

United States Court of Appeals  
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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Argued September 26, 2013

Decided April 11, 2014

No. 11-1423

COMMUNITIES FOR A BETTER ENVIRONMENT AND WILDEARTH  
GUARDIANS,  
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY,  
RESPONDENT

SIERRA CLUB,  
INTERVENOR

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On Petition for Review of a Rule of the  
United States Environmental Protection Agency

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*Nicholas J. Lopez*, Student Counsel, argued the cause for petitioners and intervenor. On the briefs was *Michael Ray Harris*. *Kelly D. Davis*, *Kevin J. Lynch*, and *Shannon Love*, Student Counsel, entered appearances.

*Andrew J. Doyle*, Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief was *David P.W. Orlin*, Attorney, United States Environmental Protection Agency.

Before: BROWN and KAVANAUGH, *Circuit Judges*, and WILLIAMS, *Senior Circuit Judge*.

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

KAVANAUGH, *Circuit Judge*: Carbon monoxide is an odorless, colorless gas that can be produced by human activity, mainly by operation of motor vehicles. Carbon monoxide can cause adverse health effects, particularly for people with pre-existing health problems.

Under the Clean Air Act, EPA must establish primary and secondary national air quality standards to regulate the levels of six common air pollutants, including carbon monoxide. The primary standards must be set at a level “requisite to protect the public health,” which encompasses human health. 42 U.S.C. § 7409(b)(1). The secondary standards must be set at a level “requisite to protect the public welfare,” which is defined in the statute to encompass the welfare of animals, the environment, and climate, among other things. *Id.* §§ 7409(b)(2), 7602(h). Once EPA identifies the proper levels for the standards, States administer programs for reduction in emissions of pollutants. *See id.* § 7410.

The *primary* standards for carbon monoxide have remained the same since 1971. There has not been a *secondary* standard for carbon monoxide since EPA revoked a secondary standard in 1985. In 2007, EPA began reviewing whether to alter the current primary standards and whether to adopt a secondary standard. In 2011, EPA decided to keep things as they were: to retain the same primary standards and to continue without a secondary standard. *See* Review of

National Ambient Air Quality Standards for Carbon Monoxide, 76 Fed. Reg. 54,294 (Aug. 31, 2011).

State and local governments and industry groups agreed with EPA's decision. But three non-profit environmental and wildlife organizations – Communities for a Better Environment, WildEarth Guardians, and Sierra Club – have objected. Petitioners argue that EPA's decisions concerning both the primary and secondary standards for carbon monoxide were arbitrary and capricious.

We conclude that EPA acted reasonably in retaining the same primary standards for carbon monoxide, and that petitioners lack Article III standing to challenge EPA's decision not to set a secondary standard for carbon monoxide.

## I

Under Sections 108 and 109(b)(1) of the Clean Air Act, EPA must set National Ambient Air Quality Standards, commonly known as NAAQS, for six common air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. *See* 42 U.S.C. § 7408. For each pollutant, EPA identifies primary ambient air quality standards that are “requisite” to protect the *public health*. *Id.* § 7409(b)(1). Specifically, the EPA Administrator must “identify the maximum airborne concentration of a pollutant that the public health can tolerate, decrease the concentration to provide an ‘adequate’ margin of safety, and set the standard at that level.” *Whitman v. American Trucking Associations, Inc.*, 531 U.S. 457, 465 (2001). At least every five years, EPA must reevaluate the standards and, if appropriate, revise them. *See* 42 U.S.C. § 7409(d).

EPA must also promulgate secondary standards “requisite to protect the *public welfare* from any known or

anticipated adverse effects” of those six pollutants in the ambient air. *Id.* § 7409(b)(2) (emphasis added). An adverse effect on public welfare includes adverse effects on “soils, water, crops, vegetation, . . . animals, wildlife, weather, visibility, and climate,” among other things. *Id.* § 7602(h).

Since 1971, the primary standards for carbon monoxide have remained at an eight-hour average of 9 parts per million and a one-hour average of 35 parts per million, neither to be exceeded more than once per year. *See* Review of National Ambient Air Quality Standards for Carbon Monoxide, 76 Fed. Reg. 54,294, 54,295 (Aug. 31, 2011). In 2007, EPA began its five-year review of those standards, as required by statute. *Id.* at 54,296. As part of that review, EPA prepared an Integrated Science Assessment consolidating relevant data on carbon monoxide’s effects. *See id.* In 2011, EPA determined that the current levels of the primary standards provide an “adequate margin of safety” under the statute. *Id.* at 54,308.

As to the secondary standard, since 1985 EPA has found that a secondary standard for carbon monoxide was not needed to protect the public welfare. *Id.* at 54,296. EPA’s five-year review of that standard focused on carbon monoxide’s effect on climate, the only element of public welfare known to be affected by carbon monoxide. *Id.* at 54,309. In 2011, EPA concluded that the connection between carbon monoxide and climate change was tenuous. *Id.* at 54,308. As a result, EPA could not determine whether any secondary standard would reduce climate change. *Id.* at 54,309-10.

EPA published its conclusions as a Proposed Rule and sought comments. During the notice-and-comment period, petitioners argued that the primary standards were inadequate to protect the public health and would cause adverse health

effects on some of their members. Petitioners also challenged the lack of a secondary standard, contending that there was a causal connection between carbon monoxide and climate change and that EPA had to establish a secondary standard to help reduce or prevent climate change. EPA disagreed, incorporating the reasons given in the Proposed Rule into a Final Rule. *Id.* at 54,297.

Petitioners now seek review of EPA's decision (i) to retain the primary standards for carbon monoxide and (ii) to continue without a secondary standard for carbon monoxide.

## II

Petitioners contend that EPA's decision to retain the same primary standards for carbon monoxide was arbitrary and capricious.

The arbitrary and capricious standard is deferential; it requires that agency action simply be "reasonable and reasonably explained." *National Telephone Cooperative Association v. FCC*, 563 F.3d 536, 540 (D.C. Cir. 2009). As a general matter, we grant EPA significant deference in setting the NAAQS. *See Mississippi v. EPA*, slip op. at 9-10 (D.C. Cir. Dec. 11, 2013); *Lead Industries Association, Inc. v. EPA*, 647 F.2d 1130, 1146 (D.C. Cir. 1980) ("Congress has entrusted the Agency with the responsibility for making these scientific and other judgments, and we must respect both Congress' decision and the Agency's ability to rely on the expertise that it develops."). We also "give an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise." *City of Waukesha v. EPA*, 320 F.3d 228, 247 (D.C. Cir. 2003) (internal quotation marks omitted). We "do not look at the decision as would a scientist," but only to ensure that EPA adheres to "certain minimal standards of rationality." *National Environmental*

*Development Association's Clean Air Project v. EPA*, 686 F.3d 803, 810 (D.C. Cir. 2012) (internal quotation marks omitted); see *ATK Launch Systems, Inc. v. EPA*, 669 F.3d 330, 336 (D.C. Cir. 2012); *American Trucking Associations, Inc. v. EPA*, 283 F.3d 355, 374 (D.C. Cir. 2002); *American Petroleum Institute v. Costle*, 665 F.2d 1176, 1185 (D.C. Cir. 1981); *Ethyl Corp. v. EPA*, 541 F.2d 1, 36-37 (D.C. Cir. 1976) (en banc).

In this case, petitioners raise a number of distinct arguments in support of their claim that EPA's decision not to alter the primary standards for carbon monoxide was arbitrary and capricious. We here address the weightiest of those arguments.

*First*, petitioners contend that EPA acted unreasonably in light of various epidemiological studies on the effects of carbon monoxide. Epidemiological studies identify the presence of a pollutant in a local area and monitor the number of hospital admissions, physician visits, and emergency room visits over a certain time period. A statistically significant correlation between the presence of the pollutant in the ambient air and the number of hospital admissions may suggest that the pollutant caused the onset of sickness in the population. See *National Environmental Development Association's Clean Air Project*, 686 F.3d at 807. Petitioners argue that the relevant epidemiological studies on carbon monoxide show that the current primary standards for carbon monoxide allow emissions at levels that cause adverse health effects. However, EPA concluded that the studies show only that carbon monoxide emissions at the levels of the primary standards *correlate* with adverse health effects, not that emissions at those levels *cause* those health effects. See 76 Fed. Reg. at 54,299, 54,304-05. As EPA reasonably explained, the modeling programs used in the epidemiological

studies did not rule out the possibility that another pollutant was causing the adverse health effects observed in the studies. *See* 76 Fed. Reg. at 54,305; Response to Comments 33.

Petitioners counter that EPA relied on similar epidemiological data in setting the standards for two other pollutants, nitrogen dioxide and sulfur dioxide. But in those cases, as EPA reasonably explained, toxicology and clinical studies produced similar results and thus buttressed the epidemiological studies. *See National Environmental Development Association's Clean Air Project*, 686 F.3d at 811-12; Primary National Ambient Air Quality Standard for Nitrogen Dioxide, 74 Fed. Reg. 34,404, 34,409 (July 15, 2009). With carbon monoxide, by contrast, no toxicology or clinical studies show that carbon monoxide emissions at the levels of the primary standards caused adverse health effects. *See* 76 Fed. Reg. at 54,305 & n.26.

*Second*, petitioners argue that EPA did not include several kinds of studies in its Integrated Science Assessment, including scientific review studies and carbon monoxide poisoning studies. As EPA pointed out, however, the scientific review studies only summarize the results of other studies and provide no new information. *See* Response to Comments 9 n.3. And EPA reasonably explained that the carbon monoxide poisoning studies were not focused on the effects of carbon monoxide exposure at the levels permitted by the primary standards, and thus were not helpful for determining what physical effects are caused by emissions of carbon monoxide at the levels of the primary NAAQS. *See* Integrated Science Assessment 1-7; Response to Comments 8-10.

*Third*, petitioners assert that EPA accepted the findings of an outdated human clinical trial, the Allred study of 1989, to

the exclusion of other relevant studies. EPA acknowledges that it relied heavily on the Allred study in the carbon monoxide rulemaking. *See* 76 Fed. Reg. at 54,300. But according to EPA, it did so because human clinical trials like the Allred study remained “the most compelling evidence of CO-induced effects on the cardiovascular system.” *Id.* Subsequent studies reinforce the findings of the Allred study. *See id.* at 54,300 & n.11. In short, EPA reasonably explained why it relied on the Allred study.

*Fourth*, petitioners say that EPA mischaracterized and ignored the advice of its Clean Air Scientific Advisory Committee. Under the Clean Air Act, the Clean Air Scientific Advisory Committee acts as an “independent scientific review committee” and advises EPA during the NAAQS rulemaking. 42 U.S.C. § 7409(d)(2)(A); *see American Trucking Associations*, 283 F.3d at 358. The Advisory Committee’s “pertinent findings, recommendations, and comments” must be “set forth” or summarized by EPA in the Final Rule. 42 U.S.C. § 7607(d)(3). EPA must also explain any reasons for “important” departures from the Advisory Committee’s recommendations. *Id.*

In this case, as EPA explained: “Although CASAC [the Clean Air Scientific Advisory Committee] expressed a preference for a lower standard, CASAC also indicated that the current evidence provides support for retaining the current suite of standards and CASAC’s recommendations appear to recognize that their preference for a lower standard was contingent on a judgment as to the weight to be placed on the epidemiological evidence.” 76 Fed. Reg. at 54,304. By its terms, as EPA noted, the Advisory Committee’s report expressly supported either of two options: “retaining or revising the current 8-hr standard.” Letter from Dr. Joseph Brain, Chair, Clean Air Scientific Advisory Committee



Carbon Monoxide Review Panel, & Dr. Jonathan Samet, Chair, Clean Air Scientific Advisory Committee, to EPA Administrator Lisa P. Jackson 12 (June 8, 2010). Because the Advisory Committee's recommendation permitted the option of retaining the current primary standards, it cannot be said that EPA departed from the Committee's recommendations in this case.

In sum, we have considered all of petitioners' challenges to EPA's decision to retain the extant primary standards. We find none of petitioners' arguments persuasive.

### III

Petitioners also challenge EPA's decision not to set a *secondary* standard for carbon monoxide in order to protect the public welfare. The "public welfare" encompasses the welfare of animals, the environment, and climate, among other things.

EPA initially responds that petitioners lack standing to make this argument. To establish standing, a party must demonstrate an injury-in-fact that was caused by the defendant and that may be redressed by the court. To support their standing, petitioners rely on *Massachusetts v. EPA*, 549 U.S. 497 (2007), which held that States have standing to complain about the effects of global warming caused by EPA's allegedly illegal under-regulation of certain greenhouse gas emissions. But even assuming for the sake of argument that *Massachusetts v. EPA* grants standing for plaintiffs other than States, petitioners here have failed to establish the causation element of standing. Petitioners claim that EPA's decision not to set a secondary standard for carbon monoxide will worsen global warming and in turn displace birds that one of petitioners' members observes for recreational purposes. But petitioners have not presented a

sufficient showing that carbon monoxide emissions in the United States – at the level allowed by EPA – will worsen global warming as compared to what would happen if EPA set the secondary standards in accordance with the law as petitioners see it. Moreover, citing and analyzing many scientific studies, EPA explained that carbon monoxide’s effects on climate change involve “significant uncertainties.” Review of National Ambient Air Quality Standards for Carbon Monoxide, 76 Fed. Reg. 54,294, 54,310 (Aug. 31, 2011). EPA’s Clean Air Scientific Advisory Committee likewise agreed that the “current high level of uncertainty does not favor the development of a secondary standard.” Letter from Dr. Joseph Brain, Chair, Clean Air Scientific Advisory Committee Carbon Monoxide Review Panel, & Dr. Jonathan Samet, Chair, Clean Air Scientific Advisory Committee, to EPA Administrator Lisa P. Jackson 9 (Jan. 20, 2010). EPA ultimately determined, therefore, that it was “not possible to anticipate how any secondary standard that would limit ambient CO concentrations in the United States would in turn affect climate and thus any associated welfare effects.” 76 Fed. Reg. at 54,310.

For the reasons identified by EPA, petitioners’ theory of causation is simply a bridge too far given the current record. Petitioners have not presented a sufficient showing that carbon monoxide at the level permitted by EPA would worsen global warming as compared to what would happen if EPA set the secondary standard in accordance with the law as petitioners see it. *See Sierra Club v. EPA*, 292 F.3d 895, 898 (D.C. Cir. 2002). Therefore, petitioners do not have standing to advance this claim in this case.

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We have considered all of petitioners' arguments. We deny the petition for review of the primary standards and dismiss the petition for review of the secondary standard for lack of standing.

*So ordered.*