

In the
United States Court of Appeals
For the Seventh Circuit

Nos. 12-2853, 12-3142 & 12-3143

SIERRA CLUB,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY and
GINA MCCARTHY, Administrator, United States Environ-
mental Protection Agency,

Respondents.

ARGUED SEPTEMBER 15, 2014 — DECIDED DECEMBER 16, 2014

Before FLAUM, KANNE, and SYKES, *Circuit Judges*.

FLAUM, *Circuit Judge*. Sierra Club challenges the Environmental Protection Agency's decisions to redesignate three geographic areas—Milwaukee-Racine, Greater Chicago, and the Illinois portion of the St. Louis area—as having attained the 1997 National Ambient Air Quality Standards for ozone. The Clean Air Act mandates that before redesignating an area, EPA must confirm not just that ozone in an area dropped below a certain level, but also that the improvement in air quality resulted from “permanent and enforceable reductions in emissions.”

EPA interprets that edict to require a finding that the requisite ozone drops are “reasonably attributable” to permanent and enforceable reductions. Sierra Club does not contest EPA’s reading of the statute, but argues that the Agency acted arbitrarily and capriciously in making this causation finding in each of the redesignations at issue. We disagree and therefore deny Sierra Club’s petition for review.

I. Background

A. Statutory and Regulatory Background

The Clean Air Act (“CAA”), 42 U.S.C. § 7401 *et seq.*, establishes a comprehensive program for controlling and improving the nation’s air quality through both state and federal regulation. Title I of the CAA charges the Environmental Protection Agency Administrator with identifying air pollutants that endanger public health and welfare and with formulating National Ambient Air Quality Standards (“NAAQS”) that specify the maximum permissible concentration of those pollutants in the ambient air. *Id.* §§ 7408–09. Pursuant to the CAA, EPA designates areas of the country as either “attainment,” “nonattainment,” or “unclassifiable” for specific NAAQS, based on whether that area has attained the standard and/or contributes to a nearby area’s nonattainment. *Id.* § 7407(d).

Primary responsibility for ensuring that ambient air quality satisfies the NAAQS falls to the states. *Id.* § 7407(a). Each state must draft a state implementation plan (“SIP”) for each pollutant, the review of which is conducted by EPA according to the process outlined in section 110(k) of the CAA. *Id.* § 7410(a), (k). Although cer-

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tain SIP requirements apply to an area regardless of its designation, nonattainment areas are subject to more regulations as compared to attainment areas. *See id.* §§ 7501–15.¹

Relevant to this case, ozone is among the pollutants that EPA has identified and, consequently, for which EPA has promulgated NAAQS. *See* 40 C.F.R. pt. 50. Ground-level ozone “can cause lung dysfunction, coughing, wheezing, shortness of breath, nausea, respiratory infection and, in some cases, permanent scarring of the lung tissue.” *S. Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882, 887 (D.C. Cir. 2006). Ozone is “formed from [the] chemical reactions between [nitrogen oxides]” and other “volatile organic compounds in the presence of sunlight.” *West Virginia v. EPA*, 362 F.3d 861, 865 (D.C. Cir. 2004). Ozone’s precursors (nitrogen oxides (“NO_x”) and volatile organic compounds (“VOCs”)) are produced by a variety of sources, including cars, power plants, and manufacturing facilities. 70 Fed. Reg. 30,396, 30,398 (May 26, 2005). Ozone pollution levels, however, are not dependent solely on the quantity of precursor pollutants in an area—weather (especially sunlight and wind), for example, also drives the equation. 75 Fed. Reg. 24,844, 24,846 (May 6, 2010). And once ozone is formed, the effect of adding or subtracting NO_x to/from the air is unknown—ozone levels may increase or decrease. *New York v. EPA*, 133 F.3d 987, 989 (7th Cir. 1998). In other words,

¹ Subpart 1 of Part D of Subchapter I of the CAA, 42 U.S.C. §§ 7501–7509a, sets forth baseline requirements for all nonattainment areas, and Subpart 2 of Part D, *id.* §§ 7511–11(f), sets forth more specific requirements for ozone nonattainment areas.

“predicting the total effect on ozone ... of a reduction in [precursor] emissions, and the geographical incidence of that effect, is a tricky business.” *Id.*

At issue in this case are the 1997 NAAQS for ozone. An area attains the 1997 ozone NAAQS when the 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 parts per million (“ppm”)² at all monitoring sites in the area. 40 C.F.R. pt. 50, App. I. But if EPA deems an area “nonattainment,” the CAA provides a path to reclassification. 42 U.S.C. § 7407(d)(3)(E). To be redesignated, the governor of a state must submit a request for designation, which EPA must approve or deny within 18 months on the basis of five criteria. *Id.* § 7407(d)(3)(D), (E). Specifically, EPA will approve a redesignation to attainment only if:

- (1) EPA determines that the area has attained the applicable NAAQS,
- (2) EPA fully approves the applicable SIP under 42 U.S.C. § 7410(k),
- (3) EPA determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from the applicable implementation plan and applicable federal air pollutant control regulations and other permanent and enforceable reductions,

² However, based on the rounding convention used, an area does not actually violate the standard if ozone concentrations are at 0.084 ppm or below. 40 C.F.R. pt. 50, App. I, § 2.3

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(4) EPA fully approves a maintenance plan under 42 U.S.C. § 7505(a), which has been adopted by the state and demonstrates that the area will maintain the NAAQS for at least 10 years after redesignation, and (5) EPA determines that the State containing the area seeking redesignation has met all applicable SIP requirements for that area under § 7410 and part D of subchapter 1, §§ 7501–15.

42 U.S.C. § 7407(d)(3)(E).

On April 30, 2004, EPA designated the Milwaukee-Racine area, the St. Louis area, and the Greater Chicago area as nonattainment for the 1997 8-hour ozone standard and classified the areas “moderate” nonattainment under CAA Subpart 2 of Part D, 42 U.S.C. §§ 7511–11f. 69 Fed. Reg. 23,858, 23,898, 23,915, 23,947 (Apr. 30, 2004). Roughly eight years later—upon review of applications submitted by Illinois and Wisconsin—EPA redesignated these three areas from nonattainment to attainment. Sierra Club challenges these actions as violative of the CAA’s causation requirement (the third requisite listed above). In Sierra Club’s view, EPA failed to adequately determine that the ozone improvement in these areas resulted from “permanent and enforceable” emissions reductions.

B. Procedural Background

On September 11, 2009, Wisconsin requested redesignation of the Milwaukee-Racine and Sheboygan County areas based on monitoring data gathered by its Department of Natural Resources. On March 1, 2011, EPA determined that the Milwaukee-Racine and Sheboygan County areas had attained the 1997 8-hour ozone stand-

ard based on data for the 2006–2008, 2007–2009, and 2008–2010 time periods. 76 Fed. Reg. 11,080 (Mar. 1, 2011). On February 9, 2012, EPA issued a rulemaking action proposing to approve Wisconsin’s requests to redesignate both Milwaukee-Racine and Sheboygan County to attainment of the 8-hour ozone standard, and to approve the State’s emissions inventories and maintenance plans for the areas. 77 Fed. Reg. 6727 (Feb. 9, 2012); *see also* 77 Fed. Reg. 45,252 (July 31, 2012). EPA received comments on the proposed rule from Sierra Club, which advanced the position that EPA’s proposed redesignation lacked support in the administrative record and violated the law. Nevertheless, on July 31, 2012, EPA published its final approval of Wisconsin’s request as it pertained to Milwaukee-Racine. 77 Fed. Reg. 45,252 (July 31, 2012). In its final rule, EPA cited to the discussion in its proposed rule as the basis for its decision, and it responded to the adverse comments received from Sierra Club. *Id.* at 45,253–60. As for Sheboygan County, EPA opted not to finalize redesignation because preliminary 2012 data indicated that the area was again violating the 1997 8-hour ozone standards. *Id.* at 45,252.

On May 26, 2010, Illinois submitted a request to redesignate the Illinois portion of the St. Louis area to attainment for the 8-hour ozone standard. *See* 76 Fed. Reg. 79,579, 79,580 (Dec. 22, 2011). Three months later, on December 22, 2011, EPA proposed to grant Illinois’s redesignation request based on air quality monitoring data from 2008–2010, and to grant the State’s approval request concerning its maintenance plan SIP revision and comprehensive emissions inventory. *Id.* at 79,592. On June 12, 2012, EPA published its final approval of Illinois’s re-

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quest. As in Milwaukee-Racine's redesignation process, EPA's proposal explained the rationale for its decision, and its final approval responded to the adverse comments it received in response. 77 Fed. Reg. 34,819 (June 12, 2012).

Illinois also sought redesignation of the Greater Chicago area, submitting its request on July 23, 2009 based on ozone data from 2006 through 2008. *See* 77 Fed. Reg. 6743–44 (Feb. 9, 2012). On September 16, 2011, Illinois provided supplemental ozone data for 2008–2010, and EPA proposed to approve Illinois's redesignation request—along with the state's SIP revisions, maintenance plan through 2025, and 2002 emission inventories for certain pollutants in the Chicago area—on February 9, 2012. *Id.* As it had done with respect to Milwaukee-Racine and the Illinois portion of St. Louis, EPA's proposed rule set forth the bases for its decision, and its final approval—issued on August 13, 2012—responded to the adverse comments that the Agency had received. *Id.* at 6746–58; 77 Fed. Reg. 48,062–48,064–70 (Aug. 13, 2012).

Sierra Club's petition challenging EPA's redesignations is properly before this court on account of the CAA's edict that "[a] petition for review of ... any ... final action of the Administrator under this chapter ... which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit." 42 U.S.C. § 7607(b)(1). However, EPA argues that Sierra Club lacks Article III standing to bring this lawsuit at all.

II. Discussion

A. Standing

Standing, “an essential and unchanging part of the case-or-controversy requirement of Article III” of the Constitution of the United States, contains three elements. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992). The party invoking federal jurisdiction bears the burden of establishing them: (1) the plaintiff must have suffered an “injury in fact” — that is, “an invasion of a legally protected interest which is (a) concrete and particularized, and (b) actual or imminent, not conjectural or hypothetical; (2) “there must be a causal connection between the injury and the conduct complained of” (*i.e.*, the injury must be fairly traceable to the challenged action of the defendant); and (3) “it must be likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.” *Lujan*, 504 U.S. at 560–61 (citations and internal quotation marks omitted). “An organization has standing to sue if (1) at least one of its members would otherwise have standing; (2) the interests at stake in the litigation are germane to the organization’s purpose; and (3) neither the claim asserted nor the relief requested requires an individual member’s participation in the lawsuit.” *Sierra Club v. Franklin Cnty. Power of Ill. LLC*, 546 F.3d 918, 924 (7th Cir. 2008). EPA argues that Sierra Club lacks standing because it has failed to establish that EPA’s redesignations are likely to cause any of its members an injury in fact.

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“[I]n reviewing the standing question, the court must be careful not to decide the questions on the merits for or against the plaintiff, and must therefore assume that on the merits the plaintiffs would be successful in their claims.” *City of Waukesha v. EPA*, 320 F.3d 228, 235 (D.C. Cir. 2003). Sierra Club premises its standing argument on declarations submitted by several of its members, all of whom express concern that EPA’s redesignations will ultimately cause pollution in the areas in which they live and, therefore, reduce their quality of life. EPA argues that these declarations contain speculative allegations concerning hypothetical events that are insufficient to establish standing. As EPA points out, Sierra Club does not dispute that the three geographic areas at issue had attained the applicable NAAQS at the time the EPA approved the redesignations. Moreover, EPA notes that it issued more stringent NAAQS in 2008, which, it argues, make it even less likely that the areas at issue will exceed the 1997 standards. EPA also highlights the existence of various safeguards designed to ensure compliance with the NAAQS going forward—namely, the maintenance plans developed by the states and approved by EPA, and stricter nonattainment standards to which each area will again be subject if it falls out of compliance.

Sierra Club counters by contending that nonattainment areas are more likely to emit pollutants at higher levels than attainment areas. As evidence of this phenomenon, Sierra Club notes that ozone levels in the St. Louis area have already risen to exceed the 1997 NAAQS, despite the measures that EPA concluded were both permanent and enforceable and that, therefore, should have ensured continued compliance. Sierra Club also

highlights the predicament of Wisconsin's Sheboygan County, which is subject to the same measures as Milwaukee-Racine, yet lapsed into nonattainment after EPA proposed to approve its redesignation but before it took final action. To Sierra Club, the rises in St. Louis³ and Sheboygan County ozone demonstrate the inadequacy of EPA's methodology and support the proposition that—because EPA failed to tie each area's pollution decrease to permanent and enforceable measures—ozone increases are more likely now that the more stringent nonattainment standards no longer apply.

Sierra Club discounts the supposed fail-safes that EPA suggests will mitigate the consequences of emissions increases and, in effect, prevent potential pollution-related injuries. Moderate nonattainment areas, Sierra Club points out, are subject to “non-attainment new

³ We note that the pollution monitor in the St. Louis area that exceeded the statutory limit following redesignation is located in West Alton—a town located in Missouri, *not* Illinois. *See* Dkt. No. 17. The St. Louis area, which straddles the Missouri-Illinois border, was designated nonattainment for the 1997 Ozone 8-Hour NAAQS on April 30, 2004, based on air quality monitoring data from 2001–2003. *See* 76 Fed. Reg. at 79,579. EPA redesignates areas to attainment at the state level, based on a given state's request, but only if the entire area has attained the NAAQS at the time of redesignation. *See* 42 U.S.C. § 7407(d)(3)(E). During the 2010–2012 timeframe, the monitor in West Alton indicated an average ozone level of 0.087 ppm. *See* Dkt. No. 17. Based on that data, Sierra Club filed an administrative petition for reconsideration of its redesignation of the Illinois portion of St. Louis with EPA, arguing (as it does here) that that data reveals that the measures on which EPA relied in redesignating St. Louis are not permanent and enforceable. That petition is still pending, and we denied Sierra Club's motion to compel EPA to decide it. Dkt. No. 18.

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source review” provisions pursuant to 42 U.S.C. § 7503. Those provisions demand that new and modified sources of ozone-forming pollutants meet the “Lowest Achievable Emissions Rate” and purchase “offsets” sufficient to decrease the areas’ overall precursor emissions. *See* 42 U.S.C. §§ 7503(a), (c). Having been redesignated attainment, the three areas at issue are no longer subject to that requirement, and neither Wisconsin’s nor Illinois’s maintenance plans self-impose it. Moreover, at least with respect to Wisconsin, EPA’s redesignation relieved the State of the obligation to impose “reasonably available control technologies” on several categories of existing sources of ozone precursors that it has not yet regulated, and Wisconsin’s maintenance plan includes no such provision. By relaxing certain pollution-prevention measures, Sierra Club argues, the risk of injury (the occurrence of which Sierra Club characterizes as an ozone level that exceeds .084 ppm) to its members has increased. Sierra Club dismisses the states’ maintenance plans’ contingency measures as curative of Sierra Club’s potential injuries since (1) these measures do not kick in until ozone levels exceed 0.084 ppm four times a year for three consecutive years, and (2) they merely commit to an “evaluation of additional control measures” rather than prescribe specific pollution reductions.

At bottom, Sierra Club contends that EPA redesignated these areas without demonstrating that permanent and enforceable measures caused the corresponding drops in ozone levels. Attainment areas are subject to fewer regulations than nonattainment areas, and so, says Sierra Club—with less incentive to behave well (*i.e.*, re-

duce pollution)—Milwaukee-Racine, St. Louis, and Chicago are now more likely to pollute.

In *Mainstreet Org. of Realtors v. Calumet City, Ill.*, 505 F.3d 742, 745 (7th Cir. 2007), citing *Lujan*, 504 U.S. at 560, we reiterated that “abstract psychic harm or a one-day-I’ll-be-hurt allegation” is insufficient to establish standing. But we highlighted that “standing in the Article III sense does not require a certainty or even a very high probability that the plaintiff is complaining about a real injury, suffered or threatened.” *Id.* at 744. “All that a plaintiff need show to establish standing to sue [in the Article III sense] is a reasonable probability—not a certainty—of suffering tangible harm unless he obtains the relief that he is seeking in the suit.” *Id.* at 745 (quoting *Hoover v. Wagner*, 47 F.3d 845, 847 (7th Cir. 1995)).

On some level, EPA is correct that Sierra Club’s standing argument—largely premised on the notion that reduced regulation will result in additional pollution—is speculative. But Sierra Club does more than speculate, offering evidence in support of the notion that its members are likely to be injured by EPA’s alleged misdesignations. By highlighting the increases in St. Louis, Missouri (which began to occur in 2010, prior to redesignation) and Wisconsin’s Sheboygan County (which prevented the area’s redesignation completely), Sierra Club makes a compelling argument that ozone levels are reasonably likely to rise above the 0.084 ppm threshold in the areas at issue here now that the less stringent attainment standards have been imposed. If impermissible pollution increases occurred even while the more stringent nonattainment standards governed—and EPA employed

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the same causation methodology in those two areas that it did everywhere else—then ozone levels above 0.084 ppm are even more likely now that the regulations have been relaxed in the three areas at issue here.

Sierra Club's standing argument also finds support in D.C. Circuit cases involving similar standing challenges brought by EPA. Most on-point is *Sierra Club v. EPA*, 754 F.3d 995 (D.C. Cir. 2014), decided just weeks before Sierra Club filed its opening brief in this case. At issue there was EPA's reliance on the Clean Air Interstate Rule ("CAIR") in redesignating an area from nonattainment to attainment. *Id.* at 997. CAIR—a law which prohibited certain activities in a state that polluted other states—had been vacated by the D.C. Circuit, but the court allowed the rule to remain in effect until the creation of a replacement rule. *Id.* In the meantime, EPA—as communicated in an official Memorandum—continued to rely on the effects of CAIR in making its determinations that an area's pollution reductions were "permanent and enforceable." *Id.* Sierra Club challenged EPA's policy, arguing (among other things) that the Memorandum was arbitrary and capricious in allowing regions to rely on reductions attributed to CAIR, which, by virtue of its impending replacement, were only temporary. *Id.* at 998. EPA contended that Sierra Club lacked standing, because the organization failed to demonstrate that EPA's policy caused injuries to its members.

Sierra Club argued that its members suffered an injury in fact because the Memorandum "strip[ped] away the Clean Air Act's guarantee of enduring air quality protections." *Id.* at 1000. The court, however, sided with EPA,

concluding that Sierra Club lacked standing because its members lived in areas “which [were] currently achieving the NAAQS” and its speculative “claims of injury fail[ed] to qualify as actual or imminent.” *Id.* at 1000–01. The D.C. Circuit noted that “because environmental and health injuries often are purely probabilistic,” petitioners who claim increased health risks must demonstrate a “nontrivial” probability that they will be injured, “sufficient to take a suit out of the category of the hypothetical.” *Id.* Sierra Club could not do that, “relying on a highly attenuated chain of possibilities” and making “no attempt to tie EPA’s alleged failure to implement the CAA’s guarantees to a substantial probability that they will suffer diminished air quality.” *Id.* (citation and internal quotation marks omitted). Because Sierra Club “offered no evidence to suggest that CAIR-based emissions reductions will be fleeting or that a replacement program will result in increased emissions,” its suit was “tantamount to ‘an abstract, and uncognizable, interest in seeing the law enforced.’” *Id.* (citation and internal quotation marks omitted). Relevant to the D.C. Circuit’s conclusion was the fact that, “[u]nlike the petitioner in *Natural Resources Defense Council v. EPA*, 643 F.3d 311, 318 (D.C. Cir. 2011), Petitioners [did] not claim that the Memorandum delayed attainment or *eliminated incentives to reduce emissions.*” *Id.* at 1002 (emphasis added).

In *Natural Resources Defense Council*, 643 F.3d at 316, NRDC challenged a “Guidance” document issued by EPA, which counseled the Agency’s regional directors on the implementation of the 1997 “8-hour” ozone NAAQS (which replaced older, less stringent “1-hour” standards for ozone pollution). The Guidance permitted the direc-

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tors—for the purpose of transitioning nonattainment areas from the older ozone standard to the new one—to retain old (previously mandatory) programs that states had implemented or, alternatively, to allow states “flexibility to adopt new programs” so long as the alternatives were “not less stringent” than the older mandated program. *Id.* at 317. In other words, EPA afforded nonattainment areas some discretion in choosing “between the statutorily mandated program and an equivalent.” *Id.* If EPA, which reviewed alternative programs on a case-by-case basis, approved the state’s proposed program, it would not assess non-compliance fees, even if the area violated the old ozone standards. *Id.* (Because of the complexities of the two standards, it is theoretically possible to comply with the newer, more stringent 8-hour standard while violating the older, more lenient 1-hour standard. *See id.*)

NRDC challenged this Guidance, arguing, among other things, that the new program and attainment alternative violated the CAA. *Id.* EPA argued that NRDC lacked standing—any injuries to NRDC members are purely hypothetical since EPA may never approve a state’s alternative program, EPA argued. *Id.* at 318. The D.C. Circuit agreed with NRDC, however, and found that the Guidance injured its members in three independent ways, one of which was that the “Guidance had a present, concrete effect because it eliminated [the Clean Air Act’s] powerful incentive for major stationary sources to reduce emissions before the deadline.” *Id.* at 318.

A compelling argument for standing emerges from reading these two D.C. Circuit cases in conjunction with

our guidance in *Mainstreet*. As it did in *Sierra Club v. EPA*, 754 F.3d 995, Sierra Club challenges the methodology by which EPA made its “permanent and enforceable” determination. In that case, Sierra Club challenged EPA’s reliance on CAIR in making its determination. CAIR, an interstate pollution rule struck down by the D.C. Circuit, was certain to change. But because the replacement rule had not been drafted, petitioner’s “injury”—premised on the possibility that the new rule might be less stringent—was purely hypothetical. Here—unlike in the CAIR case, where the new regulation was a mystery—we know the new rules that apply to Milwaukee-Racine, St. Louis, and Chicago: the rules that apply to areas in “attainment.” By definition, these new rules are less stringent than those governing areas in nonattainment, so Sierra Club’s standing is tied to the likely effects that this new set of rules may have on polluters in the areas at issue. In other words, what is speculative in our case is the *effect* of those new rules, not that they will be more lax than the rules that are currently in place. Although those effects are somewhat hypothetical, our decision in *Mainstreet* and the D.C. Circuit’s opinion in *NRDC* inform our conclusion that the increased probability of injury to Sierra Club members creates standing here—especially in light of the fact that St. Louis and Sheboygan have since violated the ozone NAAQS. Furthermore, *NRDC* strongly suggested that “powerful incentives” (specifically, the incentives of “major stationary sources”), in and of themselves, can create standing in cases challenging an EPA regulation under the CAA. Sierra Club’s petition here involves incentives for major pollution sources; Sierra Club argues that attainment relieves “new and modified major

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sources of ozone-forming pollutants [from meeting] the 'Lowest Achievable Emissions Rate,' and purchas[ing] 'offsets' sufficient to decrease the areas' overall precursor emissions." Reply Br. 10.

In light of the above, we are convinced that the probability that ozone levels will rise has, for standing purposes, sufficiently increased on account of the relaxed regulations that accompany redesignation. Sheboygan County and a portion of the St. Louis area already are violating the ozone standards despite EPA's determination that the reduced levels in those areas were "permanent and enforceable." Accordingly, we conclude that Sierra Club has met its burden of demonstrating the requisite likelihood that EPA's redesignations will harm its members such that Sierra Club has standing to challenge EPA's actions.

B. EPA's Redesignations

We will not overturn an EPA action unless we deem it to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *Alaska Dept. of Envtl. Conservation v. EPA*, 540 U.S. 461, 497 n.18 (2004). Review under the arbitrary and capricious standard is

principally concerned with ensuring that EPA has examined the relevant data and articulated a satisfactory explanation for its action including a rational connection between the facts found and the choice made, that the Agency's decision was based on a consideration of the relevant factors, and that the Agency has made no clear error of judgment.

Bluewater Network v. EPA, 370 F.3d 1, 11 (D.C. Cir. 2004) (citation and internal quotation marks omitted).

Under this highly deferential standard, an administrative decision should be upheld “as long as the agency’s path may be reasonably discerned.” *Mt. Sinai Hosp. Med. Ctr. v. Shalala*, 196 F.3d 706, 708 (7th Cir. 1999) (citation and internal quotation marks omitted). EPA’s redesignation can be considered arbitrary and capricious if the Agency relied on factors that “Congress did not intend for it to consider, entirely fails to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *North Carolina v. EPA*, 531 F.3d 896, 906 (D.C. Cir. 2008); see also *Adventist GlenOaks Hosp. v. Sebelius*, 663 F.3d 939, 942 (7th Cir. 2011) (citing *Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

Before EPA may redesignate a nonattainment area, the CAA mandates, among other things, that it (1) determine that the area has attained the applicable NAAQS (*i.e.*, that ozone has decreased sufficiently) and (2) determine that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from the SIP and applicable federal air pollutant control regulations and other permanent and enforceable reductions. 42 U.S.C. § 7407(d)(3)(E). After Congress amended the CAA in 1990, EPA articulated its interpretation of this provision of the statute in “State Implementation Plans: General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990” (“General Pream-

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ble"). 57 Fed. Reg. 13,498, 13,561–64 (Apr. 16, 1992). The Agency further interpreted the statutory requirements for redesignation in several guidance documents, the most relevant of which is entitled "Procedures for Processing Request to Redesignate Areas to Attainment," J. Calcagni, EPA Dir. of Air Quality Mgt. Div. (Sept. 4, 1992) ("the Calcagni Memo"). According to EPA, these interpretations have served as the basis for evaluating redesignation requirements in numerous final rulemakings.

The phrase "permanent and enforceable" is not defined in the statute. The General Preamble, however, sets forth EPA's position that reductions in emissions are "temporary" if they result "from a suspension of industrial production or other temporary change in the industrial or economic activity in the area." By contrast, "[r]eductions in emissions from shutdowns are considered permanent and enforceable to the extent those shutdowns have been reflected in the SIP, and all applicable permits have been modified accordingly." The General Preamble also states that "[m]easures are enforceable when they are duly adopted, and specify clear, unambiguous, and measureable requirements. A legal means for ensuring that sources are in compliance with the control measure must also exist in order for a measure to be enforceable." And the Calcagni Memo makes clear that the "State must be able to reasonably attribute the improvement in air quality to emission reductions which are permanent and enforceable" and that "[a]ttainment resulting from temporary reductions in emission rates (e.g., reduced production or shutdown due to temporary adverse economic conditions) or unusually favorable me-

eteorology would not qualify as an air quality improvement due to permanent and enforceable emissions reductions.” In making the “permanent and enforceable” determination, the Calcagni Memo counsels, the state seeking redesignation must “estimate the percent reduction . . . achieved from Federal measures such as the Federal Motor Vehicle Control Program and fuel volatility rules as well as control measures that have been adopted and implemented by the State.” The State’s estimate “should consider emission rates, production capacities, and other related information to clearly show that the air quality improvements are the result of implemented controls.”

Sierra Club does not challenge the wisdom of the Calcagni Memo’s statutory interpretation. Instead, Sierra Club argues that EPA failed to observe its own guidance in determining that ozone reductions were due to permanent and enforceable measures. More specifically, Sierra Club argues that EPA is required to “determine whether ([and] to what extent) the observed reduction in [an] area’s ozone pollution resulted from newly adopted state and federal regulations—rather than from temporary fluctuations in weather or the economy, or from other similarly impermanent and unenforceable factors.” Pet’r Br. 36. What EPA did instead, Sierra Club claims, is (1) confirm the requisite drop in ozone levels, (2) determine that ozone precursors (NO_x and VOCs) also dropped, (3) note the state and federal regulations that coincided with those decreases, and (4) draw a conclusion that (3) caused (1) and (2). Thus, Sierra Club contends that EPA identified a *correlation*, but failed to identify *causation*. Sierra Club argues that EPA should have undertaken an “analysis of the meteorology, [and] the

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timing and location of precursor emissions, that produced the improved air quality.” Pet’r Br. 44. In Sierra Club’s view, EPA should have more closely considered the possible effects of the economic recession, fuel prices, weather, and “other impermanent conditions” on the reductions in ozone (and ozone precursor) levels; without quantifying the effect of each of these variables, EPA cannot meet the requirements of the statute, Sierra Club says. Pet’r Br. 47, 52. To Sierra Club, the spike in ozone levels in Sheboygan County and in St. Louis illuminates the inadequacy of EPA’s determination that ozone levels in Milwaukee-Racine and the Illinois portion of St. Louis were due to “permanent and enforceable” measures.

EPA does not dispute that a causative connection is required. In fact, in its final approval of the Milwaukee-Racine redesignation, EPA echoed the Calcagni Memo’s interpretation of the CAA’s causation requirement: “the improvement in air quality necessary for the area to attain the relevant NAAQS must be *reasonably attributable* to permanent and enforceable reductions in emissions.” 77 Fed. Reg. at 45,258 (emphasis added). To EPA, the evidence demonstrated that the various state and regulatory measures enforced during the relevant periods “represent[ed] an adequate demonstration that the improvement in air quality can reasonably be attributed to the significant reduction in emissions resulting from permanent and enforceable emissions control programs.” *Id.*

EPA defends its methodology, asserting that in each case it did more than simply draw a correlation in the absence of an adequate causative link. Specifically, EPA listed each state and federal measure that it deemed

“permanent and enforceable” that had been implemented in each state. For example, in Milwaukee-Racine, EPA catalogued: (1) Wisconsin’s enhanced automobile inspection and maintenance programs; (2) Wisconsin’s regulations governing nitrogen oxide emissions at electric utilities and large industrial combustion sources and establishing emission standards for new sources; (3) federal standards for vehicles and gasoline sulfur that phased in between 2004 and 2009; (4) an EPA rule effective in 2004 that limits the sulfur content of diesel fuel; (5) EPA’s 2004 rule applying to diesel engines used in the construction, agriculture, and mining industries; (6) new source performance standards; (7) national emission standards for hazardous air pollutants, including maximum achievable control technology standards; and (8) control measures in upwind areas, such as the NO_x SIP Call, which required twenty-two states in the region to reduce NO_x emissions. *See* 77 Fed. Reg. at 6737. EPA made similar findings with respect to St. Louis and Chicago. *See* 76 Fed. Reg. at 79,586; 77 Fed. Reg. at 6754–55.

For nearly all of these measures, EPA estimated the impact that each would have on emissions that cause ozone pollution. Regarding Milwaukee-Racine, for example, EPA noted that, with respect to Wisconsin’s regulation of stationary sources, such controls were estimated to achieve a 55-ton-per-day reduction of NO_x by 2007. EPA estimated that federal rules designed to control VOCs and NO_x emissions that phased in between 2004 and 2009 would reduce vehicle NO_x emissions nationwide by 77% in passenger cars, 86% in light duty trucks, minivans, and SUVs, and between 69–95% in heavier trucks. EPA estimated that these regulations would re-

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duce VOC emissions from 12–18%, depending on the class of vehicle, over the 2004 through 2009 period. And EPA believed that its 2004 rule applying to diesel engines in construction, agriculture, and mining would result in a 90% reduction in NO_x emissions from nonroad diesel engines. Sierra Club counters that EPA failed to specifically determine how these reduction estimates affected ozone levels in just the Milwaukee-Racine area, and specifically for the 2005–2008 timeframe. In other words, Sierra Club believes that EPA's analysis was too imprecise.

EPA points out that there is no information in the record to support a conclusion that any of these reductions were temporary or that any temporary reductions contributed to the attainment of the NAAQS in the three geographic areas at issue. In light of the evidence, EPA contends that—in its experience, expertise, and professional judgment—it “reasonably attributed” the reductions to permanent and enforceable measures, which is all that its interpretation of the CAA requires. Nevertheless, Sierra Club insists that EPA should have done more. In its view, EPA could have conducted a more sophisticated analysis or utilized scientific modeling to rule out—with a higher degree of certainty—the other variables (wind, sunlight, economic conditions) that affect ozone levels. But, as EPA says, “[e]ven if it were scientifically possible” to do so, such an “elaborate analytical exercise is not required by the CAA.” We agree.

At bottom, the CAA required EPA to confirm the necessary ozone reduction and tie it to a “permanent and enforceable” drop in precursor emissions (VOC and NO_x) resulting from “permanent and enforceable” regulation.

EPA did that. If estimating ozone conditions is as “tricky” as Sierra Club emphasizes throughout its briefing, then of course EPA’s determinations are not infallible. If, for example, a mixture of sunlight and wind can alter ozone levels in unexpected ways, no amount of scientific modeling employed by EPA in making its causation determination will preclude subsequent increases in ozone. Regardless, the CAA does not require EPA to prove causation to an absolute certainty. Rather, in accord with its own internal guidance (which, again, Sierra Club does not challenge) EPA had to “reasonably attribute” the drops in ozone to permanent and enforceable measures. Only if EPA’s path cannot “be reasonably discerned,” *Mt. Sinai Hosp.*, 196 F.3d at 708, or if EPA relied on factors “that Congress did not intend it to consider” or “fail[ed] to consider an important aspect of the problem,” *Adventist GlenOaks Hosp.*, 663 F.3d at 942, will we conclude that EPA acted arbitrarily or capriciously. In light of the above, we cannot conclude that EPA’s approach in making a reasonable attribution was not discernable, that EPA relied on errant factors, or that it failed to consider an important aspect of the problem.

In addition to challenging EPA’s causation approach generally, Sierra Club objects to EPA’s use of actual emissions data from power plants in determining that the reductions were “permanent and enforceable.” Because “actual” emissions vary from year to year, those figures, by definition, are neither “permanent” nor “enforceable,” Sierra Club argues. The Calcagni Memo expressly instructs EPA to “assume that sources are operating at permitted levels (or historic peak levels) unless evidence is presented that such an assumption is unrealistic.” Sier-

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ra Club therefore argues that, by using “actual” emissions, EPA defied its own interpretative guidance. In EPA’s view, using maximum permissible emissions levels in its analysis would have been ill-advised, artificially inflating power plant emissions in a way that does not reflect reality.

EPA maintains that it is the Agency’s “long-standing practice and EPA policy” to use actual emissions data for power plants “when demonstrating permanent and enforceable emission reductions.” Resp’t Br. 49. EPA has implemented this policy because “assuming that all sources would be operating at maximum capacity at once would result in a gross overestimation of emission levels.” Resp’t Br. 49–50. Sierra Club counters by pointing out that state regulations permitted power plants in Milwaukee-Racine to emit six times the nitrogen oxides that EPA ascribed to all stationary sources in the area, and more than four times the nitrogen oxides that were emitted during Milwaukee-Racine’s years of nonattainment. EPA does not refute those figures. Instead, EPA highlights that it considered emissions inventories from both periods of nonattainment and periods of attainment and scrutinized the control measures in the relevant SIPs and maintenance plans, in arriving at its conclusion that using maximum allowable emissions levels would be unrealistic in projecting ozone levels for the areas at issue. Resp’t Br. 50.

Further, EPA contends that the Berry Memo, “Use of Actual Emissions in Maintenance Demonstrations for Ozone and CO Nonattainment Areas,” D. Kent Berry, Acting Dir., Air Quality Mgmt. Div. (Nov. 30, 1993), su-

persedes the Calcagni Memo with respect to the use of actual emissions, expressly permitting the use of actual emissions in ozone maintenance projections. Resp't Br. 51. The reason for the change, EPA says, is that the Agency uses actual emissions data for power plants in making nonattainment determinations. Therefore, EPA's position is that "it would be akin to comparing apples and oranges to use . . . allowable emissions from an attainment year." Resp't Br. 51–52.

Sierra Club disagrees, arguing that the Berry Memo only supersedes the Calcagni Memo—as the Berry Memo plainly states—with regard to "maintenance demonstrations for ozone and CO nonattainment areas seeking redesignation to attainment." Though somewhat ambiguous from the face of the two Memos, Sierra Club appears to have the better of the argument here—the Calcagni Memo provides guidance on "maintenance plans" in a separate and distinct section from its guidance on making the "permanent and enforceable determination." That said, both sections discuss redesignations from attainment to nonattainment, so EPA's position is not entirely unreasonable. We need not decide definitively whether the Berry Memo trumps the Calcagni Memo on this point, however, because even if the Calcagni Memo governs (as Sierra Club argues), EPA followed its own interpretative guidance here. EPA has articulated a rational basis for its conclusion—consistent with the Calcagni Memo—that using maximum allowable emissions levels for power plants would have been unrealistic. Thus, EPA was free to rely on actual emissions data in concluding that ozone reductions resulted from "permanent and enforceable" emissions reductions.

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Lastly, Sierra Club challenges EPA's reliance, as one factor among many, on the effects of the NO_x SIP Call trading program in making its "permanent and enforceable" determination. The NO_x SIP Call, issued in October 1998, is an EPA rule that requires states to address interstate transport of air pollution. It is designed to prevent NO_x that originates in an "upwind" state from causing or exacerbating nonattainment in a "downwind" state. The NO_x SIP Call requires twenty-two states—including Illinois, and neighbors Indiana, Michigan, Missouri, and Kentucky—to reduce NO_x emissions in an effort to reduce their contributions to downwind ozone nonattainment. The NO_x SIP Call limitations were implemented in two phases. Illinois fulfilled the requirements of Phase I in November 2001 and met those of Phase II in June 2009. Important here, the NO_x SIP Calls have been codified as enforceable state laws. And although Wisconsin was not one of the states included in the NO_x SIP Call, EPA considers Wisconsin to be one of the "downwind" states that benefits from the restrictions imposed on its neighbors.

Sierra Club criticizes EPA's reliance on the NO_x SIP Call, because that program is aimed at reducing pollution in the region as a whole and permits the twenty-two affected states to purchase pollution "allowances" from one another. Accordingly, Sierra Club believes that the effects on any one area in particular are not necessarily permanent or enforceable. It cites two D.C. Circuit cases—*Natural Resources Defense Council v. EPA*, 571 F.3d 1245 (D.C. Cir. 2009), and *North Carolina v. EPA*, 531 F.3d 896—in support of its position.

In *Natural Resources Defense Council*, 571 F.3d at 1251 (“NRDC”), the petitioners challenged EPA’s conclusion that states could satisfy section 172(c)(1) of the CAA by participating in the NO_x SIP Call. That section of the statute mandates that states’ SIPs for nonattainment areas “provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology).” *Id.*; 42 U.S.C. § 7502(c)(1). Because section 172(c)(1) requires that nonattainment areas implement control measures through “reasonably available control technolog[ies]” (“RACT”) that reduce emissions “from existing sources in the area,” the D.C. Circuit held that the EPA may not use reductions from the NO_x SIP Call—which does *not* require RACT-level reductions from sources in a given area—in its section 172(c)(1) analysis. 571 F.3d at 1256.

In *North Carolina*, (as alluded to earlier) the D.C. Circuit invalidated CAIR, another measure designed to reduce interstate pollution, promulgated pursuant to Title I of the CAA. 531 F.3d at 902. Title I requires SIPs to “contain adequate provisions . . . prohibiting . . . any source . . . within the State from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any [NAAQS].” *Id.* The D.C. Circuit invalidated CAIR because, although EPA issued initial emissions budgets to the states, the statute authorized pollution sources to purchase allowances from sources in other states, thus permitting states to exceed the caps im-

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posed by the emissions budget. *Id.* at 906–07. CAIR was “designed as a complete remedy to [Title I] problems,” and for that reason, the court deemed the program incompatible with Congress’s directive in Title I. *Id.* at 908.

EPA refutes the applicability of *NRDC* and *North Carolina* here. First, EPA points out that it relied on the NO_x SIP Call as one of many bases for its “permanent and enforceable” determination. EPA estimated that the NO_x SIP Call reduced NO_x emissions by 68,000 tons in states subject to it, and that Illinois’s implementation of Phase II would reduce NO_x emissions by 82% at the sources subject to it. Additionally, EPA noted that the NO_x SIP Call has resulted in a downward trend in NO_x emission rates (tons per hour of operation) for the Chicago area. Second, EPA points out that the observed benefits of the NO_x SIP Call are much more static and predictable than Sierra Club acknowledges, and not just because the states have incorporated these requirements into their federally enforceable SIPs. As EPA explains, a state cannot merely “purchase” allowances with impunity. Rather, the NO_x SIP Call is a cap-and-trade program, which permits some flexibility through the purchase of allowances, but also caps the total emissions from covered sources. Therefore, while some fluctuations may occur, EPA insists that it was reasonable to factor the reductions resulting from the program into its analysis. We agree.

This case is materially different from both *NRDC* and *North Carolina*. In *NRDC*, the D.C. Circuit struck down EPA’s attempt to use the NO_x SIP Call to satisfy Congress’s requirement that nonattainment areas implement control measures through RACT that reduce reductions

“from existing sources in the area.” The NO_x SIP Call was deficient in accomplishing that objective because it does not require the imposition of RACT-level reductions in a particular area, and, in any event, EPA never evaluated the NO_x SIP Call’s effects in the areas at issue. 571 F.3d at 1256–57. Here, though, no specific type of control measure is required, emissions reductions need not result exclusively from sources *in* the nonattainment area, and EPA *has* estimated the relevant effects of the NO_x SIP Call, as described above. And this case is different from *North Carolina*, where the Agency relied exclusively on CAIR to prevent pollution sources in one state from contributing to nonattainment in another state, because, here, the NO_x SIP Call is not the sole basis for EPA’s determination that emissions reductions are “permanent and enforceable.” Moreover, because the program’s overall structure ensures a regional reduction in emissions—and because EPA avers (and Sierra Club does not challenge) that, in all practicality, the NO_x SIP Call results in minimal fluctuation in precursor output at the area level—then it is reasonable to rely on the program as one basis, among many, for concluding that reduced emissions levels will persist.

The overarching theme running through Sierra Club’s petition is that EPA could have done more. But the question before us concerns only whether EPA was *required* to do more. The CAA mandated that EPA determine that reduced ozone levels were “due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable federal air pollutant control regulations and other permanent and enforceable reductions.” 42 U.S.C. §

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7407(d)(3)(E)(iii). The Calcagni Memo interprets this causation provision to impose on EPA an obligation to “*reasonably attribute*” air quality improvement “to emission reductions which are permanent and enforceable,” not to prove causation with any higher degree of confidence than that. While the Calcagni Memo made clear that “[a]ttainment resulting from temporary reductions in emission rates (*e.g.*, reduced production or shutdown due to temporary adverse economic conditions) or unusually favorable meteorology would not qualify,” that language cannot fairly be read to impose—as Sierra Club would prefer—an affirmative obligation on EPA to analyze, model, and scientifically quantify the effects of those variables on emissions reductions. Instead, the Memo instructed EPA to “estimate the percent reduction . . . achieved from Federal Measures . . . as well as control measures that have been adopted and implemented by the State to clearly show that the air quality improvements are the result of implemented controls.” EPA did that here.

Accordingly, EPA has demonstrated that it “examined the relevant data and articulated a satisfactory explanation for its action including a rational connection between the facts found and the choice made, that the Agency’s decision was based on a consideration of the relevant factors, and that the Agency has made no clear error of judgment.” *Bluewater Network*, 370 F.3d at 11 (citation and internal quotation marks omitted). For that reason, we cannot conclude that EPA’s actions were “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A).

III. Conclusion

For the foregoing reasons, Sierra Club's petition for review is DENIED.