the following notice of new authority and request for a Supplemental Environmental Impact Statement for the proposed Atlantic Coast Pipeline (“ACP” or “Project”).

In light of the recent decision by the D.C. Circuit Court of Appeals in *Sierra Club v. FERC*, No. 16-1329 (August 22, 2017),¹ FERC must revisit its impacts analysis in the environmental impact statement (“EIS”) for the Atlantic Coast Pipeline. FERC should reopen the evidentiary record for the purpose of taking additional evidence regarding greenhouse gas emissions and climate impacts, and issue a Supplemental EIS.² In the course of that process,

¹ Attached hereto as Exhibit A.

² Commenters have previously identified deficiencies in FERC’s greenhouse gas and climate impact analysis for the ACP. *See, e.g.*, Comments on the Draft Environmental Impact Statement for the Atlantic Coast Pipeline and Supply Header Project, at 246–271 (Accession No. 20170407-5203) (“Appalachian Mountain Advocates DEIS Comment”); Comments of the Virginia Chapter of the Sierra Club concerning the Draft Environmental Impact Statement, at 3–20 (Accession No. 20170406-5364) (“Sierra Club VA Chapter DEIS Comment”). FERC did not remedy these deficiencies in the Final EIS.

FERC should also address previously identified deficiencies in the EIS, as well as new information received after the close of the comment period for the Draft EIS.

Pursuant to the National Environmental Policy Act (“NEPA”), FERC must allow public participation throughout this process. *See* 40 C.F.R. § 1500.1(b); *see also Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (NEPA EIS requirement “guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision”). “Informed public participation in reviewing environmental impacts is essential to the proper functioning of NEPA.” *League of Wilderness Defenders/Blue Mountain Biodiversity Project v. Connaughton*, 752 F.3d 755, 761 (9th Cir. 2014).

I. *Sierra Club v. FERC* Requires a Supplemental EIS

The D.C. Circuit Court of Appeals recently decided *Sierra Club v. FERC*, No. 16-1329 (August 22, 2017), agreeing with the petitioners that FERC must do more to assess the downstream greenhouse gas (“GHG”) emissions and climate impacts of the gas pipeline at issue in that case. The court vacated the orders under review and remanded to FERC for the preparation of an EIS that is consistent with the opinion. Several holdings from the decision apply to FERC’s environmental review of the ACP, and indicate that FERC has impermissibly downplayed and avoided legally sufficient disclosure of the Project’s impacts here.

In the Final EIS for the Atlantic Coast Pipeline (“ACP EIS”), FERC mischaracterized the relationship between the pipeline and downstream GHG emissions. Although FERC estimated downstream GHG emissions,³ it incorrectly maintained that “downstream combustion of gas is not causally connected” to the Project. ACP EIS at 4-621. *Compare id.* (“the inclusion of ... end-use as an indirect effect” is not warranted) to *Sierra Club v. FERC*, slip op. at 19 (burning gas transported by pipeline “is not just ‘reasonably foreseeable,’ it is the project’s entire purpose”).⁴ Like the EIS that the D.C. Circuit invalidated in *Sierra Club v. FERC* (“Sabal Trail EIS”),⁵ the ACP EIS incorrectly maintains with regard to downstream emissions that “NEPA does not ... require [FERC] to engage in speculative analyses or provide information that will

³ Commenters have highlighted problems with FERC’s estimate and methodology. *See, e.g.,* Appalachian Mountain Advocates DEIS Comment at 263; Sierra Club VA Chapter DEIS Comment at 4. Moreover, NEPA requires a more searching impacts analysis than merely disclosing the amount of GHG emissions. For example, FERC must examine “ecological[,]... economic, [and] social” effects, as well as assess “significance.” 40 C.F.R. §§ 1508.8, 1502.16(a)-(b). *See also* 40 C.F.R. § 1508.7 (cumulative impact).

⁴ *Compare* ACP EIS at 4-616 (“While ACP would deliver natural gas to the Brunswick and Greenville County Power Stations, these facilities are independent of the proposed projects.”) to slip op. at 19 (“What are the ‘reasonably foreseeable’ effects of authorizing a pipeline that will transport natural gas to Florida power plants? First, that gas will be burned in those power plants.”). The ACP EIS also states, without explanation or support, that “end-use would occur with or without the projects.” ACP EIS at 4-621.

⁵ Relevant excerpts of the Sabal Trail EIS are attached hereto as Exhibit B.

not meaningfully inform the decision-making process.” ACP EIS at 4-621; *see* Sabal Trail EIS at 3-297 (identical language).⁶

Pursuant to the D.C. Circuit’s opinion in *Sierra Club v. FERC*, this analysis is *not* overly speculative and *should* inform the decision-making process. *See* slip op. at 19, 23–25. FERC’s position to the contrary renders the ACP EIS fatally flawed. The ACP EIS “needed to include a discussion of the ‘significance’ of this indirect effect, *see* 40 C.F.R. § 1502.16(b), as well as ‘the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions,’ *see WildEarth Guardians*, 738 F.3d at 309 (quoting 40 C.F.R. § 1508.7).” Slip op. at 24. The ACP EIS fails on both accounts.

Specifically, the ACP EIS states both that “we cannot determine whether the projects’ contribution to cumulative impacts on climate change would be significant,” ACP EIS at 4-620, and that “we conclude that ACP and SHP would not significantly contribute to GHG cumulative impacts or climate change,” *id.* at 4-622. Not only are these conclusions regarding a major Project impact conflicting,⁷ they are also based on faulty rationales – respectively, on the basis that FERC “cannot determine the projects’ incremental physical impacts on the environment caused by climate change,” *id.* at 4-620,⁸ and that “emissions have been minimized,” *id.* at 4-622.⁹ FERC lists the annual GHG emissions for Pennsylvania, West Virginia, North Carolina, and Virginia, but only writes that “[a]lthough the GHG emissions from construction and operation of the projects appear large, the emissions are small in comparison to the GHG emissions for each state,” and that the comparison “is not an indicator of significance.” ACP EIS

⁶ The ACP EIS also incorrectly maintains that “[e]ven if [FERC] were to find a sufficient connected relationship between the proposed project and ... downstream end-use, it would still be difficult to meaningfully consider these impacts, primarily because emission estimates would be largely influenced by assumptions rather than direct parameters about the project.” ACP EIS at 4-621; *see* Sabal Trail EIS at 3-297 (identical language). *See also* slip op. at 25 (rejecting identical statement in the Sabal Trail EIS and noting that “some educated assumptions are inevitable in the NEPA process”).

⁷ This is not the only inconsistency found in the relevant section of the ACP EIS. *Compare* ACP EIS at 4-618 (“The cumulative impact analysis described below does not focus on a specific cumulative impact area because climate change is a global phenomenon.”) to *id.* (“Although climate change is a global concern, for this analysis, we will focus on the potential cumulative impacts of climate change in ACP and SHP project areas.”). *See also id.* at 4-620 (referencing physical effects on the environment in the Midwest region).

⁸ In the invalidated Sabal Trail EIS, FERC similarly maintained that “there is no standard methodology to determine how the proposed SMP Project’s incremental contribution to GHGs would translate into physical effects of the global environment.” Sabal Trail EIS at 3-297.

⁹ In any event, it is not clear how downstream GHG emissions have been “minimized.” To the extent FERC is referring to compliance with air permitting requirements, “the existence of permit requirements overseen by another federal agency or state permitting authority cannot substitute for a proper NEPA analysis.” Slip op. at 26 (citing *Calvert Cliffs’ Coordinating Comm. v. Atomic Energy Comm’n*, 449 F.2d 1109, 1122-23 (D.C. Cir. 1971)).

at 4-620. These cursory statements do not constitute a meaningful assessment of the significance of this indirect effect, and are not sufficient for informed decision-making or public participation.

FERC also impermissibly downplays the Project’s downstream GHG emissions and avoids a meaningful analysis by noting that “it is anticipated that the projects would result in the displacement of some coal use, thereby *potentially* offsetting *some* regional GHG emissions.” ACP EIS at 4-620 (emphasis added). The D.C. Circuit rejected this approach in *Sierra Club v. FERC*:

The effects an EIS is required to cover “include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.” 40 C.F.R. § 1508.8. In other words, when an agency thinks the good consequences of a project will outweigh the bad, the agency still needs to discuss both the good and the bad. In any case, the EIS itself acknowledges that only “portions” of the pipelines’ capacity will be employed to reduce coal consumption. *See* J.A. 916. An agency decisionmaker reviewing this EIS would thus have no way of knowing whether total emissions, on net, will be reduced or increased by this project, or what the degree of reduction or increase will be. In this respect, then, *the EIS fails to fulfill its primary purpose*.

Slip op. at 25–26 (emphasis added). The ACP EIS suffers from a similar defect. *See, e.g.*, ACP EIS at 4-621 (“Because natural gas emits less CO₂ compared to other fuel sources (e.g., fuel oil or coal), it is anticipated that the eventual consumption of the distributed gas to converted power plants would reduce current GHGs emissions, thereby *potentially* offsetting *some* regional CO₂ emissions.”) (emphasis added). As with the Sabal Trail EIS, the ACP EIS makes no attempt to assess whether total emissions would be reduced or increased, or what the degree of reduction or increase would be.¹⁰ Thus, the ACP EIS similarly fails to fulfill its primary purpose.

As in the Sabal Trail case, here FERC takes the position that it cannot assess the Project’s climate impacts because “there is no scientifically-accepted methodology available to correlate specific amounts of GHG emissions to discrete changes” in the environment or physical effects in the region. ACP EIS at 4-620.¹¹ As noted above, FERC similarly maintained in the invalidated Sabal Trail EIS that “there is no standard methodology to determine how the proposed ... Project’s incremental contribution to GHGs would translate into physical effects of the global environment.” Sabal Trail EIS at 3-297. These assertions do not justify FERC’s failure to provide any analysis of the severity of the Project’s climate impacts. At least one tool

¹⁰ *See also id.* (like the fatally flawed Sabal Trail EIS, directing “[s]takeholders and other interested parties [to] review the DOE’s National Energy Technology Laboratory’s May 29, 2014 report: *Life Cycle Analysis of Natural Gas Extraction and Power Generation*” as support for FERC’s displacement/offset argument, an approach that the D.C. Circuit rejected in *Sierra Club v. FERC*).

¹¹ *See also* ACP EIS at 4-620 (conclusory statement that “GHG emissions from the proposed projects and other regional projects would not have any direct impacts on the environment in the projects [*sic*] area.”).

exists for doing so: the social cost of carbon protocol.¹² FERC was aware of the social cost of carbon protocol when it prepared the ACP EIS, but arbitrarily refused to apply it.¹³

In *Sierra Club v. FERC*, the D.C. Circuit instructed FERC to explain its past refusal to use the social cost of carbon methodology to determine project-specific impacts:

FERC has argued in a previous EIS that the Social Cost of Carbon is not useful for NEPA purposes.... We do not decide whether those arguments are applicable in this case as well, because FERC did not include them in the EIS that is now before us. On remand, FERC should explain in the EIS, as an aid to the relevant decisionmakers, whether the position on the Social Cost of Carbon that the agency took in *EarthReports* still holds, and why.

Slip op. at 27. Accordingly, in the Supplemental EIS for the Atlantic Coast Pipeline, FERC should, at a minimum, employ the social cost of carbon protocol to the GHG emissions resulting from the Project.

As a result of FERC's failure to acknowledge that downstream emissions are an indirect effect of the Project, and its consequent failure to provide an adequate analysis of those emissions and their climate impacts, the cumulative impact analysis also fails. The ACP EIS simply states that "the emissions would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and contribute incrementally to climate change that produces the impacts previously described."¹⁴ *Id.* at 4-620. This cursory

¹² The social cost of carbon protocol was "designed to quantify a project's contribution to costs associated with global climate change." *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1190 (D. Colo. 2014). Even if it is infeasible to predict specific physical changes to the environment that will result from these specific emissions, the protocol provides a method to "evaluat[e]" the emissions' impacts that is "generally accepted in the scientific community," and which FERC was not permitted to ignore. 40 C.F.R. § 1502.22(b)(4).

¹³ *See, e.g.*, Appalachian Mountain Advocates DEIS Comment at 248–49.

¹⁴ In the ACP EIS, FERC listed some typical climate change impacts generally expected to burden the Project's geographic areas, such as rising sea levels, heat waves, and increased precipitation. ACP EIS at 4-618 to 4-619. Listing these anticipated regional climate change impacts is insufficient for evaluating *this specific project's* climate impacts. And FERC failed even in this regard by inexplicably omitting some of the severe impacts that it has cited in past environmental reviews. For example, in the EIS for the Atlantic Sunrise Project (issued in December 2016), FERC wrote that the U.S. Global Change Research Program's 2014 climate change report noted that the "observations of environmental impacts that may be attributed to climate change in the Northeast region" include: 1) "areas that currently experience ozone pollution problems are projected to experience an increase in the number of days that fail to meet the federal air quality standards," 2) "an increase in health risks and costs for vulnerable populations due to projected additional heat stress and poor air quality," 3) rising sea levels that will "stress[] infrastructure (e.g. communications, energy, transportation, water, and wastewater)," 4) "severe flooding due to sea-level rise and heavy downpours is likely to occur more frequently," 5) "heat stress negatively affect crop yields; invasive weeds are projected to

statement, devoid of detail, does not constitute an adequate discussion of the ACP's incremental impact when added to other past, present, and reasonably foreseeable future actions.¹⁵ For example, the ACP EIS impermissibly downplays the cumulative climate impacts of the gas infrastructure build-out now occurring in Pennsylvania, West Virginia, Virginia, North Carolina, and surrounding states, which also could result in the transport of gas to other regions. FERC does not quantify the Project's GHG emissions in combination with these past, present, and reasonably foreseeable gas projects. FERC must prepare a Supplemental EIS that assesses the significance of the GHG emissions resulting from the Project (including, but not limited to, downstream emissions) combined with emissions from past, present, and reasonably foreseeable projects.¹⁶ To decide otherwise would violate NEPA's mandate for an informed public process.

Additionally, as a consequence of its failure to undertake an adequate assessment of downstream GHG and climate impacts, FERC failed to provide information necessary for a reasoned choice among alternatives, and failed to adequately consider possible mitigation measures. *See slip op.* at 24 (“greenhouse-gas emissions are an indirect effect of authorizing this project ... which the agency has legal authority to mitigate”); *see also id.* at 24–25.¹⁷ FERC has authority to deny or put conditions on a project.¹⁸ Accordingly, a Supplemental EIS that acknowledges the relationship between the Project and downstream combustion – and assesses mitigation measures and feasible alternatives accordingly (including the no-action alternative,

become more aggressive,” 6) “an increase in carrier habitat and human exposure to vector-borne diseases (e.g. Lyme disease or West Nile).” Atlantic Sunrise Project Final EIS at 4-317. While the ACP EIS similarly purports to list “observations of environmental impacts that may be attributed to climate change in the Northeast region” per the same U.S. Global Change Research Program report, ACP EIS at 4-618, FERC inexplicably omitted these enumerated impacts that were included in the Atlantic Sunrise Project EIS just seven months earlier.

¹⁵ A cumulative effects analysis must be sufficiently detailed to be “useful to the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts.” *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 810 (9th Cir. 1999). “Consideration of cumulative impacts requires ‘some quantified or detailed information; ... [g]eneral statements about “possible” effects and “some risk” do not constitute a “hard look” absent a justification regarding why more definitive information could not be provided.’” *Kern v. BLM*, 284 F.3d 1062, 1075 (9th Cir. 2002) (citing *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1379-80 (9th Cir. 1998)).

¹⁶ FERC should consider the broader impacts of proposed pipelines, including the cumulative impacts of the natural gas extraction systems that are an inevitable result of this Project.

¹⁷ *See* Appalachian Mountain Advocates DEIS Comment at 270 (FERC must fully evaluate lifecycle GHG emissions impacts and “compare alternatives and develop mitigation measures to address such emissions”) (internal citation omitted). *See also* n.9, *infra*.

¹⁸ *See* 15 U.S.C. § 717f; *see also* Sierra Club VA Chapter DEIS Comment at 19 (listing conditions that FERC could place on certificate to mitigate climate impacts).

and alternatives involving renewable energy and energy efficiency)¹⁹ – is necessary for informed decision-making.

FERC must disclose and assess the indirect effects of a proposed project. As in *Sierra Club v. FERC*, an assessment of downstream GHG emissions and climate impacts must inform the decision-making process. *See slip op.* at 19, 23-25. FERC’s refusal to acknowledge in the ACP EIS that downstream GHG emissions are a causally connected, reasonably foreseeable consequence of the pipeline precluded a meaningful analysis of these impacts. This fatal flaw undermined the ability of the public and decision-makers to fully consider these impacts, including their significance and cumulative impact. FERC thus unlawfully failed to use information regarding these impacts to meaningfully inform its decision-making. FERC must fully analyze the GHG emissions and climate impacts resulting from the ACP, and use this analysis to develop mitigation measures to address such emissions and to compare alternatives (including the no-action alternative). *See id.* at 23 (FERC balances public benefits against adverse effects, including adverse environmental effects, and can “deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment”).

II. The Supplemental EIS Must Address Previously Identified Deficiencies and New Information

Moreover, as explained in the Sierra Club’s Request for Revised or Supplemental Draft Environmental Impact Statement,²⁰ filed on July 19, 2017, FERC should have issued a Revised or Supplemental Draft EIS to address substantial deficiencies in the Draft EIS (as well as new information that arose subsequent to the issuance of the Draft EIS). *See* 40 C.F.R. § 1502.9(a), (c). *See also Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci*, 857 F.2d 505, 508 (9th Cir. 1988) (internal citation omitted) (“It is only at the stage when the draft EIS is circulated that the public and outside agencies have the opportunity to evaluate and comment on the proposal.”).

FERC has since issued the Final EIS, which is similarly flawed. Correcting the deficiencies and omissions in the EIS, as well as assessing the substantial new information that the project proponents have submitted over the past several months,²¹ will require significant new analysis and the incorporation of accurate and updated information regarding the Project’s impacts. FERC must supply such information and analysis in a manner that facilitates

¹⁹ The social cost of carbon protocol (discussed above) can be used not only to contextualize costs associated with climate change and as a proxy for understanding climate impacts, but also to compare alternatives. *See* 40 C.F.R. § 1502.22(a) (stating agency “shall” include all “information relevant to reasonably foreseeable significant adverse impacts [that] is essential to a reasoned choice among alternatives”). The protocol is thus one available means of filling the essential but unmet need in the analysis of more “sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” *Id.* at § 1502.14.

²⁰ Request for Revised or Supplemental Draft Environmental Impact Statement for the Atlantic Coast Pipeline and Supply Header Project (July 19, 2017) (Accession No. 20170719-5115) (“Request for Revised or Supplemental Draft EIS”), incorporated herein by reference.

²¹ *See, e.g.*, Request for Revised or Supplemental Draft EIS at 15–18.

meaningful analysis and public participation. Public scrutiny of environmental decision making, informed by high quality and accurate information, is essential to the purposes of NEPA. *See* 40 C.F.R. § 1500.1(b) (NEPA was enacted to “insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.”). A Supplemental EIS is thus necessary. *See Idaho ex rel. Kempthorne v. U.S. Forest Service*, 142 F. Supp. 2d 1248, 1261 (D. Idaho 2001) (“NEPA requires full disclosure of all relevant information *before* there is meaningful public debate and oversight.”) (emphasis added).²²

Even as Atlantic Coast Pipeline, LLC and Dominion Energy Transmission, Inc. continue to submit supplemental information that should have been included in the Atlantic Coast Pipeline EIS,²³ Dominion Energy, Duke Energy, and Southern Company Gas have requested expedited authorization from FERC.²⁴ The Commission should not entertain the companies’ request to issue a certificate order for the Project this month. On the contrary, a Supplemental EIS that addresses the deficiencies in the EIS,²⁵ as well as the recent D.C. Circuit decision in *Sierra Club v. FERC*, is required. FERC should not decide whether to issue a certificate order for the Atlantic Coast Pipeline until and unless these deficiencies are addressed.

Conclusion

For the reasons outlined above, FERC must prepare a Supplemental EIS to address substantial deficiencies in the EIS, as well as new information and circumstances that have arisen subsequent to the issuance of the Draft EIS (and even to the issuance of the Final EIS); and to comport its analysis with the D.C. Circuit’s recent decision in *Sierra Club v. FERC*. *See* 40 C.F.R. § 1502.9. Issuing a Supplemental EIS will also further the intent and purposes of NEPA, which is to ensure that high-quality, accurate environmental information is available to public officials and citizens *before* actions are taken. 40 C.F.R. § 1500.1(b). An EIS that fails to provide the public a meaningful opportunity to review and understand the agency’s methodology

²² *See Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989) (“NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct It would be incongruous with this approach to environmental protection, and with the Act’s manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval.”).

²³ *See, e.g.*, Supplemental Information of Atlantic Coast Pipeline, LLC (Sept. 8, 2017) (Accession No. 20170908-5185).

²⁴ *See* ACP Letter to FERC dated Sept. 7, 2017 (Accession No. 20170907-5144) (requesting that FERC “issue an order granting the Certificate for the project at the earliest possible time”).

²⁵ *See, e.g.*, Request for Revised or Supplemental Draft EIS at 1–4, 15–18. FERC should also hold an evidentiary hearing, with an opportunity for discovery as authorized by 18 C.F.R. § 385, Subpart D. *See* Motion for an Evidentiary Hearing (June 21, 2017) (Accession No. 20170621-5160).

and analysis of potential environmental impacts violates NEPA. *See, e.g., California ex rel. Lockyer v. U.S. Forest Service*, 465 F. Supp. 2d 942, 948-50 (N.D. Cal. 2006).

Thank you for addressing these concerns. If you have any questions, please contact me.

Sincerely,



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Certificate of Service

I hereby certify that on this 18th day of September 2017, I caused the foregoing to be electronically served on all parties on the Commission's electronic service list in this proceeding, in accordance with the Commission's regulations.



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Exhibit A

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 18, 2017

Decided August 22, 2017

No. 16-1329

SIERRA CLUB, ET AL.,
PETITIONERS

v.

FEDERAL ENERGY REGULATORY COMMISSION,
RESPONDENT

DUKE ENERGY FLORIDA, LLC, ET AL.,
INTERVENORS

Consolidated with 16-1387

On Petitions for Review of Orders of the
Federal Energy Regulatory Commission

Elizabeth F. Benson argued the cause for petitioners Sierra Club, et al. With her on the briefs was *Eric Huber*. *Keri N. Powell* entered an appearance.

Jonathan Perry Waters argued the cause and filed the brief for petitioners G.B.A. Associates, LLC, et al.

Ross R. Fulton, Attorney, Federal Energy Regulatory Commission, argued the cause for respondent. With him on the

brief were *David L. Morenoff*, General Counsel, *Robert H. Solomon*, Solicitor, and *Nicholas M. Gladd*, Attorney. *Anand Viswanathan*, Attorney, entered an appearance.

Jeremy C. Marwell argued the cause for respondent-intervenors. With him on the brief were *Michael B. Wigmore*, *James D. Seegers*, *Gregory F. Miller*, *P. Martin Teague*, *James H. Jeffries, IV*, *Charles L. Schlumberger*, *Sid J. Trant*, *Anna M. Manasco*, *Brian D. O'Neill*, *Michael R. Pincus*, and *William Lavarco*. *Marc J. Ayers* and *Emily M. Ruzic* entered appearances.

Mohammad O. Jazil and *David W. Childs* were on the brief for *amicus curiae* The Florida Reliability Coordinating Council, Inc. in support of respondent.

Before: ROGERS, BROWN, and GRIFFITH, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* GRIFFITH.

Opinion concurring in part and dissenting in part filed by *Circuit Judge* BROWN.

GRIFFITH, *Circuit Judge*: Environmental groups and landowners have challenged the decision of the Federal Energy Regulatory Commission to approve the construction and operation of three new interstate natural-gas pipelines in the southeastern United States. Their primary argument is that the agency's assessment of the environmental impact of the pipelines was inadequate. We agree that FERC's environmental impact statement did not contain enough information on the greenhouse-gas emissions that will result from burning the gas that the pipelines will carry. In all other respects, we conclude that FERC acted properly. We thus grant

Sierra Club's petition for review and remand for preparation of a conforming environmental impact statement.

I

The Southeast Market Pipelines Project comprises three natural-gas pipelines now under construction in Alabama, Georgia, and Florida. The linchpin of the project is the Sabal Trail pipeline, which will wend its way from Tallapoosa County in eastern Alabama, across southwestern Georgia, and down to Osceola County, Florida, just south of Orlando: a journey of nearly five hundred miles. Sabal Trail will connect the other two portions of the project. The first—the Hillabee Expansion—will boost the capacity of an existing pipeline in Alabama, which will feed gas to Sabal Trail's upstream end for transport to Florida. At the downstream end of Sabal Trail will be the Florida Southeast Connection, which will link to a power plant in Martin County, Florida, 120 miles away. Shorter spurs will join Sabal Trail to other proposed and existing power plants and pipeline networks. By its scheduled completion in 2021, the project will be able to carry over one billion cubic feet of natural gas per day.

The three segments of the project have different owners,¹ but they share a common purpose: to serve Florida's growing demand for natural gas and the electric power that natural gas can generate. At present, only two major natural-gas pipelines serve the state, and both are almost at capacity. Two major utilities, Florida Power & Light and Duke Energy Florida, have

¹ Sabal Trail is owned by Spectra Energy Partners, NextEra Energy, and Duke Energy; the Hillabee Expansion is owned by the Williams Companies; and Florida Southeast Connection is owned by NextEra. Duke Energy, and NextEra's subsidiary Florida Power & Light, will also be the project's primary customers.

already committed to buying nearly all the gas the project will be able to transport. Florida Power & Light claims that without this new project, its gas needs will begin to exceed its supply this year. But the project's developers also indicate that the increased transport of natural gas will make it possible for utilities to retire older, dirtier coal-fired power plants.

Despite these optimistic predictions, the project has drawn opposition from several quarters. Environmental groups fear that increased burning of natural gas will hasten climate change and its potentially catastrophic consequences. Landowners in the pipelines' path object to the seizure of their property by eminent domain. And communities on the project's route are concerned that pipeline facilities will be built in low-income and predominantly minority areas already overburdened by industrial polluters.

Section 7 of the Natural Gas Act places these disputes into the bailiwick of the Federal Energy Regulatory Commission (FERC), which has jurisdiction to approve or deny the construction of interstate natural-gas pipelines. *See* 15 U.S.C. § 717f. Before any such pipeline can be built, FERC must grant the developer a "certificate of public convenience and necessity," *id.* § 717f(c)(1)(A), also called a Section 7 certificate, upon a finding that the project will serve the public interest, *see id.* § 717f(e). FERC is also empowered to attach "reasonable terms and conditions" to the certificate, as necessary to protect the public. *Id.* A certificate holder has the ability to acquire necessary rights-of-way from unwilling landowners by eminent domain proceedings. *See id.* § 717f(h).

FERC launched an environmental review of the proposed project in the fall of 2013. The agency understood that it would need to prepare an environmental impact statement (EIS)

before approving the project, as the National Environmental Policy Act of 1969 (NEPA) requires for each “major Federal action[] significantly affecting the quality of the human environment.” *See* 42 U.S.C. § 4332(2)(C). FERC solicited public comment and held thirteen public meetings on the project’s environmental effects, and made limited modifications to the project plan in response to public concerns, before releasing a draft impact statement in September 2015 and a final impact statement in December 2015. In the meantime, the pipeline developers formally applied for their Section 7 certificates in September and November 2014.

In the Certificate Order, issued on February 2, 2016, FERC granted the requested Section 7 certificates and approved construction of all three project segments, subject to compliance with various conditions not at issue here. Order Issuing Certificates and Approving Abandonment, *Fla. Se. Connection, LLC*, 154 FERC ¶ 61,080 (2016) (Certificate Order). This order recognized a number of parties as intervenors in the agency proceedings, among them three environmental groups (Sierra Club, Flint Riverkeeper, and Chattahoochee Riverkeeper) and two Georgia landowners whose land Sabal Trail will cross (GBA Associates and K. Gregory Isaacs). These parties timely sought rehearing and a stay of construction; FERC agreed to entertain their arguments but denied a stay. Construction on the pipelines began in August 2016. On September 7, 2016, FERC issued its Rehearing Order, denying rehearing and declining to rescind the pipelines’ certificates. Order on Rehearing, *Fla. Se. Connection, LLC*, 156 FERC ¶ 61,160 (2016) (Rehearing Order).

Both the environmental groups (collectively, “Sierra Club”) and the landowners timely petitioned our court for review of the Certificate Order and the Rehearing Order. Sierra Club argues that FERC’s environmental impact statement failed to adequately consider the project’s contribution to greenhouse-gas emissions and its impact on low-income and minority communities. Sierra Club also contends that Sabal Trail’s service rates were based on an invalid methodology. The landowners allege further oversights in the EIS, dispute the public need for the project, and assert that FERC used an insufficiently transparent process to approve the pipeline certificates. Their petitions were consolidated before us.

II

We have jurisdiction to hear these petitions under the Natural Gas Act. *See* 15 U.S.C. § 717r(b). Any party to a proceeding under the Act who is “aggrieved” by a FERC order may petition for review of that order in our court, provided that they first seek rehearing before FERC. *Id.* § 717r(a)-(b). Sierra Club was an intervenor in the proceedings on all three pipeline applications, *see* Certificate Order App. A, and the landowner petitioners were intervenors in the Sabal Trail proceedings, *see id.*

A party is “aggrieved” by a FERC order if it challenges the order under NEPA and asserts an environmental harm. *See Gunpowder Riverkeeper v. FERC*, 807 F.3d 267, 273-74 (D.C. Cir. 2015). A landowner forced to choose between selling to a FERC-certified developer and undergoing eminent domain proceedings is also “aggrieved” within the meaning of the Act. *See B&J Oil & Gas v. FERC*, 353 F.3d 71, 75 (D.C. Cir. 2004); *Moreau v. FERC*, 982 F.2d 556, 564 n.3 (D.C. Cir. 1993).

Sierra Club falls into the former camp, and the Georgia landowners into the latter.

We also have an independent duty to ensure that at least one petitioner has standing under Article III of the Constitution. *See Ams. for Safe Access v. DEA*, 706 F.3d 438, 442-43 (D.C. Cir. 2013). A petitioner invoking federal-court jurisdiction has the burden to establish that she has suffered an injury in fact that is fairly traceable to the challenged action of the defendant and “likely” to be redressed by a favorable judicial decision. *WildEarth Guardians v. Jewell*, 738 F.3d 298, 305 (D.C. Cir. 2013). And an association, like Sierra Club, can sue on behalf of its members if at least one member would have standing to sue in her own right, the organization is suing to vindicate interests “germane to its purpose,” and nothing about the claim asserted or the relief requested requires an individual member to be a party. *Sierra Club v. FERC*, 827 F.3d 36, 43 (D.C. Cir. 2016). On direct review of agency action, an association can establish its standing by having its individual members submit affidavits to accompany the association’s opening brief. *See Pub. Citizen, Inc. v. Nat’l Highway Traffic Safety Admin.*, 489 F.3d 1279, 1289 (D.C. Cir. 2007).

Several individual Sierra Club members submitted such affidavits, explaining how the pipeline project would harm their “concrete aesthetic and recreational interests.” *WildEarth*, 738 F.3d at 305. For example, one member, Robin Koon, explained that the Sabal Trail pipeline will cross his property (on an easement taken by eminent domain), that construction noise will impair his enjoyment of his daily activities, and that trees shading his house will be permanently removed. Other Sierra Club members similarly averred that the pipeline project will affect their homes and daily lives. “Such credible claims of exposure to increased noise and its disruption of daily

activities, backed up by specific factual representations in an affidavit or declaration, are sufficient to satisfy Article III's injury-in-fact requirement." *Sierra Club*, 827 F.3d at 44. And nobody disputes that the prevention of this sort of injury is germane to Sierra Club's conservation-oriented purposes, or cites any reason why these individual members would need to join the petition in their own names.

Because they allege concrete injury from FERC's order certifying the pipeline project, and because that certification was based on an allegedly inadequate environmental impact statement, these Sierra Club members, and therefore Sierra Club itself, have standing to object to any deficiency in the environmental impact statement.² *See WildEarth Guardians*, 738 F.3d at 306-08. The deficiency need not be directly tied to the members' specific injuries. For example, Sierra Club may argue that FERC did not adequately consider the pipelines' contribution to climate change. *See id.* The members' injuries are caused by the allegedly unlawful Certificate Order, and would be redressed by vacatur of that order on the basis of *any* defect in the environmental impact statement. *See id.* at 308.³

² Though GBA Associates and Isaacs raise different arguments as to why the Certificate and Rehearing Orders are unlawful, the standing analysis does not differ for them, as they seek the same remedy and allege similar injuries to their property interests.

³ The same reasoning goes for Sierra Club's argument that FERC used an arbitrary and capricious methodology in determining Sabal Trail's initial rates. A finding that FERC failed to justify its approach to this issue would lead us to "hold unlawful and set aside" Sabal Trail's certificate, *see* 5 U.S.C. § 706(2), which would in turn redress the Sierra Club members' environmentally based injuries in fact. *See Ctr. for Biological Diversity v. U.S. Dep't of Interior*, 563 F.3d 466, 479 (D.C. Cir. 2009) (finding Article III standing on the

Transco, owner of the Hillabee Expansion, argues that no Sierra Club member has alleged an injury caused by Transco's section of the overall project, which would suggest that Sierra Club lacks standing to seek the vacatur of Hillabee's certificate. Transco thus implicitly argues that the Certificate Order is severable. Under this view, if Sierra Club succeeds on the merits, but has standing to challenge only Sabal Trail's certificate, we could vacate only the portion of the Certificate Order pertaining to Sabal Trail, and leave the rest intact.

The question whether an agency order is severable turns on the agency's intent. *See Epsilon Elecs., Inc. v. U.S. Dep't of Treasury*, 857 F.3d 913, 929 (D.C. Cir. 2017). "Where there is substantial doubt that the agency would have adopted the same disposition regarding the unchallenged portion if the challenged portion were subtracted, partial affirmance is improper." *Id.* (quoting *North Carolina v. FERC*, 730 F.2d 790, 795-96 (D.C. Cir. 1984)). Since the beginning of its environmental review, FERC has treated the project as a single, integrated proposal. *See* Notice of Intent to Prepare an Environmental Impact Statement for the Planned Southeast Market Pipelines Project, 79 Fed. Reg. 10,793, 10,794 (Feb. 26, 2014) (explaining that FERC would prepare a single EIS for the three pipelines, to help the agency determine "whether the SMP Project is in the public convenience and necessity"). That characterization carried through to the Certificate Order. *See* J.A. 1075 (describing the pipelines as "separate but connected" and noting that the Hillabee Expansion's purpose

grounds that an agency's "irrationally based" permitting program threatened the arctic animals that the petitioners wanted to observe, and that "setting aside and remanding" the program would redress this threat).

is to give Sabal Trail's customers access to upstream gas supplies); J.A. 1096 (explaining that in the absence of Sabal Trail, existing pipelines will not be able to deliver the gas that the Florida Southeast Connection requires).

We substantially doubt that FERC would have approved the Southeast Market Pipelines Project only in part, and we especially doubt that the agency would have certified either of the other two segments if Sabal Trail were not part of the project. Because Sierra Club and the landowners have alleged injury-in-fact caused by Sabal Trail, and because the Certificate Order is not severable, both sets of petitioners have standing to challenge the Certificate Order as a whole.

Having concluded that we have jurisdiction to entertain all of petitioners' claims, we turn to the merits of those claims.

III

Both sets of petitioners rely heavily on the National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970). NEPA "declares a broad national commitment to protecting and promoting environmental quality," and brings that commitment to bear on the operations of the federal government. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). The statute "commands agencies to imbue their decisionmaking, through the use of certain procedures, with our country's commitment to environmental salubrity." *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 193-94 (D.C. Cir. 1991). One of the most important procedures NEPA mandates is the preparation, as part of every "major Federal action[] significantly affecting the quality of the human environment," of a "detailed statement" discussing and

disclosing the environmental impact of the action. 42 U.S.C. § 4332(2)(C).

This environmental impact statement, as it has come to be called, has two purposes. It forces the agency to take a “hard look” at the environmental consequences of its actions, including alternatives to its proposed course. *See id.* § 4332(2)(C)(iii); *Balt. Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983). It also ensures that these environmental consequences, and the agency’s consideration of them, are disclosed to the public. *See WildEarth Guardians*, 738 F.3d at 302. Importantly, though, NEPA “directs agencies only to look hard at the environmental effects of their decisions, and not to take one type of action or another.” *Citizens Against Burlington*, 938 F.2d at 194. That is, the statute is primarily information-forcing.

The role of the courts in reviewing agency compliance with NEPA is accordingly limited. Furthermore, because NEPA does not create a private right of action, we can entertain NEPA-based challenges only under the Administrative Procedure Act and its deferential standard of review. *See Theodore Roosevelt Conservation P’ship v. Salazar*, 616 F.3d 497, 507 (D.C. Cir. 2010). That is, our mandate “is ‘simply to ensure that the agency has adequately considered and disclosed the environmental impact of its actions and that its decision is not arbitrary or capricious.’” *WildEarth Guardians*, 738 F.3d at 308 (quoting *City of Olmsted Falls v. FAA*, 292 F.3d 261, 269 (D.C. Cir. 2002)). We should not “‘flyspeck’ an agency’s environmental analysis, looking for any deficiency no matter how minor.” *Nevada v. Dep’t of Energy*, 457 F.3d 78, 93 (D.C. Cir. 2006) (citation omitted).

But at the same time, we are responsible for holding agencies to the standard the statute establishes. An EIS is deficient, and the agency action it undergirds is arbitrary and capricious, if the EIS does not contain “sufficient discussion of the relevant issues and opposing viewpoints,” *Nevada*, 457 F.3d at 93 (quoting *Nat. Res. Def. Council v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988)), or if it does not demonstrate “reasoned decisionmaking,” *Del. Riverkeeper Network v. FERC*, 753 F.3d 1304, 1313 (D.C. Cir. 2014) (quoting *Found. on Econ. Trends v. Heckler*, 756 F.2d 143, 154 (D.C. Cir. 1985)). The overarching question is whether an EIS’s deficiencies are significant enough to undermine informed public comment and informed decisionmaking. See *Nevada*, 457 F.3d at 93. This is NEPA’s “rule of reason.” See *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004).

With those principles in mind, we direct our attention to the specific deficiencies the petitioners have alleged in the EIS for the Southeast Market Pipelines Project. As noted above, FERC prepared a single unified EIS for the project’s three pipelines, and no party has challenged that approach. Thus, for purposes of our NEPA analysis, we will consider the project as a whole.

A

The principle of environmental justice encourages agencies to consider whether the projects they sanction will have a “disproportionately high and adverse” impact on low-income and predominantly minority communities.⁴ See J.A. 1353-54. Executive Order 12,898 required federal agencies to

⁴ Like petitioners, we refer to these two types of community collectively as “environmental-justice communities.”

include environmental-justice analysis in their NEPA reviews, and the Council on Environmental Quality, the independent agency that implements NEPA, *see* 42 U.S.C. § 4344, has promulgated environmental-justice guidance for agencies, *see* J.A. 1369-78.

Sierra Club argues that the EIS failed to adequately take this principle into account. Like the other components of an EIS, an environmental justice analysis is measured against the arbitrary-and-capricious standard. *See Cmty. Against Runway Expansion, Inc. v. FAA*, 355 F.3d 678, 689 (D.C. Cir. 2004).⁵ The analysis must be “reasonable and adequately explained,” but the agency’s “choice among reasonable analytical methodologies is entitled to deference.” *Id.* As always with NEPA, an agency is not required to select the course of action that best serves environmental justice, only to take a “hard look” at environmental justice issues. *See Latin Am. for Social & Econ. Dev. v. Fed. Highway Admin.*, 756 F.3d 447, 475-77 (6th Cir. 2014). We conclude that FERC’s discussion of environmental justice in the EIS satisfies this standard.

The EIS explained that 83.7% of the pipelines’ proposed route would cross through, or within one mile of, environmental-justice communities (defined as census tracts where the population is disproportionately below the poverty line and/or disproportionately belongs to racial or ethnic minority groups). That percentage varied from 54 to 80 percent for the alternative routes proposed by stakeholders and

⁵ Because FERC voluntarily performed an environmental-justice review, we need not decide whether Executive Order 12,898 is binding on FERC. *See Runway Expansion*, 355 F.3d at 689 (explaining that arbitrary-and-capricious analysis applies to every section of an EIS, even sections included solely at the agency’s discretion).

commenters, albeit with only one option below 70 percent. This type of data appeared not only in the section of the EIS specifically dedicated to environmental justice, but also in the chapter that compared the various alternative routes. That later chapter weighed environmental-justice statistics alongside factors like total route length, wetlands impact, and the number of homes near the route. It also discussed one additional proposed route, which would cross the Gulf of Mexico and avoid Georgia completely. This option would affect far fewer environmental-justice communities, but in FERC's assessment would be infeasible because it would cost an additional two billion dollars.

FERC concluded that the various feasible alternatives “would affect a relatively similar percentage of environmental justice populations,” and that the preferred route thus would not have a disproportionate impact on those populations. *See* J.A. 836. The agency also independently concluded that the project would not have a “high and adverse” impact on *any* population, meaning, in the agency's view, that it could not have a “*disproportionately* high and adverse” impact on any population, marginalized or otherwise.⁶

Sierra Club contends that FERC misread “disproportionately high and adverse,” the standard for when a particular environmental effect raises an environmental-justice concern. By Sierra Club's lights, any effect can fulfill the test, regardless of its intensity, extent, or duration, if it is not beneficial and falls disproportionately on environmental-

⁶ Sierra Club argues that the project will in fact have “high and adverse” impacts, but does so only in a brief and cursory fashion. *See CTS Corp. v. EPA*, 759 F.3d 52, 64 (D.C. Cir. 2014) (explaining that we need not address cursory arguments).

justice communities. But even if we assume that understanding to be correct, we cannot see how this EIS was deficient. It 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. Recall that the EIS informed readers and the agency's ultimate decisionmakers that 83.7% of the pipelines' length would be in or near environmental-justice communities. The EIS also evaluated route alternatives in part by looking at the number of environmental-justice communities each would cross, and the mileage of pipeline each would place in low-income and minority areas. FERC thus grappled with the disparate impacts of the various possible pipeline routes. Perhaps Sierra Club would have a stronger claim if the agency had refused entirely to discuss the demographics of the populations that will feel the pipelines' effects, and had justified this refusal by pointing to the limited intensity, extent, and duration of those effects. However, as the EIS stands, we see no deficiencies serious enough to defeat the statute's goals of fostering well-informed decisionmaking and public comment. *See Nevada*, 457 F.3d at 93.

The same goes for Sierra Club's other arguments. The agency's methodology was reasonable, even where it deviated from what Sierra Club would have preferred. *See Runway Expansion*, 355 F.3d at 689. Take the agency's decision to compare the demographics along the various proposed routes to each other instead of "the general population." Sierra Club Opening Br. 18. An EIS is meant to help agency heads choose among the relevant alternatives, including the alternative of taking no action, and to help the public weigh in. Thus, FERC's decision to directly compare the proposed alternatives to one another, rather than to some broader population, was reasonable under the circumstances. *See id.* (approving an

environmental-justice review that compared “the population predicted to be affected by . . . [a] project to the demographics of the population that otherwise might conceivably be affected” by the project). Another methodology might be more appropriate in a case where some feasible alternative, with a lower environmental-justice impact, has been left out of the analysis. However, no party has offered any such alternative here.

Sierra Club is particularly concerned about Sabal Trail’s plan to build a compressor station (a facility that helps “pump” gas along the pipeline, and gives off air and noise pollution while doing so) in an African American neighborhood of Albany, Dougherty County, Georgia. The agency identified environmental-justice communities by looking at the demographics of census *tracts*, which are county subdivisions created to organize census data. The neighborhood in question is a 100% African American census *block*, an even smaller census subdivision, but because it sits in the midst of a majority-white census tract, FERC did not designate it an environmental-justice community. Sierra Club’s objection to this omission elevates form over substance. The goal of an environmental-justice analysis is satisfied if an agency recognizes and discusses a project’s impacts on predominantly-minority communities, even if it does not formally label each such community an “environmental justice community.” FERC *did* recognize the existence and demographics of the neighborhood in question, and discussed the neighborhood extensively. The EIS listed community features, including subdivisions, schools, and churches, along with their distances from the proposed compressor station, and explained that the station’s noise and air-quality effects on these locations were expected to remain within acceptable limits.

More persuasive is Sierra Club's argument that FERC disregarded the extent to which Dougherty County is already overburdened with pollution sources. A letter to FERC from four members of Georgia's congressional delegation cites the grim statistics: southern Dougherty County has 259 hazardous-waste facilities, 78 air-polluting facilities, 20 toxic-polluting facilities, and 16 water-polluting facilities. The EIS did not mention these existing polluters in its discussion of Dougherty County. Sierra Club thus argues that FERC inadequately considered the project's "cumulative impacts," that is, its effects taken in combination with existing environmental hazards in the same area. *See* 40 C.F.R. § 1508.7; *Del. Riverkeeper*, 753 F.3d at 1319-20.

Perhaps FERC could have said more, but the discussion it undertook of the cumulative impacts of the proposed route fulfilled NEPA's goal of guiding informed decisionmaking. The EIS acknowledged that the Sabal Trail project will generate air pollution and noise pollution in Albany, and it projected cumulative levels of both of these types of pollution from all sources in the vicinity of the compressor station, finding that both would remain below harmful thresholds.⁷ We are sensitive to Sierra Club's broader contention that it is unjust to locate a polluting facility in a community that already has a high concentration of polluting facilities, even if those older

⁷ FERC appropriately relied on EPA's national ambient air quality standards (NAAQS) as a standard of comparison for air-quality impacts. By presenting the project's expected emissions levels and the NAAQS standards side-by-side, the EIS enabled decisionmakers and the public to meaningfully evaluate the project's air-pollution effects by reference to a generally accepted standard. *See Runway Expansion*, 355 F.3d at 689 (explaining that in an environmental-justice analysis, the agency's "choice among reasonable analytical methodologies is entitled to deference").

facilities produce pollution of a different type or in different locations. We note, however, that FERC took seriously commenters' concerns about locating Sabal Trail facilities in Dougherty County. The agency reopened the comment period on the EIS to seek input on relocating the compressor station, and then actually secured Sabal Trail's agreement to relocate the station, moving it in part to mitigate effects on environmental-justice communities. The EIS also considered four route alternatives proposed by Sierra Club and its fellow environmental petitioners that would have partially or completely avoided Albany, but rejected them all, mainly on the ground that they would have had a greater overall impact on residences and populated areas.

To sum up, the EIS acknowledged and considered the *substance* of all the concerns Sierra Club now raises: the fact that the Southeast Market Pipelines Project will travel primarily through low-income and minority communities, and the impact of the pipeline on the city of Albany and Dougherty County in particular. The EIS also laid out a variety of alternative approaches with potential to address those concerns, including those proposed by petitioners, and explained why, in FERC's view, they would do more harm than good. The EIS also gave the public and agency decisionmakers the qualitative and quantitative tools they needed to make an informed choice for themselves. NEPA requires nothing more.

B

It's not just the journey, though, it's also the destination. All the natural gas that will travel through these pipelines will be going somewhere: specifically, to power plants in Florida, some of which already exist, others of which are in the planning stages. Those power plants will burn the gas, generating both

electricity and carbon dioxide. And once in the atmosphere, that carbon dioxide will add to the greenhouse effect, which the EIS describes as “the primary contributing factor” in global climate change. J.A. 915. The next question before us is whether, and to what extent, the EIS for this pipeline project needed to discuss these “downstream” effects of the pipelines and their cargo. We conclude that at a minimum, FERC should have estimated the amount of power-plant carbon emissions that the pipelines will make possible.

An agency conducting a NEPA review must consider not only the direct effects, but also the *indirect* environmental effects, of the project under consideration. *See* 40 C.F.R. § 1502.16(b). “Indirect effects” are those that “are caused by the [project] and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* § 1508.8(b). The phrase “reasonably foreseeable” is the key here. Effects are reasonably foreseeable if they are “sufficiently likely to occur that a person of ordinary prudence would take [them] into account in reaching a decision.” *EarthReports, Inc. v. FERC*, 828 F.3d 949, 955 (D.C. Cir. 2016) (citation omitted).

What are the “reasonably foreseeable” effects of authorizing a pipeline that will transport natural gas to Florida power plants? First, that gas will be burned in those power plants. This is not just “reasonably foreseeable,” it is the project’s entire purpose, as the pipeline developers themselves explain. *See* Intervenor Br. 4-5 (explaining that the project “will provide capacity to transport natural gas to the electric generating plants of two Florida utilities”). It is just as foreseeable, and FERC does not dispute, that burning natural gas will release into the atmosphere the sorts of carbon compounds that contribute to climate change.

The pipeline developers deny that FERC would be the legally relevant cause of any power plant carbon emissions, and thus contend that FERC had no obligation to consider those emissions in its NEPA analysis. They rely on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), a case involving the Federal Motor Carrier Safety Administration's development of safety standards for Mexican trucks operating in the United States. The agency had proposed those standards because the President planned to lift a moratorium on Mexican motor carriers operating in this country. These standards would require roadside inspections, which had the potential to create adverse environmental effects. The agency's EIS discussed the effects of these roadside inspections, but Public Citizen contended that the EIS was also required to address the environmental effects of increased truck traffic between the two countries. *See id.* at 765.

The Supreme Court sided with the agency. The Court noted that the agency would have no statutory authority to exclude Mexican trucks from the United States once the President lifted the moratorium; it would only have power to set safety rules for those trucks. *See id.* at 766-67. And because the agency could not exclude Mexican trucks from the United States, it would have no reason to gather data about the environmental harms of admitting them. The purpose of NEPA is to help agencies and the public make informed decisions. But when the agency has no *legal* power to prevent a certain environmental effect, there is no decision to inform, and the agency need not analyze the effect in its NEPA review. *See id.* at 770.

We recently applied the *Public Citizen* rule in three challenges to FERC decisions licensing liquefied natural gas (LNG) terminals. *See Sierra Club v. FERC (Freeport)*, 827

F.3d 36 (D.C. Cir. 2016); *Sierra Club v. FERC (Sabine Pass)*, 827 F.3d 59 (D.C. Cir. 2016); *EarthReports, Inc. v. FERC*, 828 F.3d 949 (D.C. Cir. 2016). Companies can export natural gas from the United States through an LNG terminal, but such natural gas exports require a license from the Department of Energy. *See Freeport*, 827 F.3d at 40. They also require physical upgrades to a terminal's facilities. The Department of Energy has delegated to FERC the authority to license those upgrades. *See id.* A question presented to us in all of these cases was whether FERC, in licensing physical upgrades for an LNG terminal, needed to evaluate the climate-change effects of exporting natural gas. Relying on *Public Citizen*, we answered no in each case. FERC had no legal authority to consider the environmental effects of those exports, and thus no NEPA obligation stemming from those effects. *See Freeport*, 827 F.3d at 47; *accord Sabine Pass*, 827 F.3d at 68-69; *EarthReports*, 828 F.3d at 956.

An agency has no obligation to gather or consider environmental information if it has no statutory authority *to act on that information*. That rule was the touchstone of *Public Citizen*, *see* 541 U.S. at 767-68, and it distinguishes this case from the LNG-terminal trilogy. Contrary to our dissenting colleague's view, our holding in the LNG cases was not based solely on the fact that a second agency's approval was necessary before the environmental effect at issue could occur.⁸ Rather, *Freeport* and its companion cases rested on the

⁸ We also note that Florida Power & Light, which expects to be one of the pipelines' two primary customers, represented to FERC that "its commitments on Sabal Trail's and Florida Southeast's systems are to provide gas to existing natural gas-fired plants." Certificate Order ¶ 85, J.A. 1100. So even if the dissent were correct that Florida regulators' authority over power-plant construction excuses FERC from considering emissions from new or expanded

premise that FERC had *no legal authority to prevent* the adverse environmental effects of natural gas exports. *See Freeport*, 827 F.3d at 47.

This raises the question: what did the *Freeport* court mean by its statement that FERC could not prevent the effects of exports? After all, FERC *did* have legal authority to deny an upgrade license for a natural gas export terminal. *See Freeport*, 827 F.3d at 40-41. And without such an upgrade license, neither gas exports nor their environmental effects could have occurred.

The answer must be that FERC was forbidden to rely on the effects of gas exports *as a justification for* denying an upgrade license. *Cf. Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (explaining that an agency acts arbitrarily and capriciously if it makes a decision based on “factors which Congress had not intended it to consider”). The holding in *Freeport*, then, turned not on the question “What activities does FERC regulate?” but instead on the question “What factors can FERC consider when regulating in its proper sphere?” In the LNG cases, FERC was acting not on its own statutory authority but under a narrow delegation from the Department of Energy. *See Freeport*, 827 F.3d at 40-41. Thus, the agency would have acted unlawfully had it refused an upgrade license on grounds that it did not have delegated authority to consider. *See State Farm*, 463 U.S. at 43.

Here, FERC is not so limited. Congress broadly instructed the agency to consider “the public convenience and necessity”

power plants, that argument would not apply to the significant portion of these pipelines’ capacity that is earmarked for *existing* plants.

when evaluating applications to construct and operate interstate pipelines. *See* 15 U.S.C. § 717f(e). FERC will balance “the public benefits against the adverse effects of the project,” *see Minisink Residents for Env'tl. Pres. & Safety v. FERC*, 762 F.3d 97, 101-02 (D.C. Cir. 2014) (internal quotation marks omitted), including adverse environmental effects, *see Myersville Citizens for a Rural Cmty. v. FERC*, 783 F.3d 1301, 1309 (D.C. Cir. 2015). Because FERC could deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment, the agency is a “legally relevant cause” of the direct and indirect environmental effects of pipelines it approves. *See Freeport*, 827 F.3d at 47. *Public Citizen* thus did not excuse FERC from considering these indirect effects.⁹

FERC next raises a practical objection, arguing that it is impossible to know exactly what quantity of greenhouse gases will be emitted as a result of this project being approved. True, that number depends on several uncertain variables, including the operating decisions of individual plants and the demand for electricity in the region. But we have previously held that NEPA analysis necessarily involves some “reasonable forecasting,” and that agencies may sometimes need to make educated assumptions about an uncertain future. *See Del. Riverkeeper*, 753 F.3d at 1310. Indeed, FERC has already estimated how much gas the pipelines will transport: about one

⁹ The dissent contends that if FERC refused to approve these pipelines, Florida utilities would find a way to deliver an equivalent amount of natural gas to the state regardless. *See* Dissenting Op. 7. This argument, however, does not bear on the question whether FERC is legally authorized to consider downstream environmental effects when evaluating a Section 7 certificate application. In any case, the record suggests that there is no other viable means of delivering the amount of gas these pipelines propose to deliver. *See* J.A. 920-25.

million dekatherms (roughly 1.1 billion cubic feet) per day. The EIS gave no reason why this number could not be used to estimate greenhouse-gas emissions from the power plants, and even cited a Department of Energy report that gives emissions estimates per unit of energy generated for various types of plant.

We conclude that the EIS for the Southeast Market Pipelines Project should have either given a quantitative estimate of the downstream greenhouse emissions that will result from burning the natural gas that the pipelines will transport or explained more specifically why it could not have done so. As we have noted, greenhouse-gas emissions are an indirect effect of authorizing this project, which FERC could reasonably foresee, and which the agency has legal authority to mitigate. *See* 15 U.S.C. § 717f(e). The EIS accordingly needed to include a discussion of the “significance” of this indirect effect, *see* 40 C.F.R. § 1502.16(b), as well as “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions,” *see WildEarth Guardians*, 738 F.3d at 309 (quoting 40 C.F.R. § 1508.7).

Quantification would permit the agency to compare the emissions from this project to emissions from other projects, to total emissions from the state or the region, or to regional or national emissions-control goals. Without such comparisons, it is difficult to see how FERC could engage in “informed decision making” with respect to the greenhouse-gas effects of this project, or how “informed public comment” could be possible. *See Nevada*, 457 F.3d at 93; *see also WildEarth Guardians*, 738 F.3d at 309 (accepting an agency’s contention that the “estimated level of [greenhouse-gas] emissions can serve as a reasonable proxy for assessing potential climate change impacts, and provide decision makers and the public

with useful information for a reasoned choice among alternatives”).

We do not hold that quantification of greenhouse-gas emissions is required *every* time those emissions are an indirect effect of an agency action. We understand that in some cases quantification may not be feasible. *See, e.g., Sierra Club v. U.S. Dep’t of Energy*, --- F.3d ---, No. 15-1489, slip op. at 22 (D.C. Cir. Aug. 15, 2017). But FERC has not provided a satisfactory explanation for why this is such a case. We understand that “emission estimates would be largely influenced by assumptions rather than direct parameters about the project,” *see* J.A. 916, but some educated assumptions are inevitable in the NEPA process, *see Scientists’ Inst. for Pub. Info. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973). And the effects of assumptions on estimates can be checked by disclosing those assumptions so that readers can take the resulting estimates with the appropriate amount of salt. *See WildEarth Guardians*, 738 F.3d at 309 (approving an EIS that took this approach).

Nor is FERC excused from making emissions estimates just because the emissions in question might be partially offset by reductions elsewhere. We thus do not agree that the EIS was absolved from estimating carbon emissions by the fact that some of the new pipelines’ transport capacity will make it possible for utilities to retire dirtier, coal-fired plants. The effects an EIS is required to cover “include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.” 40 C.F.R. § 1508.8. In other words, when an agency thinks the good consequences of a project will outweigh the bad, the agency still needs to discuss both the good and the bad. In any case, the EIS itself acknowledges that

only “portions” of the pipelines’ capacity will be employed to reduce coal consumption. *See* J.A. 916. An agency decisionmaker reviewing this EIS would thus have no way of knowing whether total emissions, on net, will be reduced or increased by this project, or what the degree of reduction or increase will be. In this respect, then, the EIS fails to fulfill its primary purpose.

We also recognize that the power plants in question will be subject to “state and federal air permitting processes.” J.A. 917. But even if we assume that power plants’ greenhouse-gas emissions will be subject to regulation in the future, *see* Exec. Order No. 13,783, § 4(a), 82 Fed. Reg. 16,093, 16,095 (Mar. 28, 2017) (instructing the EPA administrator to consider “whether to revise or withdraw” federal regulation of these emissions), the existence of permit requirements overseen by another federal agency or state permitting authority cannot substitute for a proper NEPA analysis. *See Calvert Cliffs’ Coordinating Comm. v. Atomic Energy Comm’n*, 449 F.2d 1109, 1122-23 (D.C. Cir. 1971). In any event, FERC quantified the project’s expected emissions of other air pollutants, despite the fact that the project will presumably comply with the requirements of the Clean Air Act and state air-pollution laws.

Our discussion so far has explained that FERC must either quantify and consider the project’s downstream carbon emissions or explain in more detail why it cannot do so. Sierra Club proposes a further analytical step. The EIS might have tried to link those downstream carbon emissions to particular climate impacts, like a rise in the sea level or an increased risk of severe storms. The EIS explained that there is no standard methodology for making this sort of prediction. *Cf. WildEarth Guardians*, 738 F.3d at 309 (“[C]urrent science does not allow for the specificity demanded” by environmental challengers.).

In its rehearing request, Sierra Club asked FERC to convert emissions estimates to concrete harms by way of the Social Cost of Carbon. This tool, developed by an interagency working group, attempts to value in dollars the long-term harm done by each ton of carbon emitted. But FERC has argued in a previous EIS that the Social Cost of Carbon is not useful for NEPA purposes, because several of its components are contested and because not every harm it accounts for is necessarily “significant” within the meaning of NEPA. *See EarthReports*, 828 F.3d at 956. We do not decide whether those arguments are applicable in this case as well, because FERC did not include them in the EIS that is now before us. On remand, FERC should explain in the EIS, as an aid to the relevant decisionmakers, whether the position on the Social Cost of Carbon that the agency took in *EarthReports* still holds, and why.

C

GBA Associates alleges two further flaws in the EIS, but we find neither charge persuasive.

First, the landowners contend that “FERC has erroneously limited the scope of its examination of alternatives” to the proposed project. GBA Assocs. Br. 21. However, GBA provides no arguments in support of this claim, nor does it cite any reasonable alternatives that FERC failed to consider. As the agency explained, the EIS considered, and ultimately rejected, twelve major route alternatives, as well as the “no action” alternative. We defer to the agency’s discussion of alternatives, and uphold it “so long as the alternatives are reasonable and the agency discusses them in reasonable detail.” *Citizens Against Burlington*, 938 F.2d at 196. GBA has given us no reason to reach any other conclusion here.

GBA also accuses FERC of giving too little consideration to the safety risks involved in the construction of the pipeline, and specifically to the fact that in some places, new pipeline will cross, or run alongside, existing pipeline. As GBA's own brief recognizes, though, the EIS recognized and discussed the risk of pipeline crossings, ultimately concluding that some crossings were necessary to minimize impacts on natural resources and homes. GBA's only response is that commenters, including the owner of one of the existing pipelines, submitted letters to FERC expressing safety concerns. But the EIS responded to those comments, and GBA does not explain why the responses were insufficient. Again, NEPA does not require a particular substantive result, like the elimination of all pipeline crossings; it only requires the agency to take a "hard look" at the problem. This FERC has done.

IV

All of these pipelines, of course, are being built for a reason: to make a profit for their shareholders, and their shareholders' shareholders. But the profits they can make are constrained by the Natural Gas Act, the "fundamental purpose" of which "is to protect natural gas consumers from the monopoly power of natural gas pipelines." *Nat'l Fuel Gas Supply Corp. v. FERC*, 468 F.3d 831, 833 (D.C. Cir. 2006). FERC carries out that purpose by, among other duties, regulating the rates that a newly authorized pipeline can charge its customers. *See Atl. Ref. Co. v. Pub. Serv. Comm'n*, 360 U.S. 378, 388-91 (1959). The rate derives from a complicated calculation that boils down to three elements: (1) the pipeline's cost of doing business; (2) the "rate base," which is roughly the total value of the pipeline's assets; and (3) a rate of return, calculated as a percentage of the rate base, that is "sufficient to

ensure that pipeline investors are fairly compensated.” *See N.C. Utils. Comm’n v. FERC (NCUC)*, 42 F.3d 659, 661 (D.C. Cir. 1994). These three factors, together, determine the total amount of revenue that a pipeline is entitled to earn through the rates it charges its customers. *See id.*¹⁰

Drilling down further, we can see that the rate of return itself has two main components. Like most businesses, a pipeline company is funded by both equity (*i.e.*, investments made by shareholders) and debt. *See NCUC*, 42 F.3d at 661. A pipeline’s ratio of equity financing to debt financing is called its “capital structure.” *See id.* Typically, equity investors will earn a higher rate of return than debt investors (*i.e.*, creditors) because an equity investment is riskier. *See id.* at 664; *MarkWest Pioneer, LLC*, 125 FERC ¶ 61,165, at ¶ 27 (2008). Therefore, all else being equal, the more a pipeline’s financing takes the form of equity, the greater the total amount the pipeline will pay its investors, and the higher its rates will be. *See MarkWest*, 125 FERC ¶ 61,165, at ¶ 27. At the same time, the more indebted a pipeline is, the greater the risk to its equity investors, and the greater the return they will expect. *See NCUC*, 42 F.3d at 664. So, deciding on the capital structure, rate of return on equity, and rate of return on debt for a pipeline becomes a delicate balancing act.

In its original application for a Section 7 certificate, Sabal Trail sought to design its rates based on a capital structure with 60% equity and 40% debt. It anticipated that the interest rate

¹⁰ For a highly simplified illustration, suppose that the rate base is \$1 billion and the rate of return allowed is 10%. In that case, the pipeline can earn a total annual return of \$100 million. Thus, if the pipeline’s annual costs are \$150 million, then the pipeline can collect total annual revenues of \$250 million, and can set its rates accordingly.

on its debt would be 6.2%, and proposed to pay a 14% return to its equity investors. The weighted average of those two rates would yield an overall rate of return of 10.88%.

FERC, however, felt that a 14% rate of return on equity was too high for a pipeline with only 40% debt. (Recall that a high rate of return must be justified by a high investment risk, and that pipelines with less debt are less risky for equity investors.) The agency explained that Sabal Trail could design its rates around a 14% return on equity if it wanted to, but only if it also changed the proposed capital structure. With a 50% equity/50% debt capital structure, FERC explained, a 14% rate of return on equity would be reasonable.

Sierra Club objects to FERC's decision to allow Sabal Trail to base its rates on a "hypothetical capital structure." It argues that, having concluded that Sabal Trail's proposed return on equity was too high, FERC should have either cut the rate of return or denied the pipeline a certificate altogether. We review FERC's capital-structure decision under the deferential standard of the Administrative Procedure Act, and may disturb that decision only if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." *See NCUC*, 42 F.3d at 663 (quoting 5 U.S.C. § 706(2)(A)).

We think that FERC adequately explained its decision to allow Sabal Trail to employ a hypothetical capital structure. FERC's job, when evaluating a proposed rate for a new pipeline, is to see that the pipeline's investors receive a reasonable, but not excessive, return on their investment. *See id.* at 661. The returns must be proportionate to the business and financial risk the investors take on: more risk, more reward. *See id.*; *MarkWest*, 125 FERC ¶ 61,165, at ¶ 27. In the case of pipeline financing, as discussed above, the "risk" for investors

depends in part on the pipeline's level of indebtedness, and the "reward" is the return on equity. If the risk and reward are out of alignment, there are two ways to fix the problem: decrease the reward by lowering the return on equity, or increase the risk by increasing the pipeline's debt level. FERC determined that with a 14% return on equity, and only 40% debt, the risk and reward would be out of alignment. As FERC explained, by imposing a hypothetical capital structure that raised the debt level to 50%, the agency brought the risk and reward into sync.

Sierra Club's objection stems, in part, from a misunderstanding of FERC's role in the rate-setting process. FERC does not directly control *either* the pipeline's return on equity *or* its capital structure. FERC merely approves the initial rates the pipeline will charge, a price that is based in part on an anticipated return on equity and an anticipated debt level. *See NCUC*, 42 F.3d at 661, 664; *MarkWest*, 125 FERC ¶ 61,165, at ¶¶ 26-27. So whichever methodology FERC chooses for ensuring that risk matches reward—lowering the hypothetical return on equity, or raising the hypothetical debt—the practical effect is the same: FERC requires the pipeline to charge a lower rate than it had originally requested.

Nothing in our precedent is to the contrary. Sierra Club claims that in *NCUC* we disapproved FERC's use of a hypothetical capital structure. That's true, but our reasoning there is inapposite here. In that case FERC had used a hypothetical capital structure to *increase*, rather than decrease, the rates the pipeline could charge, and to "mask an otherwise anomalous[ly high] return as something more appealing." *See* 42 F.3d at 664. We expressly recognized, however, that FERC is allowed to do the opposite: use a hypothetical capital structure to *decrease* a pipeline's proposed rates, in the interest of consumer protection. *See id.* FERC has done just that here.

FERC also acted consistently with its own precedent. Its approach in this case was identical to its order in *MarkWest*. See 125 FERC ¶ 61,165, at ¶¶ 26-27. There, too, a pipeline proposed a 14% return on equity and a capital structure with 60% equity and 40% debt. FERC saw the proposed return on equity as too high, and rectified the situation by applying a hypothetical capital structure with 50% equity and 50% debt. See *id.* Sierra Club also points to *Panhandle Eastern Pipe Line Co.*, 71 FERC ¶ 61,228 (1995), where FERC explained that its “policy is to use the *actual* capital structure of the entity that does the financing for the regulated pipeline,” *id.* at 61,827 (emphasis added). But in *Panhandle Eastern* FERC promoted a flexible approach, noting that it “may use a different capital structure where the actual capital structure is not representative of the pipeline’s risk profile.” See *id.* at 61,828. *Panhandle Eastern* was also decided under section 4 of the Act (which governs existing pipelines), rather than section 7 (new pipelines), and so is silent on what to do when a pipeline does not yet have an “actual capital structure.” *Id.* at 61,822, 61,827-28. *Pine Needle LNG Co.*, 77 FERC ¶ 61,229 (1996), is also cited by Sierra Club but supports FERC’s position, because it confirms that FERC has the option to “resort to a hypothetical capital structure if the equity ratio of the actual capitalization is abnormally high,” *id.* at 61,916.

Though we see nothing arbitrary or capricious in FERC’s choice to use a hypothetical capital structure in rate-setting, substantial evidence must support the capital structure FERC ultimately uses in the rate calculation, hypothetical or not. See *NCUC*, 42 F.3d at 663. FERC explained that a 14% return on equity, combined with a 50% equity/50% debt capital structure, was justified because FERC had approved the same combination of capital structure and return on equity in prior

cases. We confess to being skeptical that a bare citation to precedent, derived from another case and another pipeline, qualifies as the requisite “substantial evidence.” *See NCUC*, 42 F.3d at 664 (citing *Maine Pub. Serv. Co. v. FERC*, 964 F.2d 5, 9 (D.C. Cir. 1992), for the proposition that “FERC’s use of a particular percentage in a ratemaking calculation was not adequately justified by citation of a prior use of the same percentage without further reasoning or explanation”).

However, Sierra Club does not make this argument in its opening brief, confining itself to attacking the use of a hypothetical capital structure more generally. *See* Sierra Club Opening Br. 43 (“FERC has not stated an adequate explanation for allowing a high rate of return based upon a hypothetical capital structure.”); *see also, e.g., Fox v. Gov’t of Dist. of Columbia*, 794 F.3d 25, 30 (D.C. Cir. 2015) (“[W]here a litigant has forfeited an argument by not raising it in the opening brief, we need not reach it.”). On the arguments presented to us, we see no basis for setting aside FERC’s ratemaking determination.

V

We turn to GBA’s two remaining arguments, both of which we find unavailing.

The landowners challenge FERC’s conclusion that the Southeast Market Pipelines Project will serve the public convenience and necessity. As mentioned previously, a finding that a proposed natural-gas pipeline “is or will be required by the present or future public convenience and necessity” is a prerequisite for FERC certification. *See* 15 U.S.C. § 717f(e). The “public convenience and necessity” analysis has two components. First, the applicant must show that the project will

“stand on its own financially” because it meets a “market need.” *See Myersville*, 783 F.3d at 1309 (internal quotation marks omitted). The applicant can make this showing by presenting evidence of “preconstruction contracts” for gas transportation service. If FERC finds market need, it will then proceed to balance the benefits and harms of the project, and will grant the certificate if the former outweigh the latter. *See id.*

The landowner petitioners take issue with FERC’s market-need analysis, alleging that this project serves only the profit motive of the pipeline developers, rather than any public need. *See GBA Opening Br. 28.* That argument misunderstands our test. The criterion is “market need”—whether the pipelines will be self-supporting—which the applicants here satisfied by showing that 93% of their capacity has already been contracted for. The landowners also assert that the pipeline will be “redundant as it largely parallels existing pipelines,” *see GBA Opening Br. 29*, but as FERC found, and the petitioners do not refute, the “expansion of existing pipelines will not satisfy the identified need,” *see J.A. 1101.*

The landowner petitioners also assert that FERC violated the Government in the Sunshine Act, 5 U.S.C. § 552b, by approving the pipelines’ certificates via notational voting, a procedure where the members of a multimember agency cast their votes individually and separately, rather than at a public meeting. But we have expressly approved of notational voting, and held it to be consistent with the Sunshine Act, on multiple occasions. *See R.R. Comm’n of Tex. v. United States*, 765 F.2d 221, 230-31 (D.C. Cir. 1985) (citing cases). “The Sunshine Act does not require that meetings be held in order to conduct agency business; rather, that statute requires only that, *if* meetings are held, they be open to the public.” *Id.* at 230

(emphasis added). GBA also suggests that there should be a presumption that meetings are required when controversial issues are under consideration, but we have rejected that exact argument as well. *See id.*

VI

The petition for review in No. 16-1329 is granted. The orders under review are vacated and remanded to FERC for the preparation of an environmental impact statement that is consistent with this opinion. The petition for review in No. 16-1387 is denied.

So ordered.

BROWN, *Circuit Judge*, concurring in part and dissenting in part: I join today's opinion on all issues save the Court's decision to vacate and remand the pipeline certificates on the issue of downstream greenhouse emissions. Case law is clear: When an agency "has no ability to prevent a certain effect due to' [its] 'limited statutory authority over the relevant action[],' then that action 'cannot be considered a legally relevant cause'" of an indirect environmental effect under the National Environmental Policy Act ("NEPA"). *Sierra Club (Freeport) v. FERC*, 827 F.3d 36, 47 (D.C. Cir. 2016) (quoting *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 770 (2004)). Thus, when the occurrence of an indirect environmental effect is contingent upon the issuance of a license from a separate agency, the agency under review is not required to address those indirect effects in its NEPA analysis. Although this case seems indistinguishable from earlier precedent, the Court now insists the action taken by the Federal Energy Regulatory Commission ("FERC" or "the Commission") is the cause of an environmental effect, even though the agency has no authority to prevent the effect. *But see Pub. Citizen*, 541 U.S. at 767 (holding "but for" causation is insufficient to make an agency responsible for a particular effect under NEPA). More significantly, today's opinion completely omits any discussion of the role Florida's state agencies play in the construction and expansion of power plants within the state—a question that should be dispositive. Because the Court's holding is legally incorrect and contravenes our duty to examine all arguments presented, I respectfully dissent.

When examining a NEPA claim, our role is limited to ensuring the relevant agency took a "hard look at the environmental consequences" of its decisions and "adequately considered and disclosed the environmental impact of its actions." *Balt. Gas & Elec. Co. v. Nat. Res. Def. Council*, 462 U.S. 87, 97–98 (1983). We examine the agency's determinations under the "deferential rule of reason," which governs which environmental impacts the agency must discuss

and the “extent to which it must discuss them.” *WildEarth Guardians v. Jewell*, 738 F.3d 298, 310 (D.C. Cir. 2013). FERC thus has broad discretion to determine “whether and to what extent to [discuss environmental impacts] based on the usefulness of any new potential information to [its] decisionmaking process.” *Pub. Citizen*, 541 U.S. at 767. Here, FERC declined to engage in an in-depth examination of downstream greenhouse gas emissions because there is no causal relationship between approval of the proposed pipelines and the downstream greenhouse emissions; and, even if a causal relationship exists, any additional analysis would not meaningfully contribute to its decisionmaking. Both determinations were reasonable and entitled to deference.

Regarding causation, the Court is correct that NEPA requires an environmental analysis to include indirect effects that are “reasonably foreseeable,” *Freeport*, 827 F.3d at 46, but it misunderstands what qualifies as reasonably foreseeable. The Court blithely asserts it is “not just the journey,” it is “also the destination.” Maj. Op. at 18. In fact, NEPA is a procedural statute that *is all about* the journey. It compels agencies to consider all environmental effects likely to result from the project under review, but it “does *not* dictate particular decisional outcomes.” *Sierra Club v. U.S. Army Corps of Engineers*, 803 F.3d 31, 37 (D.C. Cir. 2015) (emphasis added). The statute therefore “requires a reasonably close causal relationship between the environmental effect and the alleged cause” that is “akin to proximate cause in tort law.” *Pub. Citizen*, 541 U.S. at 754, 767. Thus, the fact that the Commission’s action is a “but for” cause of an environmental effect is insufficient to make it responsible for a particular environmental effect. *Id.* Instead, the effect must be “sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision.” *Freeport*, 827 F.3d at 47. There is a further caveat: An effect the agency

is powerless to prevent does not fall within NEPA's ambit. Here, the Commission explained in its denial of rehearing that any "environmental effects resulting from end use emissions from natural gas consumption are generally neither caused by a proposed pipeline (or other natural gas infrastructure) project nor are they reasonably foreseeable consequences of our approval of an infrastructure project." JA 1330. FERC's conclusion is both logical and consistent with this Court's precedent. While the Court concludes FERC's approval of the proposed pipelines will be the cause of greenhouse gas emissions because a significant portion of the natural gas transported through the pipeline will be burned at power plants, *see* Maj. Op. at 19, the truth is that FERC has no control over whether the power plants that will emit these greenhouse gases will come into existence or remain in operation.

In several recent cases, petitioners sought review of a downstream environmental effect that fell within the oversight of another agency. We held the occurrence of a downstream environmental effect, contingent upon the issuance of a license from another agency with the sole authority to authorize the source of those downstream effects, cannot be attributed to the Commission; its actions "cannot be considered a legally relevant cause of the effect for NEPA purposes." *See Freeport*, 827 F.3d at 47; *Sierra Club (Sabine Pass) v. FERC*, 827 F.3d 59, 68 (D.C. Cir. 2016); *EarthReports, Inc. v. FERC*, 828 F.3d 949, 952 (D.C. Cir. 2016); *see also Sierra Club v. FERC*, 672 F. App'x 38, 39 (D.C. Cir. 2016). In *Freeport*, for example, the petitioners argued the Commission failed to adequately consider the downstream greenhouse gas emissions that would result from increased exports of natural gas because the Commission authorized construction of a natural gas export facility. We said the Commission's NEPA analysis did not have to address these downstream effects because the Department of Energy ("DOE") had the "sole authority to

license the export of any natural gas going through [the export facility].” *See Freeport*, 827 F.3d at 47; *see also EarthReports*, 828 F.3d at 955. Relying on binding precedent from the Supreme Court, we reasoned causation could not exist where an agency “‘has no ability to prevent a certain effect due to’ that agency’s ‘limited statutory authority over the relevant action.’” *Freeport*, 827 F.3d at 47 (quoting *Pub. Citizen*, 541 U.S. at 770) (alteration omitted); *see also EarthReports*, 828 F.3d at 955.

This case presents virtually identical circumstances. Under the Florida Electrical Power Plant Siting Act, “a power plant cannot be built unless a site certification is obtained” from the Florida Power Plant Siting Board (“the Board”). *Ecodyne Cooling Div. of Ecodyne Corp. v. City of Lakeland*, 893 F.2d 297, 299 (11th Cir. 1990) (citing Fla. Stat. §§ 403.506, 403.511). “Such certification constitutes the sole license for a power plant’s construction and operation.” *Id.* (citing Fla. Stat. § 403.511); *see also Seminole Tribe of Fla. v. Hendry Cty.*, 114 So. 3d 1073, 1075 (Fla. Dist. Ct. App. 2013) (“It is clear from this statutory language that the [Florida Electrical Power Plant Siting Act] is a centrally coordinated, one-stop licensing process.”). Accordingly, no power plant is built or expanded in the state of Florida—and consequently no greenhouse gases are emitted from Florida power plants—without the Board’s approval. *See Fla. Stat. § 403.506(1)* (stating no power plant may be constructed or expanded “without first obtaining certification” from the Board). This breaks the chain of causation. *See Pub. Citizen*, 541 U.S. at 754 (analogizing the NEPA causal relationship to “proximate cause in tort law”). NEPA does not require FERC to address indirect environmental effects resulting from the Board’s licensing decision. *See Freeport*, 827 F.3d at 47–48 (holding the Commission need not address downstream environmental effects if “triggering [the] chain of events” leading to those

effects requires the “critical . . . intervening action” of another agency).

Despite this clearly-controlling case law and the exclusive authority of the state Board to license the construction and expansion of power plants in Florida, the Court concludes FERC’s approval of the pipeline is a “legally relevant cause” of the greenhouse gas emissions from the Florida power plants. *See* Maj. Op. at 23. But its attempt to explain why NEPA operates more expansively when applied to pipelines compared to export terminals, as well as its arguments as to why the Florida Board should be treated differently than DOE under NEPA, are both ultimately unpersuasive. Both projects qualify as “major [f]ederal actions significantly affecting the quality of the human environment,” 42 U.S.C. § 4332(C), so there is no reason why NEPA’s requirement to consider indirect environmental effects would not apply equally to both. Moreover, nothing in the statutory language empowering the Commission to regulate export terminals and pipelines suggests the Commission’s authority is more limited in one circumstance than another. Congress has granted the Commission “the exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an [export] terminal,” 15 U.S.C. § 717b(e)(1), and to impose any conditions on those terminals the Commission finds to be “necessary or appropriate,” *id.* § 717b(e)(3)(A). Thus, the Commission has the power to approve or deny the construction and operation of export terminals subject to any conditions it wishes to impose. Likewise, Congress requires any applicant seeking to construct or extend natural gas transportation facilities to obtain a “certificate of public convenience and necessity” from the Commission. *Id.* § 717f(c)(1)(A). The Commission “shall” issue a certificate if “the applicant is able and willing properly to do the acts and to perform the service proposed” and if the proposed service or construction “is or

will be required by the present or future public convenience and necessity.” *Id.* § 717f(e). FERC also has the “power to attach to the issuance of the certificate . . . such reasonable terms and conditions as the public convenience and necessity may require.” *Id.* Accordingly, nothing in the text of either statute empowers the Commission to entirely deny the construction of an export terminal or the issuance of a certificate based solely on an adverse indirect environmental effect regulated by another agency. *See id.* §§ 717b(e), 717f(e).

The actual distinction between this case and the DOE cases discussed above is doctrinally invisible. We stated in *Freeport* that “[i]n the specific circumstances where . . . an agency has no ability to prevent a certain effect due to that agency’s limited statutory authority over the relevant action, then that action cannot be considered a legally relevant ‘cause’ of the effect for NEPA purposes.” 827 F.3d at 47. Those “specific circumstances” exist here. FERC’s statutory authority is limited by the fact that the Board, not FERC, has the “sole authority” to authorize or prohibit the construction or expansion of power plants in Florida. *See id.* at 48. If this Court wishes to apply the “touchstone of *Public Citizen*” that “[a]n agency has no obligation to gather or consider environmental information if it has no statutory authority *to act on that information*,” Maj. Op. at 21, it must consider not only whether an agency *can act*, but whether the results of such action *would have an effect* on the indirect environmental impact.

Even if the Court is correct that the Commission has the power to deny pipeline certificates based on indirect environmental concerns, such a denial represents the limit of the Commission’s statutory power. Nothing would prevent the Florida Board from independently approving the construction or expansion of the power plants at issue. In fact, the record

shows the Board has already approved some of these projects prior to the Commission reaching a decision on the proposed pipelines. JA 910–11. Moreover, there is also nothing preventing the Intervenor from pursuing an alternative method of delivery to account for the same amount of natural gas. Practical considerations point in the opposite direction. Both the Board and the Commission have concluded Florida has a need for additional natural gas, and nothing in today’s opinion takes issue with those holdings. Additionally, the Commission has concluded that the failure to take action to address this natural-gas shortage “could result in . . . fuel shortages” and “could lead to insufficient energy production to meet expected demands.” JA 920. Given the dire consequences of failing to act, it is inconceivable that the Intervenor utility companies would stand idly by and allow a power crisis to develop. The much more likely result is that they would simply choose another alternative—albeit a much more inconvenient, expensive, and possibly environmentally-harmful alternative—in response to a denial of a certificate by FERC. *See* Oral Arg. Rec. at 59:45–59:50 (stating the Intervenor are “going to keep the lights on” regardless of whether FERC approves the pipelines).

Thus, just as FERC in the DOE cases and the Federal Motor Carrier Safety Administration in *Public Citizen* did not have the legal power to prevent certain environmental effects, the Commission here has no authority to prevent the emission of greenhouse gases through newly-constructed or expanded power plants approved by the Board. To be sure, the Commission could make it extremely inconvenient to deliver the same amount of natural gas to the plants, but this is an issue of practicality, which, as conceded by the majority, is irrelevant under NEPA. *See* Maj. Op. at 23. Accordingly, the Commission was not obligated under NEPA to discuss

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downstream greenhouse gas emissions, and I would deny the entire petition for review.

Exhibit B

- Impacts on forest resources would occur along 686 miles of pipeline right-of-way in three states, thereby avoiding significant cumulative impacts in any localized area or in conjunction with any other project.
- The forest impacts associated with the SMP Project are not significant when considered in comparison to the substantial extent of the resource in the region.

Adding the SMP Project's impacts on forest with the forest clearing of other projects/actions would contribute to a cumulative impact within the region of influence. The actual amount and timing of forest clearing, and the restoration or mitigation measures that other project proponents may implement is unknown. However, based on the linear nature of the SMP Project and the impacts of the project as discussed above, we have determined that this cumulative impact would not be significant.

3.14.3 Cumulative Impacts on Air Quality

Other projects/actions within the regions of influence would involve the use of heavy equipment that would temporarily increase traffic, dust, and air emissions. Additionally, when completed, the energy, residential, commercial, industrial, and other developments in the regions of influence would permanently increase air emissions. The combination of these effects would add to a cumulative impact on air quality in the region.

Emissions from construction equipment would be primarily restricted to daylight hours and would be minimized through applicable equipment emission standards. Because the construction emissions would be short-term, intermittent, and highly localized, cumulative impacts would depend on the type and location of construction activities occurring at the same time. The majority of these effects would be mitigated by the large geographical area over which the various projects are located and the fact that the SMP Project would be constructed in phases over a 5 year period. Construction air emissions from the SMP Project are not expected to have a significant impact on air quality in the region.

The counties where the proposed compressor stations would be located are designated as attainment or unclassifiable for all NAAQS criteria pollutants. The operational emissions from the SMP Project would not be expected to cause or significantly contribute to a NAAQS exceedance and the other notable and reasonably foreseeable stationary source projects in the region would either result in notable emissions reductions, insignificant emission increases, or be required to comply with applicable air quality regulations. The most notable of these would be the net emission reductions for all pollutants except for VOCs and GHGs at the DEF Citrus Plant, where two coal-fired units would be replaced with higher-efficiency natural gas units. It's important to note that the net emission change is based on past actual emissions from the coal units versus future projected emissions of the new equipment (which DEF estimated based on continuous operation – 8,760 hours per year – for the new natural gas combustion turbines).

3.14.4 Cumulative Impacts on Climate Change

We received several comments expressing concern about the SMP Project's contribution to global climate change. Climate change is the change in climate over time, whether due to natural variability or as a result of human activity, and cannot be represented by single annual events or individual anomalies. For example, a single large flood event or particularly hot summer are not indications of climate change, while a series of floods or warm years that statistically change the average precipitation or temperature over years or decades may indicate climate change.

The Intergovernmental Panel on Climate Change (IPCC) is the leading international, multi-governmental scientific body for the assessment of climate change. The United States is a member of the IPCC and participates in the IPCC working groups to develop reports. The leading U.S. scientific body on climate change is the U.S. Global Change Research Program (USGCRP). Thirteen federal departments and agencies participate in the USGCRP, which began as a presidential initiative in 1989 and was mandated by Congress in the Global Change Research Act of 1990.

The IPCC and USGCRP have recognized that:

- globally, GHGs have been accumulating in the atmosphere since the beginning of the industrial era (circa 1750);
- combustion of fossil fuels (coal, petroleum, and natural gas), combined with agriculture and clearing of forests is primarily responsible for this accumulation of GHG;
- these anthropogenic GHG emissions are the primary contributing factor to climate change; and
- impacts extend beyond atmospheric climate change alone, and include changes to water resources, transportation, agriculture, ecosystems, and human health.

In May 2014, the USGCRP issued a report, *Climate Change Impacts in the United States*, summarizing the impacts that climate change has already had on the United States and what projected impacts climate change may have in the future (USGCRP, 2014). The report includes a breakdown of overall impacts by resource and impacts described for various regions of the United States. Although climate change is a global concern, for this cumulative analysis, we will focus on the potential cumulative impacts of climate change in the SMP Project area.

The USGCRP's report notes the following observations of environmental impacts that may be attributed to climate change in the Southeast region:

- temperatures are projected to increase another 4 to 8 °F by 2100, resulting in increased harmful algal blooms; increased disease-causing agents; spread of non-native plants; reduced dairy and livestock production; and reduced crop productivity;
- the number of days above 95 °F are projected to increase, resulting in major human health implications;
- the global sea level has risen by about 8 inches since reliable record keeping began in 1880, and is projected to rise another 1 to 4 feet by 2100;
- coastal water temperature in several regions are likely to continue warming as much as 4 to 8 °F by 2100;
- increasing acidification resulting from the uptake of CO₂ by ocean waters threatens corals, shellfish, and other living things that form their shells and skeletons from calcium carbonate;
- substantial increases in the extent and frequency of storm surge, coastal flooding, erosion, property damage, and loss of wetlands;

- the intensity, frequency, and duration of North Atlantic hurricanes, as well as the frequency of Category 4 and 5 hurricanes, have increased since the early 1980s;
- short-term droughts are expected to intensify, resulting in decreased aquifer recharge and groundwater availability;
- the number of days that fail to meet federal air quality standards is projected to increase with rising temperatures if there are no additional controls on ozone-causing pollutants; and
- extreme weather events are affecting energy production and delivery facilities, resulting in supply disruptions of varying lengths and magnitudes.

GHG emissions are a primary cause of climate change (EPA, 2014c). Of the GHGs emitted, CO₂ is the most prevalent, accounting for 82 percent of all U.S. emissions in 2012 (EPA, 2014d). Methane (CH₄) is the second most prevalent, accounting for 9 percent of the total U.S. emissions (EPA, 2014e). Between 1990 and 2012, natural gas and petroleum systems accounted for 29 percent of CH₄ emissions in the United States. Although the amount of CH₄ being emitted into the atmosphere is significantly less than that of CO₂, the comparative impact of CH₄ on climate change over a 100-year period (that is, its GWP) is more than 20 times greater (EPA, 2014f). Fugitive CH₄ emissions are common in natural gas systems and can occur during natural gas production, transmission, storage, and distribution (EPA, 2014g).

Currently, there is no standard methodology to determine how the proposed SMP Project's incremental contribution to GHGs would translate into physical effects of the global environment. However, we acknowledge that operation of SMP Project would result in the distribution and consumption of about 1,000,000 Dth/d of natural gas. As discussed earlier, portions of this gas would be consumed by power plants that are replacing coal fired units. Because natural gas emits less CO₂ compared to other fuel sources (e.g., fuel oil or coal), it is anticipated that consumption of the distributed gas to converted power plants would reduce current GHGs emissions, thereby potentially offsetting some regional CO₂ emissions.

We received comments stating that our climate change analysis should include a lifecycle analysis of the SMP Project and that our analysis does not quantify the potential emission offset by the displacement of coal-based electricity with that of natural gas. The Commission staff's longstanding practice is to conduct an environmental review for each proposed project, or a number of proposed projects that are interdependent or otherwise interrelated or connected. Actions are "connected" if they: "[a]utomatically trigger other actions which may require environmental impact statements;" "[c]annot or will not proceed unless other actions are taken previously or simultaneously;" or "[a]re interdependent parts of a larger action and depend on the larger action for their justification."²⁴ NEPA does not, however, require us to engage in speculative analyses or provide information that will not meaningfully inform the decision-making process. Even if we were to find a sufficient connected relationship between the proposed project and upstream development or downstream end-use, it would still be difficult to meaningfully consider these impacts, primarily because emission estimates would be largely influenced by assumptions rather than direct parameters about the project. It is suggested that stakeholders, or other interested parties review the U.S. Department of Energy's National Energy Technology Laboratory's May 29, 2014 report: *Life Cycle Analysis of Natural Gas Extraction and Power Generation*. This report looks at the lifecycle of natural gas from various sources and compares the lifecycle GHG emissions to other

²⁴ 40 C.F.R. § 1508.25(a)(1)(i)-(iii).

fuels used for energy production (most notably coal). The report indicates that, although natural gas may have higher upstream GHG than coal, the total lifecycle GHG emissions from electricity production using natural gas is significantly lower than that of electricity from coal. In addition, emissions of criteria pollutants, and HAPs are significantly less from natural gas combustion than for coal. For a typical (baseload) case, the report indicates that the lifecycle emissions of electricity from natural gas are less than half that of coal.

Potential future projects that would not be directly offsetting GHG emissions from higher intensity sources (i.e., source that emit more GHGs per unit of electrical power generated), such as the DEF Citrus Plant and the FPL Okeechobee Plant, would undergo state and federal air permitting processes and would be subject to pertinent emission and mitigation requirements.

Based on these factors, we conclude the SMP Project would not significantly contribute to GHG cumulative impacts.

3.14.5 Cumulative Impacts Conclusion

The SMP Project would occur in a region that has been significantly affected by previous human activity. If constructed, the SMP Project and the energy projects, residential and other developments, roadway projects, and mining operations that occur within the regions of influence would result in varying degrees of cumulative impact on different resources depending on the type and scope of each project, their proximity to each other, the timeframe in which they are constructed, and the measures that would be implemented to avoid or reduce impacts at each project site. The majority of the impacts resulting from the SMP Project would be temporary and about 65 percent of the pipeline facilities would be collocated with existing infrastructure, thereby reducing overall impacts. As discussed in this EIS, the environmental impacts associated with the SMP Project would be less than significant if the SMP Project is constructed and operated in accordance with the Applicants' proposed construction and restoration plans, other applicable regulations or permit requirements, and our additional recommendations. Therefore, we conclude that the impacts of constructing and operating the SMP Project when added to the impacts of the aforementioned projects would not result in a significant cumulative impact on the environment.