United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued February 12, 2024 Decided July 16, 2024

No. 23-1069

HEALTHY GULF, ET AL.,
PETITIONERS

v.

FEDERAL ENERGY REGULATORY COMMISSION,
RESPONDENT

COMMONWEALTH LNG, LLC,
INTERVENOR

Consolidated with 23-1071

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

Nathan Matthews argued the cause for petitioners. With him on the briefs were *Rebecca McCreary*, *Caroline Reiser*, *Morgan Johnson*, and *Jared E. Knicley*.

Susanna Y. Chu, Attorney, Federal Energy Regulatory Commission, argued the cause for respondent. With her on the

brief were *Matthew R. Christiansen*, General Counsel, and *Robert H. Solomon*, Solicitor.

John Longstreth argued the cause for intervenor in support of respondent. With him on the brief were *David L. Wochner* and *Timothy J. Furdyna*.

Before: HENDERSON, PAN, and GARCIA, *Circuit Judges*.

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

GARCIA, *Circuit Judge*: Healthy Gulf and four other environmental groups petition for review of the Federal Energy Regulatory Commission's decision to authorize the construction and operation of liquefied natural gas facilities in southwestern Louisiana. They argue that the Commission did not properly address certain National Environmental Policy Act and Natural Gas Act requirements. We agree, in part. The Commission inadequately explained its failure to determine the environmental significance of the project's greenhouse gas emissions, and it failed to adequately assess the cumulative effects of the project's nitrogen dioxide emissions. The Commission did, however, satisfy its obligation to consider alternatives to the project. We therefore grant the petitions in part, deny them in part, and remand for further consideration.

I

A

The Commission exercises delegated authority under Section 3 of the Natural Gas Act ("NGA") to "approve or deny an application for the siting, construction, expansion, or operation" of facilities used to export liquefied natural gas ("LNG"). 15 U.S.C. § 717b(e)(1); *see EarthReports, Inc. v.*

FERC, 828 F.3d 949, 952–53 (D.C. Cir. 2016). The Commission "shall" approve such an application unless it finds that the project "will not be consistent with the public interest." 15 U.S.C. § 717b(a); *see EarthReports*, 828 F.3d at 953.

"Before authorizing the construction and operation of a proposed LNG facility . . . the Commission must conduct an environmental review" under the National Environmental Policy Act ("NEPA"). *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1325 (D.C. Cir. 2021). If, as here, the Commission determines that approval of the facility constitutes a "major Federal action[] significantly affecting the quality of the human environment," the Commission must prepare an Environmental Impact Statement ("EIS"). 42 U.S.C. § 4332(2)(C); *see id.* § 4336(b)(1). Among other things, the EIS must address the "reasonably foreseeable environmental effects" of the proposed action as well as "a reasonable range of alternatives . . . that are technically and economically feasible, and meet the purpose and need of the proposal." *Id.* §§ 4332(2)(C)(i), (iii). The EIS "forces the [Commission] to take a 'hard look' at the environmental consequences of its actions" and "ensures that [those] consequences, and the [Commission's] consideration of them, are disclosed to the public." *Sierra Club v. FERC* ("*Sabal Trail*"), 867 F.3d 1357, 1367 (D.C. Cir. 2017).

B

On August 20, 2019, Commonwealth LNG, LLC ("Commonwealth") applied to the Commission for authorization to build and operate a natural gas liquefaction and export facility in Cameron Parish, Louisiana (the "Project"). The Project would be located on approximately 153 acres of land on the west side of the Calcasieu Ship Channel, near the entrance to the Gulf of Mexico. As relevant here,

Commonwealth's proposal included six LNG storage tanks, a marine facility consisting of an LNG carrier berth and barge dock, and utilities for electricity generation.

On September 9, 2022, after taking public comments on the Project's potential environmental impacts, the Commission issued a final EIS ("FEIS"). The FEIS found that, although the Project would have a permanent and significant impact on visual resources in the area, other impacts would not be significant or would be reduced to less-than-significant levels if certain recommended measures were incorporated into the Project.

On November 17, 2022, the Commission authorized the Project as modified by the FEIS's recommendations. *See* Order Granting Authorization Under Section 3 of the Natural Gas Act, *Commonwealth LNG, LLC*, 181 FERC ¶ 61,143 (Nov. 17, 2022) ("Authorization Order"). The Authorization Order found that the Project as modified constitutes an "environmentally acceptable action," *id.* ¶ 84, and that its construction and operation are "not inconsistent with the public interest," *id.* ¶ 85.

On December 19, 2022, petitioners requested rehearing. Petitioners claimed that the Commission failed to reasonably assess the Project's greenhouse gas ("GHG") emissions, air pollution impacts, and impacts on sensitive species; rigorously explore all reasonable alternatives; and properly balance adverse effects and benefits under the NGA Section 3 public interest analysis. On January 19, 2023, after the Commission failed to timely respond, petitioners' request was deemed denied by operation of law.

On March 15, 2023, petitioners asked this court to review the Commission's order. We granted Commonwealth leave to intervene. On June 9, 2023, while the petitions were pending,

the Commission issued an order addressing the rehearing request and affirming the authorization. *See* Order Addressing Arguments Raised on Rehearing, *Commonwealth LNG, LLC*, 183 FERC ¶ 61,173 (June 9, 2023) ("Rehearing Order").

II

We review petitioners' NEPA claims under the "arbitrary and capricious" standard of the Administrative Procedure Act ("APA"). *Nevada v. U.S. Dep't of Energy*, 457 F.3d 78, 87 (D.C. Cir. 2006). "Our role is not to flyspeck an agency's environmental analysis, looking for any deficiency no matter how minor, but instead 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." *Birckhead v. FERC*, 925 F.3d 510, 515 (D.C. Cir. 2019) (per curiam) (citations and quotation marks omitted). We therefore ask whether the agency "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action[,] including a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks omitted).

Petitioners assert that the Commission failed to comply with NEPA because it arbitrarily declined to determine whether the Project's GHG emissions would be significant; inadequately assessed the cumulative effects of the Project's nitrogen dioxide ("NO_2") emissions; and failed to properly consider alternatives to Commonwealth's proposal. We agree with the first and second arguments but reject the third.

A

Petitioners contend that NEPA compels the Commission to determine the significance of the Project's GHG emissions.

They cite Council of Environmental Quality ("CEQ") regulations stating that the "discussion" of environmental consequences in an EIS "shall include . . . [t]he environmental impacts of the proposed action . . . and the significance of those impacts," 40 C.F.R. § 1502.16(a)(1) (2020),[1] and the Commission's own regulations, which require an EIS to disclose summaries of "[t]he significant environmental impacts of the proposed action." 18 C.F.R. § 380.7(a); *see also id.* § 380.7(d) (mandating disclosure of "significant environmental impacts" that "cannot be mitigated"). In the orders on review, the Commission did not dispute the premise that it is generally required to determine whether the impacts of GHG emissions are significant or not when it can reasonably do so.[2]

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[1] The CEQ regulations cited here and elsewhere in the opinion have since been amended, but those amendments did not take effect until after the Commission entered the challenged orders. *See* National Environmental Policy Act Implementing Regulations Revisions Phase 2, 89 Fed. Reg. 35,442 (May 1, 2024) (effective July 1, 2024). Thus, we cite and apply the regulations in effect at the time of the orders. *See Ctr. for Biological Diversity v. FERC*, 67 F.4th 1176, 1181 n.2 (D.C. Cir. 2023).

[2] After oral argument, this court held in another case that NEPA and the CEQ regulation cited above do not require an agency to formally label GHG emissions and their ensuing costs "as either significant or insignificant," so long as the agency prepares an EIS and adequately discusses the emissions and their significance. *Food & Water Watch v. FERC*, 2024 WL 2983833, at *6 (D.C. Cir. 2024). That holding does not affect this case for the reason mentioned above: In the orders on review here, the Commission did not dispute the premise that it must make a significance determination absent a sufficient explanation for not doing so in a particular proceeding, *see* Authorization Order ¶¶ 75–76; Rehearing Order ¶¶ 38–41. The longstanding *Chenery* principle requires us to "judge the propriety of [agency] action solely by the grounds invoked by the agency." *SEC*

In the FEIS, the Commission estimated that the direct GHG emissions from the Project's operation would result in an annual increase of about 3.2 million metric tons of carbon dioxide equivalent ("CO_2e"). J.A. 380. The FEIS also compared those estimated emissions to current state and national emissions levels and estimated the Project's impact using the "social cost of carbon," a method of quantifying in dollars the climate change impact of greenhouse gas emissions. J.A. 380–82; *see Del. Riverkeeper Network v. FERC*, 45 F.4th 104, 111 (D.C. Cir. 2022). But the Commission then explained why it could not reasonably determine whether those emissions are significant:

> To date, Commission staff have not identified a methodology to attribute discrete, quantifiable, physical effects on the environment resulting from the Project's incremental contribution to GHGs. Without the ability to determine discrete resource impacts, Commission staff are unable to assess the Project's contribution to

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v. Chenery Corp., 332 U.S. 194, 196 (1947); *see Calcutt v. FDIC*, 598 U.S. 623, 624 (2023) (same). We therefore assess the Commission's explanation—and only that explanation—for not making a significance determination here.

Petitioners would further distinguish *Food & Water Watch* on the ground that the opinion did not address Commission regulations that—petitioners argue—independently require the agency to make a binary significance determination for GHG emissions. Petitioners' F.R.A.P. 28(j) Letter at 1 (June 24, 2024) (citing 18 C.F.R. §§ 380.7(a), (d)). But petitioners never relied on those regulations in making their argument below, so we lack jurisdiction to consider them. 15 U.S.C. § 717r(b).

> climate change through any objective analysis of physical impact attributable to the Project.

J.A. 380. In the Rehearing Order, the Commission restated its explanation: "[T]here currently are no accepted tools or methods for the Commission to use to determine [GHG] significance." Rehearing Order ¶ 41.

Petitioners argued below, and now argue before us, that the Commission could have used either of two specific methods to determine the significance of project-level GHG emissions. But the agency adequately explained why it rejected each of those approaches.

First, petitioners submit the Commission should have "consider[ed]" applying its February 2022 policy statement on the evaluation of climate impacts. Petitioners' Brief 30. Per the statement, "[a] project with estimated emissions of 100,000 metric tons per year of CO_2e or greater" is "presumed to have a significant effect" on the environment. Interim Policy Statement, *Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews*, 178 FERC ¶ 61,108, ¶ 81 (Feb. 18, 2022). Because the Project's emissions are projected to exceed that threshold many times over, petitioners argue that they are significant. But as the Commission explained, that policy has since been suspended and opened to further public comment as a draft statement. Rehearing Order ¶ 41 n.135. Indeed, in its order reclassifying the statement as a draft, the Commission declared that it would not apply the policy "to pending applications or applications filed before the Commission issues any final guidance." Order on Draft Policy Statements, *Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews*, 178 FERC ¶ 61,197, ¶ 2 (Mar. 24, 2022). In an opinion issued after the parties completed briefing, we upheld the Commission's

decision to not apply the February 2022 policy statement on the same grounds. *See Ala. Mun. Distribs. Grp. v. FERC*, 100 F.4th 207, 214–15 (D.C. Cir. 2024). Because we see no reason or basis to distinguish *Alabama Municipal*, we reach the same conclusion here.

Second, petitioners fault the Commission for not applying the "social cost of carbon" to determine GHG significance. The FEIS estimated that the social cost of the Project's reasonably foreseeable GHG emissions up to the year 2050 ranged from approximately $900 million to $5.5 billion, depending on the discount rate applied. J.A. 381. In the Rehearing Order, the Commission explained that it disclosed those figures for "informational purposes" but declined to use the method to make a significance determination because "there are no criteria to identify what monetized values are significant for NEPA purposes," and the Commission is "currently unable to identify any such appropriate criteria." Rehearing Order ¶ 40. Put differently, the "social cost of GHGs tool merely converts GHG emissions estimates into a range of dollar-denominated figures; it does not, in itself, provide a mechanism or standard for judging 'significance.'" *Id.* ¶ 40 n.128. Once again, we have previously found this rationale sufficient to survive APA review, and we see no basis to deviate now. *See Ctr. for Biological Diversity v. FERC*, 67 F.4th 1176, 1183–84 (D.C. Cir. 2023); *EarthReports*, 828 F.3d at 956.

Petitioners emphasize that, in both *Center for Biological Diversity* and *EarthReports*, the Commission identified additional reasons for not using the social cost of carbon to determine significance—reasons the Commission does not advance here. *Compare Ctr. for Biological Diversity*, 67 F.4th at 1184 (explaining "the lack of consensus about how to apply the social cost of carbon on a long time horizon" and that the

method "places a dollar value on carbon emissions but does not measure environmental impacts as such") *and EarthReports*, 828 F.3d at 956 (same), *with* Rehearing Order ¶ 40 (relying solely on the lack-of-significance-criteria rationale). In petitioners' view, this distinction matters because no court has held that the Commission's lack-of-criteria explanation alone justifies refusing to use the method to determine GHG significance.

But petitioners fail to convincingly articulate why that explanation is insufficient on its own. They argue that significance determinations for environmental effects always involve subjective judgment calls, and that NEPA requires agencies to make informed judgments the best they can with the data they have. *See Duncan's Point Lot Owners Ass'n v. FERC*, 522 F.3d 371, 376 (D.C. Cir. 2008); *Spiller v. White*, 352 F.3d 235, 244 n.5 (5th Cir. 2003); *Mont. Wilderness Ass'n v. McAllister*, 666 F.3d 549, 559 (9th Cir. 2011). But those points do not engage with the Commission's concern. The Commission's reluctance to assess the significance of the Project's GHG emissions using the social cost of carbon is not based on an aversion to subjective judgments, nor is it based on a lack of data. Instead, the Commission explained that it has not yet identified criteria that would allow it to non-arbitrarily determine when identified social costs become significant under NEPA. Petitioners in this case do not offer any such criteria themselves, nor do they provide us with any other basis to question the Commission's expert judgment.

Separately, petitioners raise one more challenge to the adequacy of the Commission's explanation of why it did not determine whether the Project's GHG emissions were significant: They contend that the Commission failed to explain its apparent departure from the approach it took in

Northern Natural Gas Co., 174 FERC ¶ 61,189 (2021). On this point, we agree.

In *Northern Natural*, the Commission compared a project's reasonably foreseeable GHG emissions to the total GHG emissions of the United States and determined that the emissions were not significant. *Id.* ¶ 34. "That comparison . . . provide[d] [the Commission] with a reasoned basis to consider the significance of the project's GHG emissions and their potential impact on climate change." *Id.* The Commission found that the project's operations would increase national GHG emissions by only 0.000006%. *Id.* Because the increase was so marginal, the Commission concluded that "[h]owever [its] approach to the significance analysis evolves, the reasonably foreseeable GHG emissions associated with th[e] project would not be considered significant." *Id.* ¶ 33.

Petitioners argued to the Commission that the converse is true here. *See* J.A. 483. Recall that the Project would emit an estimated 3.2 million metric tons of CO_2e a year. That number represents a 0.06% increase in national emissions levels and a 1.7% increase in Louisiana's emissions levels, J.A. 381, and is roughly thirty-two times the Commission's draft significance threshold of 100,000 metric tons.[3] Petitioners raise a meaningful argument that it is unclear why the Commission could not have concluded, using the logic of *Northern Natural*, that the Project's GHG emissions were significant because they would register above any threshold the Commission could reasonably adopt.

[3] Petitioners cite the Project's 3.6 million tons of annual CO_2e emissions, Reply Brief 9, which is equivalent to 3.2 million metric tons.

The Commission's orders, however, did not acknowledge petitioners' argument nor provide any other explanation of why *Northern Natural*'s logic would not apply here. That failure is a straightforward violation of the APA's reasoned decision-making requirements: When "a party makes a significant showing that analogous cases have been decided differently, the agency must do more than simply ignore that argument." *LeMoyne-Owen Coll. v. NLRB*, 357 F.3d 55, 61 (D.C. Cir. 2004).

We have no occasion to decide whether *Northern Natural*'s logic in fact applies here. Perhaps the Commission would distinguish between insignificance determinations like the one made in *Northern Natural*, for which there is a logical lower bound of comparison (zero), and significance determinations, for which no comparable upper bound of comparison exists. Or perhaps the Commission would offer a different distinction. In any event, what matters for purposes of our review is that the Commission did not offer any explanation at all for not factoring in *Northern Natural*'s mode of analysis. Because the Commission neglected to address whether and why its order in *Northern Natural* is distinguishable, we remand for it to do so.

B

Next, petitioners correctly argue that the Commission's analysis of the cumulative effects of the Project's NO_2 emissions was arbitrary.

NEPA regulations mandate that an EIS consider not only a proposed project's "[d]irect" and "[i]ndirect" effects on the environment—which together are the project's "incremental effects"—but also its "[c]umulative effects." 40 C.F.R. §§ 1508.1(g)(1)–(3) (2022). Cumulative effects are the "effects on the environment that result from the incremental

effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency . . . or person undertakes such other actions." *Id.* § 1508.1(g)(3). They "can result from individually minor but collectively significant actions taking place over a period of time." *Id.* NEPA's mandate to consider the cumulative effects of a project makes sense: A project's incremental emissions do not exist in a vacuum, and requiring consideration of the overall state of the surrounding environment helps ensure that agencies do not overlook the full impact of those emissions. *See Grand Canyon Trust v. FAA*, 290 F.3d 339, 342 (D.C. Cir. 2002) (agencies "must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum").

The FEIS endorsed Commonwealth's cumulative modeling of the Project's air quality effects, including NO_2 emissions. The model adopted two thresholds set by the Environmental Protection Agency: National Ambient Air Quality Standards ("NAAQS") and Significant Impact Levels ("SILs"). The Clean Air Act ("CAA") requires EPA to publish a list of air pollutants that "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7408(a)(1)(A). For each such pollutant, EPA must issue NAAQS, which it sets at the level "requisite to protect the public health" while "allowing an adequate margin of safety." *Id.* § 7409(b)(1). As part of the CAA permitting process, to determine whether a proposed emissions source (such as the Project) causes or contributes to a NAAQS exceedance for a particular pollutant, the permitting agency applies that pollutant's SIL. *See* 40 C.F.R. § 51.165(b)(2). Petitioners challenge the way the Commission used those thresholds to assess the cumulative effects of the Project's NO_2 emissions.

In the FEIS, the Commission identified certain NO_2 NAAQS exceedances in the Project's vicinity. J.A. 374. It then used the SIL to determine whether the Project's incremental emissions were significant and concluded they were not. *See* J.A. 342 (noting that "emissions only associated with the Project" are compared to "corresponding significant impact levels" to determine if the emissions concentrations are "'significant'"). The Commission then redeployed the SIL to determine whether the Project's cumulative effects were significant. It concluded that they were not, for the same reason as for the incremental emissions: because the Project's incremental contribution "would be less than the [1-hour] significant impact level at each exceedance location." J.A. 316; *see also* J.A. 376 (noting the Project "would only contribute a minor amount to cumulative air impacts"); Authorization Order ¶ 63 (endorsing this analysis).

We agree with petitioners that the Commission's approach to assessing cumulative NO_2 effects was arbitrary. The Commission does not dispute that it found the Project's NO_2 emissions' *cumulative* effects insignificant because the Project's *incremental* NO_2 emissions fell below the 1-hour NO_2 SIL at each NAAQS exceedance location. In other words, the Commission said that because the project's incremental effects were insignificant, its cumulative effects were, too. That is a non sequitur. Again, NEPA requires the Commission to assess the Project's cumulative effects, which are the "effects on the environment that result from the incremental effects of the action *when added to* the effects of other past, present, and reasonably foreseeable actions." 40 C.F.R. § 1508.1(g)(3) (2022) (emphasis added). Simply measuring the Project's own emissions against the SIL fails to satisfy that requirement. Indeed, on the Commission's view, the cumulative effect of a Project's emissions would never be deemed significant unless the Project's incremental emissions were already significant on

their own. That approach would eviscerate the purpose behind requiring a distinct cumulative effects analysis in the first place, which is to account for "collectively significant" environmental impacts that may result from "individually minor" actions. *Id*.

We therefore remand for the Commission either to explain how its use of the 1-hour NO_2 SIL is consistent with a proper cumulative effects analysis or to adequately assess the cumulative effects of the Project's NO_2 emissions using a different methodology.

Petitioners also raise a distinct challenge to the Commission's air quality analysis that we find unpersuasive. Petitioners assert that the 1-hour NO_2 SIL should not be used at all in NEPA effects analyses, even for assessing a project's incremental effects. They argue that, unlike with the corresponding NAAQS, "EPA did not engage in any comparable analysis or expert judgment in proposing the interim one-hour nitrogen dioxide Significant Impact Level." Petitioners' Brief 49. Petitioners are mistaken. EPA "derived" the 1-hour NO_2 SIL "by using an impact equal to 4% of the 1-hour NO_2 NAAQS," and EPA has explained its choice of the 4% threshold. *See* EPA, *Guidance Concerning the Implementation of the 1-Hour NO_2 NAAQS for the Prevention of Significant Deterioration Program* Att. 1 ("2010 EPA Guidance"), at 12 (June 29, 2010), https://perma.cc/MSH8-VBXD. Because the NAAQS are a "generally accepted standard" for evaluating air-pollution effects in the NEPA context, *see Sabal Trail*, 867 F.3d at 1370–71 n.7, we see no reason why the Commission could not also apply the derivative SIL as part of its analysis.

C

Petitioners next contend that the Commission failed to adequately consider three alternatives to the Project: replacing the terminal's simple-cycle power plant with a 120-megawatt combined-cycle power plant, eliminating one of the six LNG storage tanks, and mandating the use of carbon capture and sequestration.

Although NEPA regulations require the Commission to "[e]valuate reasonable alternatives to the proposed action," 40 C.F.R. § 1502.14(a) (2020), the Commission "need not provide the same level of detailed analysis . . . that it provides for the action under review," *Ctr. for Biological Diversity*, 67 F.4th at 1183. The discussion of alternatives "need not be exhaustive" so long as there is "information sufficient to permit a reasoned choice." *Birckhead*, 925 F.3d at 515. Here, the Commission's consideration of each of the three alternatives sufficed.

1

Public comments asked Commonwealth to consider a combined-cycle power plant instead of its proposed simple-cycle power plant to generate 120 megawatts of onsite power for the Project. J.A. 302. The FEIS explained that, compared to a simple-cycle generator, the combined-cycle alternative "converts more energy from fuel gas to electricity," but its "refrigerant compressor gas turbine drives consume more fuel." *Id*. The net result would be fuel and emissions savings of "less than 10 percent." *Id.* On the other side of the equation, the Commission noted that the combined-cycle alternative would need "significant[ly]" more land "to accommodate [its] waste heat recovery equipment, steam turbine, air-cooled condenser, and water treatment facilities." *Id.* That additional space "would require an expansion of the [t]erminal into eastern black rail habitat and wetlands." *Id.* Weighing the

potential emissions reduction against the increased land use, the Commission concluded that the combined-cycle alternative "would not provide a significant environmental advantage to Commonwealth's proposal." *Id.*; *see* Rehearing Order ¶ 26.

Petitioners counter that "[n]othing in the record supports [the Commission's] claim that a combined cycle alternative would require a bigger footprint." Petitioners' Brief 57. They argue that although the waste heat recovery equipment for combined-cycle plants takes up space, that does not "necessarily" translate into "a larger overall footprint," "because the turbine itself can be smaller." *Id.* But as the Commission explained, the air-cooled condenser and water treatment facilities would also take up additional space compared to a simple-cycle plant. J.A. 302. Petitioners do not dispute that fact, nor do they claim that the added footprint from those features is canceled out by some other space-saving aspect of the combined-cycle design.

Petitioners also contend that the Commission should have assessed exactly how much additional space would be needed to implement the combined-cycle alternative. But they point to no authority indicating that the Commission must precisely quantify competing environmental considerations when evaluating alternatives. Moreover, the Commission did present a space estimate, explaining that the 120-megawatt combined-cycle alternative's footprint would fall in between the proposed simple-cycle generator's footprint and the 100-acre 500-megawatt combined-cycle alternative that the Commission had also considered as part of its analysis. *Id*. Although the Commission certainly could have been more precise in its estimate, that alone does not render its assessment of the combined-cycle alternative arbitrary or capricious. *See Indian River Cnty. v. U.S. Dep't of Transp.*, 945 F.3d 515, 533 (D.C.

Cir. 2019) ("[W]e must give deference to agency judgments as to how best to prepare an EIS.").

2

Next, Petitioners argue that the Commission failed to reasonably consider an alternative terminal configuration that would have incorporated five LNG storage tanks instead of the proposed six.

In Commonwealth's original 2019 application to the Commission, the Project design included six LNG storage tanks, each with a 40,000 m^3 capacity, for a total storage capacity of 240,000 m^3. J.A. 300. In its 2021 application amendment, however, Commonwealth adjusted the proposed design of the tanks so that each one would have a 50,000 m^3 capacity, for a total storage capacity of 300,000 m^3. *Id.* Despite the increase in proposed storage capacity, Commonwealth did not propose a corresponding increase in LNG production. *Id.* That prompted a commenter to request that Commonwealth alter the configuration of the terminal to incorporate five 50,000 m^3 tanks, for a total storage capacity of 250,000 m^3. *Id.* That capacity would still be greater than what Commonwealth originally proposed and would potentially reduce the Project footprint. *Id.*

The Commission considered and rejected the five-tank alternative, concluding that operational considerations outweighed the maximum 2.3-acre potential reduction in the Project's wetlands encroachment. *Id.* The Commission explained that the additional storage capacity from Commonwealth's updated six-tank configuration "reduce[d] the likelihood that the [t]erminal would need to shut down" during inclement weather events, when LNG carriers "would not be able to berth at the [t]erminal and offload LNG from the [t]erminal in a timely fashion." *Id.* Without that added

capacity, Commonwealth would need to shut down and restart the terminal more often, which would result in greater adverse air impacts due to the associated "flaring events." *Id.*

Mirroring their earlier argument, petitioners assert that the Commission needed to quantify the emissions savings attending the six-tank configuration before concluding that those savings justified rejecting the footprint-reducing five-tank proposal. But again, petitioners point to no precedent requiring such granular analysis when considering alternatives. What matters is whether the Commission based its decision to prioritize operational flexibility on "information sufficient to permit a reasoned choice." *Birckhead*, 925 F.3d at 515 (quotation omitted). It did. In the Rehearing Order, the Commission explained that it viewed Commonwealth's operational considerations as "well-founded" because the company had provided a list of the thirty-three instances in which the nearby Calcasieu Ship Channel closed over an eight-month period due to inclement weather. Rehearing Order ¶ 31. The Commission also noted that Commonwealth had proposed to construct only a single berthing dock for the Project, which further "limit[ed] the flexibility with which [it] could reduce tank inventory when needed compared to facilities with multiple berths." *Id*. These concerns formed an adequate basis for the Commission's decision to reject the five-tank alternative.

Zooming out, petitioners argue that the Commission's consideration of the five-tank alternative is inconsistent with its assessment of the 120-megawatt combined-cycle alternative. With the former, the Commission chose to "protect wetlands at the expense of air" while with the latter, it chose to "protect[] air at the expense of wetlands." Petitioners' Brief 64. In context, however, these choices are not inherently in conflict with one another. As petitioners concede, in

considering the two alternatives, the Commission did "not conclude[] that air impacts are categorically more important than wetland or habitat, or vice versa." *Id.* Rather, the Commission made decisions based on the relevant considerations specific to each alternative, and it explained those decisions in sufficient detail.

3

Finally, petitioners maintain that the Commission failed to adequately consider requiring carbon capture and sequestration for the Project.

In the FEIS, the Commission relied on Commonwealth's representation that, although the Project could technically capture and transport CO_2, "there are no CO_2 sequestration facilities beneath the Gulf of Mexico seabed in Cameron Parish or near the Project site." J.A. 382. The Commission thus determined that carbon capture and sequestration was presently infeasible. *See id*. The Commission acknowledged that Venture Global, the sponsor of a different project, had proposed a carbon capture and sequestration system for its nearby CP2 LNG facility. J.A. 383. But the Commission explained that it was too early to tell whether the Project could use that sequestration infrastructure, as the CP2 sequestration facility was not yet approved, much less constructed. *Id.* (noting that CP2's "pipeline alignment, platform location, and well location are in the siting stage of project development"). "Without additional information," the Commission concluded, "we are unable to evaluate the feasibility of CP2 LNG's sequestration site for the Commonwealth Project." *Id.* In the Rehearing Order, the Commission determined that "because the requisite infrastructure does not exist," carbon capture and sequestration "is appropriately rejected and infeasible." Rehearing Order ¶ 28.

Petitioners object that, before dismissing the alternative, the Commission should have sought more information on the feasibility of using CP2's proposed facilities. This criticism is, at best, impermissible flyspecking. "NEPA . . . requires the Commission to at least *attempt* to obtain the information necessary to fulfill its statutory responsibilities." *Birckhead*, 925 F.3d at 520. The Commission did so here. It examined the status of the CP2 facilities and found that basic elements of the project were still in flux. In the context of evaluating alternatives, the Commission satisfied its NEPA obligations. And under the circumstances, it reasonably rejected carbon capture and sequestration as infeasible.

III

Because the Commission failed to adequately explain why it could not determine the significance of the Project's GHG impacts and failed to properly consider the cumulative effects associated with the Project's NO_2 emissions, it must also reevaluate its public interest determination under Section 3 of the NGA.

"We review the Commission's orders approving LNG facilities and pipelines, like its NEPA analyses, under the arbitrary and capricious standard of the APA." *Vecinos*, 6 F.4th at 1331. "Where the Commission rests a decision, at least in part, on an infirm ground, we will find the decision arbitrary and capricious." *Id.*

Here, the Authorization Order found that the Project is "not inconsistent with the public interest" in part due to "the findings and recommendations of the final EIS." Authorization Order ¶ 18. Because the FEIS's findings incorporate the Commission's deficient NEPA analyses, we necessarily conclude that the resulting public interest determination is deficient as well. *See Vecinos*, 6 F.4th at 1331. Accordingly,

on remand, the Commission must reconsider that determination.

IV

As for the appropriate remedy, we find that the Commission's errors do not merit vacating the Authorization Order. "The decision to vacate depends on two factors: the likelihood that 'deficiencies' in an order can be redressed on remand, even if the agency reaches the same result, and the 'disruptive consequences' of vacatur." *Black Oak Energy, LLC v. FERC*, 725 F.3d 230, 244 (D.C. Cir. 2013) (quoting *Allied-Signal v. Nuclear Regul. Comm'n*, 988 F.2d 146, 150–51 (D.C. Cir. 1993)).

Both factors counsel against vacatur. We think it "reasonably likely" that, on remand, the Commission can redress the defects in its GHG-emissions and cumulative-effects analyses and still authorize the Project. *Vecinos*, 6 F.4th at 1332. Moreover, vacating the authorization would "needlessly disrupt" Commonwealth's construction plans and commercial operations. *Id.*; *see* Commonwealth Brief 39 (explaining that the company "has executed a binding, 20-year contract for the supply of 2 million tons per year of the Project's output").

We therefore grant the petitions for review in part, deny them in part, and remand to the Commission without vacatur for further proceedings consistent with this opinion.

So ordered.