

**ORAL ARGUMENT NOT YET SCHEDULED**

Consolidated Case Nos. 15-1328, 15-1329

---

**IN THE UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

---

MEXICHEM FLUOR, INC.,

*Petitioner,*

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

*Respondent,*

---

CHEMOURS COMPANY FC, LLC, ET AL.,

*Intervenors.*

---

On Petition for Review of Final Action by the  
United States Environmental Protection Agency

---

**INITIAL BRIEF OF INTERVENOR NATURAL RESOURCES  
DEFENSE COUNCIL IN SUPPORT OF RESPONDENT**

---

Emily K. Davis  
Natural Resources Defense Council  
111 Sutter Street, 21st Floor  
San Francisco, CA 94104  
(414) 875-6100  
edavis@nrdc.org

David Doniger  
Benjamin Longstreth  
Melissa J. Lynch  
Natural Resources Defense Council  
1152 15th Street NW, Suite 300  
Washington, D.C. 20005  
(202) 289-6868  
ddoniger@nrdc.org  
blongstreth@nrdc.org  
llynch@nrdc.org

Dated: June 10, 2016

*Counsel for Natural Resources  
Defense Council*

**CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES**

Pursuant to D.C. Circuit Rule 28(a)(1), Intervenor Natural Resources Defense Council states as follows:

**A. Parties and Amici**

All parties, intervenors, and amici appearing in this court are listed in the Brief for Respondent Environmental Protection Agency.

**B. Rulings Under Review**

Reference to the ruling at issue appears in the Brief for Respondent Environmental Protection Agency.

**C. Related Cases**

All related cases are listed in the Brief for Respondent Environmental Protection Agency.

/s/ Benjamin Longstreth

## **CORPORATE DISCLOSURE STATEMENT**

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Circuit Rule 26.1, Intervenor Natural Resources Defense Council (NRDC) states that it is a not-for-profit non-governmental organization whose mission includes protection of public health and the environment and conservation of natural resources. The Natural Resources Defense Council has no outstanding shares or debt securities in the hands of the public, and no parent, subsidiary, or affiliate that has issued shares or debt securities to the public.

## TABLE OF CONTENTS

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES.....	i
CORPORATE DISCLOSURE STATEMENT.....	ii
TABLE OF CONTENTS.....	iii
TABLE OF AUTHORITIES.....	v
GLOSSARY.....	vii
INTRODUCTION AND SUMMARY OF ARGUMENT.....	1
STATEMENT OF THE CASE AND STANDARD OF REVIEW.....	3
ARGUMENT .....	4
I. EPA’s Change of Status Rulemaking Properly Executes Section 612 of the Clean Air Act.....	4
A. Section 612 Directs the Administrator to Update the Status of Chemicals on the Alternatives Lists.....	4
B. The Legislative History Confirms EPA’s Authority and Underscores the Statute’s Comparative Risk Approach.....	8
C. If Section 612 were Ambiguous, EPA Interpreted it Reasonably .....	10
II. EPA’s Regulations Authorize Revising the Listing Status of High Global Warming Potential Substitutes Where Safer Alternatives Exist.....	11
A. Nothing in the Regulations Terminates EPA’s Authority to Reevaluate a Listed Alternative.....	13
B. EPA Reasonably Used Global Warming Potential to Compare Relative Climate Risks Posed by HFCs and Alternatives .....	13
C. EPA Reasonably Evaluated the Climate Risks Posed by HFCs Without Setting a Quantitative Standard .....	16
CONCLUSION .....	17

CERTIFICATE OF COUNSEL REGARDING SEPARATE BRIEFING .....	19
CERTIFICATE OF COMPLIANCE.....	20
CERTIFICATE OF SERVICE.....	21

## TABLE OF AUTHORITIES

### CASES

<i>Am. Trucking Ass'ns v. Atchison, Topeka &amp; Santa Fe Ry.</i> , 387 U.S. 397 (1967) .....	10
<i>Catawba Cty., N.C. v. EPA</i> , 571 F.3d 20 (D.C. Cir. 2009).....	17
<i>*Chevron U.S.A. v. Nat. Res. Def. Council</i> , 467 U.S. 837 (1984) .....	11
<i>Coal. for Responsible Regulation, Inc. v. EPA</i> , 684 F.3d 102 (D.C. Cir. 2012).....	17

### STATUTES

42 U.S.C. § 7671c .....	1
42 U.S.C. § 7671d .....	1
*42 U.S.C. § 7671k(a).....	1, 3, 5
42 U.S.C. § 7671k(b)(1) .....	6
42 U.S.C. § 7671k(b)(3) .....	6
*42 U.S.C. § 7671k(c).....	2, 4
42 U.S.C. § 7671k(d) .....	5

### CODE OF FEDERAL REGULATIONS

40 C.F.R. § 82.178(a)(6).....	15
40 C.F.R. § 82.180(a)(7).....	12
40 C.F.R. § 82.180(b)(4) .....	12

\* Authorities chiefly relied upon are marked with an asterisk.

**FEDERAL REGISTER**

*59 Fed. Reg. 13,044 (Mar. 18, 1994) .....	2, 11, 12, 13, 15, 17
*80 Fed. Reg. 42,870 (July 20, 2015) .....	1, 5, 14, 15, 16

**LEGISLATIVE HISTORY**

136 Cong. Rec. H12939 (Oct. 26, 1990), <i>reprinted in</i> 1 A LEG. HIST. OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) .....	10
136 Cong. Rec. S16949 (Oct. 27, 1990), <i>reprinted in</i> 1 A LEG. HIST. OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) .....	9
S. 1630, 101st Cong. § 156 (1990) (as passed by House, May 23, 1990), <i>reprinted in</i> 2 A LEG. HIST. OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) .....	8, 9
S. 1630, 101st Cong. § 514 (1990) (as passed by Senate, Apr. 3, 1990), <i>reprinted in</i> 3 A LEG. HIST. OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) .....	9

**OTHER AUTHORITIES**

Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis (2007) .....	14
United Nations Framework Convention on Climate Change, Decision 24/CP.19: Revision of the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention (Jan. 31, 2014) .....	15

**GLOSSARY**

CFC	Chlorofluorocarbon
EPA	Environmental Protection Agency
GWP	Global Warming Potential
HFC	Hydrofluorocarbon
NRDC	Natural Resources Defense Council



## INTRODUCTION AND SUMMARY OF ARGUMENT

Hydrofluorocarbons (HFCs), a class of man-made chemicals used primarily in air conditioning, refrigeration, plastic foams, and aerosols, are highly potent agents of climate change. HFC use and emissions are growing faster than any other greenhouse gas and are expected to triple in less than fifteen years. By the middle of this century, HFCs could be responsible for more than a quarter of all climate pollution.<sup>1</sup> Pound for pound, these chemicals have up to ten thousand times more heat-trapping power than carbon dioxide. Prompt action to reduce HFCs is a key measure to reduce the grave threats that climate change poses to public health and welfare.

HFCs were introduced three decades ago as one set of alternatives to chlorofluorocarbons (CFCs), chemicals that severely depleted the stratospheric ozone layer and contributed even more powerfully than HFCs to climate change. Sections 604 and 605 of the Clean Air Act, added in 1990, required the Environmental Protection Agency (EPA) to phase out CFCs and other ozone-depleting chemicals on a statutorily-prescribed schedule. 42 U.S.C. §§7671c-7671d. Section 612 of the Act also established a “Safe Alternatives Policy” directing that ozone-destroying chemicals be replaced “to the maximum extent practicable” with “chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to human health or the environment.” 42 U.S.C. §7671k(a). Section 612(c)(2) directs EPA to

---

<sup>1</sup> Protection of Stratospheric Ozone: Change of Listing Status for Certain Substitutes Under the Significant New Alternatives Policy Program; Final Rule. 80 Fed. Reg. 42,870, 42,936 (July 20, 2015) (“Final Rule”), JA\_\_.

publish two lists: one consisting of chemicals approved for particular end uses, and the other of chemicals disapproved for particular end uses. 42 U.S.C. §7671k(c).

In 1994, EPA promulgated the “Significant New Alternatives Policy” Program (“Alternatives Program”) and added HFCs to the list of approved alternatives, after comparing them to alternatives and finding them among the best available as they do not destroy stratospheric ozone and contribute less powerfully than CFCs to climate change. Protection of Stratospheric Ozone, 59 Fed. Reg. 13,044 (Mar. 18, 1994), JA\_\_\_. EPA, however, always made clear (1) that approval under the Alternatives Program is on the basis of comparing an alternative’s health and environmental risks not only to CFCs, but also to *other alternatives*, and (2) that Alternatives Program approvals and prohibitions can be revisited over time as science progresses, innovation continues, and new, safer alternatives emerge.

Petitioners would contradict Congress’s manifest intent by freezing HFCs’ position on the list of approved alternatives for all time, regardless of whether new information emerged on their risks, or whether innovation yielded new and safer alternatives. This is not the policy Congress designed. Quite the opposite, Congress intended EPA, in carrying out the Alternatives Program, to respond to scientific advances and support continuous industrial innovation.

The Final Rule under review here shows the fruits of carrying out the policy embodied in Section 612: a continuing reduction in reliance on dangerous chemicals in favor of alternatives that pose lower risks to health and the environment.

EPA's construction of Section 612 in the final rule is more than a reasonable exercise of the agency's authority under the Clean Air Act; it is the construction mandated by the statute. Petitioners cannot deny that if the alternatives that exist now had existed when EPA first approved HFCs, EPA could have chosen not to approve HFCs. But Petitioners contend that EPA may not now revisit the 1994 approval of HFCs – regardless of the magnitude of their climate risk and the emergence of lower risk alternatives – simply because HFCs are not ozone-depleting substances. Pet. Br. 16. This limitation finds no support in the text of the statute and runs counter to the Congressional policy the statute embodies. Petitioners' reading would permanently lock in approval of powerful heat-trapping chemicals or other hazardous chemicals, eliminate the incentive for manufacturers to invent safer alternatives, and prevent EPA from taking the sensible step of updating the Alternatives Program lists to minimize, as Congress directed, "overall risk to human health and the environment." 42 U.S.C. §7671k(a).

### **STATEMENT OF THE CASE AND STANDARD OF REVIEW**

We adopt EPA's Statement of the Case and discussion of the standard of review. EPA Br. 2-11, 13-15.

## ARGUMENT

### **I. EPA's Change of Status Rulemaking Properly Executes Section 612 of the Clean Air Act**

EPA's decision to change the listing status of certain HFCs on the Section 612(c) Alternatives Program lists is well within the bounds of its Clean Air Act authority. Section 612(c) states unambiguously that the Administrator must create lists of approved and prohibited alternatives, and must add and remove chemicals from the lists in accordance with a comparative risk framework. Even if the statute were in any relevant respect ambiguous, EPA's well-established and decades-long statutory interpretation is reasonable and merits deference.

#### **A. Section 612 Directs the Administrator to Update the Status of Chemicals on the Alternatives Lists**

Section 612(c) directs EPA to take several actions. First, the statute makes it unlawful for any person to replace an ozone-depleting chemical

with any substitute substance which the Administrator determines may present adverse effects to human health or the environment, where the Administrator has identified an alternative to such replacement that—

- (1) reduces the overall risk to human health and the environment; and
- (2) is currently or potentially available.

Second, Section 612(c) requires EPA to maintain two lists consisting of “(A) the substitutes prohibited under this subsection for specific uses and (B) the safe alternatives identified under this subsection for specific uses.” 42 U.S.C. §7671k(c).

Section 612(c) carries out the governing policy in Section 612(a) that ozone-destroying

chemicals are to be replaced “to the maximum extent practicable” with “chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to human health or the environment.” 42 U.S.C. §7671k(a).

Section 612(d) provides a petition process that underscores the dynamic nature of the lists maintained under Section 612(c). Any person may petition EPA, at any time, “to add a substance to the lists under subsection (c) of this section or to remove a substance from either of such lists.” 42 U.S.C. §7671k(d). Section 612(d) provides specific deadlines for EPA to respond to such petitions. *Id.* Were EPA not empowered to remove substances from the approved list or to add substances to the prohibited list, the Agency could not effectuate its obligation to respond to petitions under Section 612(d).

In this instance, the Agency received three Section 612(d) petitions relating to the Final Rule. NRDC filed a petition in 2010 to remove HFC-134a from use in motor vehicle air conditioners, and NRDC and other parties filed two additional broader petitions in 2012. 80 Fed. Reg. 42,879-80, JA\_\_\_\_. In addition to asserting its authority to make the Final Rule’s listing changes *sua sponte*, EPA acknowledged that the Rule is responsive to these petitions with respect to certain listing decisions. 80 Fed. Reg. 42,940, JA\_\_\_\_.

Further statutory evidence of EPA’s continuing duty to review alternatives comes from Section 612(b), which directs the Administrator to undertake a number of ongoing actions to promote development of safer substitutes. In particular, the

Administrator is directed to “seek to maximize the use of Federal research facilities and resources” in “identifying and developing alternatives to the use of [ozone-depleting] substances.” 42 U.S.C. §7671k(b)(1). The objective of these ongoing research and development activities is to “promote the development and use of safe substitutes.” 42 U.S.C. §7671k(b)(3).

In short, the statute calls for EPA to support development of improved chemicals and technologies, establishes a comparative overall risk framework, and provides for EPA to keep the alternatives lists up to date by adding safer alternatives to the approved list as they emerge and prohibiting use of previously approved compounds when safer alternatives are available.

Petitioners concede that EPA’s 612(c) authority to publish the lists was not limited to the initial publication but includes authority to make further changes. They acknowledge examples where EPA has revisited a previously-approved alternative when the discovery of greater health risk, or the emergence of safer new alternatives, made the risk associated with the incumbent chemical no longer acceptable. Pet. Br. 14. Petitioners claim, however, that this authority to revisit the listing status of a previously-approved alternative exists *only if the incumbent chemical is an ozone-depleting substance*. In their view, once HFCs were approved more than two decades ago, they became immune from any further review of their overall risk to health and the environment – regardless of the magnitude of their climate risks – simply because they are not ozone-depleting.

Petitioners can point to no statutory language that limits the ongoing maintenance of the approved and prohibited alternatives lists in this way. Instead, the statutory language directs EPA to do precisely what Petitioners claim the agency cannot. Where innovation brings forth a new alternative that is currently or potentially available for a given use and reduces overall health and environmental risk – including climate risk – compared to a substance previously approved, the older substance must be removed from the approved list and added to the prohibited list.

Petitioners claim that “Section 612 unambiguously covers only replacements of ozone-depleting substances.” Pet. Br. 29. Their attempt to conjure such a limitation from dictionary definitions of the term “replace” has no merit. As EPA notes, the prohibition on “replacing” in the first sentence of Section 612(c) applies not to EPA, but to other entities such as firms that manufacture or service air conditioners, refrigerators or other equipment; Section 612(c) makes it “unlawful [for them] to replace” an ozone-depleting substance with a substance that EPA has prohibited. EPA Br. 20. EPA’s duty is to maintain the lists of approved and prohibited alternatives. When superior alternatives emerge, EPA must compare the overall health and environmental risks of the initially approved substitute to those of other “currently or potentially available” substitutes. Petitioners identify no statutory language that requires EPA to immunize a toxic or climate-damaging chemical from further restrictions when there are new, lower risk alternatives for the same end use, simply because the incumbent chemical does not contribute to ozone-depletion.

**B. The Legislative History Confirms EPA's Authority and Underscores the Statute's Comparative Risk Approach**

Petitioners draw a negative inference, based on the Senate's version of the provision that became Section 612, that Congress did not intend EPA to modify the listing status of an alternative based on its climate risk. Pet. Br. 33-34. They grossly misread the legislative history of the 1990 Clean Air Act Amendments, starting from the fact that the operative listing language of Section 612 came not from the Senate's bill, but from the House's.

The last sentence of Section 612(c), directing EPA to establish lists of approved and prohibited substitutes based on overall risk to human health and the environment, originated in the House bill. The House provision directed EPA to promulgate rules requiring that "replacement chemicals, product substitutes, and alternative production processes, products, and raw materials that reduce overall risks to human health and the environment are used, to the maximum extent practicable, for the replacement" of ozone-depleting substances. S. 1630, 101st Cong. §156(b) (1990) (as passed by House, May 23, 1990), *reprinted in* 2 A LEG. HIST. OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 2391-94 (1993) ("LEG. HIST."). Such rules were to make unlawful the replacement of ozone-depleting substances with substitutes that "may present adverse effects to human health or the environment" where an alternative that "reduces the overall risk to human health and the environment" is



“currently or potentially available.” *Id.* at §156(c). The provision directed the Administrator to publish the lists of prohibited substitutes and safe alternatives. *Id.*

The “safe alternatives policy” of the Senate bill shared a similar general objective of replacing ozone-depleting or climate-modifying substances “[t]o the maximum extent practicable” with alternatives “that reduce overall risks to human health and the environment.” S. 1630, 101st Cong. §514(a) (1990) (as passed by Senate, Apr. 3, 1990), *reprinted in* 3 LEG. HIST. at 4781-86. As EPA notes, however, the Senate bill did not have a provision empowering EPA to list approved and prohibited uses of substitutes. EPA Br. 23. When reconciling the bills passed by the House and Senate, the conference agreement on the “safe alternatives policy” accepted the House bill’s approach, empowering EPA to adopt the lists of approved and prohibited alternatives based on a comparison of overall risk to human health and the environment. 136 Cong. Rec. S16949 (Oct. 27, 1990), *reprinted in* 1 LEG. HIST. at 932.

Petitioners focus on the fact that the Senate bill’s safe alternatives provision covered both ozone-depleting and climate-modifying substances. But they ignore that both the Senate and House bills, like the final statute, used the same language to describe the objectives of the alternatives program – to “reduce[] overall risk to human health and the environment.” During the House debate on the conference report, Texas Representative Hall explained that under the alternatives provision, “the Administrator shall base risk estimates on the total environmental risk (toxicity, flammability, atmospheric, etc.) that is perceived to exist, not just the risk as it relates

to ozone depletion.” 136 Cong. Rec. H12939 (Oct. 26, 1990), *reprinted at* 1 LEG. HIST. at 1337. This statement of the intended breadth of EPA’s risk evaluation supports EPA’s interpretation that Section 612(c) directs the Agency to prevent the use of substitutes that may cause harm to the climate where safer alternatives exist.

### **C. If Section 612 were Ambiguous, EPA Interpreted it Reasonably**

As described, Section 612 plainly grants EPA authority to publish and maintain lists of prohibited and approved chemicals, including the authority to remove chemicals. But even if the scope of the statutory authority were ambiguous in some respect, EPA reasonably interpreted Section 612’s comparative risk mandate to allow consideration of harm to our climate and to authorize changes to the Section 612(c) lists on an ongoing basis. EPA’s interpretation is further supported by Section 612(d)’s petition process, which highlights the dynamic nature of the Section 612(c) lists. Indeed, EPA’s interpretation is reasonable simply based on the well understood principle that agencies may revise their regulatory determinations. *See, e.g., Am. Trucking Ass’n v. Atchison, Topeka & Santa Fe Ry.*, 387 U.S. 397, 416 (1967) (“Regulatory agencies do not establish rules of conduct to last forever; they are supposed . . . to adapt their rules and practices to the Nation’s needs . . . . They are neither required nor supposed to regulate the present and the future within the inflexible limits of yesterday.”)

Petitioners’ view of Section 612 would create a permanent grandfathered status for HFCs despite their high climate risks, freezing the lists of approved and

prohibited alternatives for all time, with destructive environmental consequences.

That is a patently unreasonable interpretation and it was certainly within EPA's discretion under *Chevron* Step 2 to reject that view. *See Chevron U.S.A. v. Nat. Res. Def. Council*, 467 U.S. 837, 842-43 (1984).

## **II. EPA's Regulations Authorize Revising the Listing Status of High Global Warming Potential Substitutes Where Safer Alternatives Exist**

EPA's 1994 regulations authorize the Agency to revisit earlier listing decisions, revoking prior use approvals and adding use prohibitions through a comparative overall risk evaluation. Petitioners claim that EPA violated its regulations by doing so for HFCs based on comparisons with safer alternatives more recently approved – so-called “later generation chemicals.” Pet. Br. 38. Petitioners' restriction against comparing HFCs to later-arising safer alternatives exists nowhere in EPA's regulations.

Pursuant to Section 612(c), EPA established the 1994 regulations following seven guiding principles, the first of which is to “Evaluate Substitutes within a Comparative Risk Framework.” 59 Fed. Reg. 13,046, JA\_\_\_. Under this principle, EPA's risk evaluation is to compare the risks of substitutes to risks associated with ozone-depleting compounds and with other alternatives, including consideration of “the potential for direct and indirect contributions to global warming.” *Id.* Guided by these principles, the regulations set out the comparative risk framework under which EPA evaluates and lists substitutes for ozone-depleting substances. EPA is to

designate a substitute as unacceptable “where the Agency’s review indicates that the substitute poses risk of adverse effects to human health and the environment and that other alternatives exist that reduce overall risk.” 40 C.F.R. §82.180(b)(4).

To determine whether use of a substitute is acceptable, EPA evaluates seven criteria: “(i) Atmospheric effects and related health and environmental impacts; (ii) General population risks from ambient exposure to compounds with direct toxicity and to increased ground-level ozone; (iii) Ecosystem risks; (iv) Occupational risks; (v) Consumer risks; (vi) Flammability; and (vii) Cost and availability of the substitute.” 40 C.F.R. §82.180(a)(7). EPA’s evaluation is a holistic comparison of the properties and impacts of multiple chemicals, and the resulting listing determination is based on the relative overall risk of one substitute compared to other alternatives.

In the preamble to the 1994 rule, EPA stated that “the Agency may revise these [listing] decisions in the future as it reviews additional substitutes and receives more data on substitutes already covered by the program” and that “once a substitute has been placed on either the acceptable or the unacceptable list, EPA will conduct notice-and-comment rulemaking to subsequently remove a substitute from either list.” 59 Fed. Reg. 13,047, JA\_\_.

As with the statute itself, EPA’s Alternatives Program regulations are designed to drive improvement over time, and aim to ensure that the problem of ozone depletion is solved in a manner that minimizes risk to human health and the environment. The regulations authorize EPA to change the listing status of substitutes

based on a comparison to the climate impacts of newer, safer substitutes, and do not require EPA to set a bright-line standard for assessing risk. Petitioners attempt to re-characterize the Program's regulations in order to compel a different result, but cannot escape the comparative risk mandate of the regulations.

**A. Nothing in the Regulations Terminates EPA's Authority to Reevaluate a Listed Alternative**

In the preamble to the 1994 regulations, EPA suggested that there may be so-called "second generation" alternatives that firms may place into commerce without the 90-days advance reporting of health and safety studies otherwise required by Section 612(e). Fed. Reg. 13,052, JA\_\_\_. Petitioners try to parlay this reference into its opposite, a proposition that EPA may never reevaluate the Section 612(c) listing status of so-called "first generation" alternatives. Pet. Br. 38-39. But nothing in the regulations purports to terminate EPA's authority to place any substance on the Section 612(c) list of *prohibited* alternatives, if safer alternatives have emerged. To the contrary, as noted above, the preamble made crystal clear that "the Agency may revise these [listing] decisions in the future as it reviews additional substitutes and receives more data on substitutes already covered by the program" through notice and comment rulemaking. 59 Fed. Reg. 13,047, JA\_\_\_.

**B. EPA Reasonably Used Global Warming Potential to Compare Relative Climate Risks Posed by HFCs and Alternatives**

In criticizing the Agency's global warming potential (GWP) analysis, Pet. Br. 46-53, Petitioners again overlook EPA's regulatory mandate to compare the relative

risks of approved substitutes for ozone-depleting chemicals. In EPA's Final Rule, the Agency applied the 1994 regulations' evaluation criteria to compare certain HFCs with other substitutes for particular end uses, considering environmental impacts, flammability, toxicity, and exposure risks. 80 Fed. Reg. 42,941, JA\_\_\_. As part of this evaluation, EPA appropriately compared the GWP of these HFCs with that of available alternatives.

GWP is a measure of the heat-trapping potential of greenhouse gases, designed to facilitate comparisons between different gases. GWP uses carbon dioxide as a reference point (GWP=1), and compares the heat-trapping power of one ton of another greenhouse gas to the heat-trapping power of one ton of carbon dioxide over a given period of time. GWP is widely relied upon domestically and internationally as a common metric. It is based on published and peer-reviewed data, and is used in many other contexts for comparing the impacts of greenhouse gas emissions. The Intergovernmental Panel on Climate Change's 2007 Fourth Assessment Report provides the benchmark GWP values used in international climate reporting, calling GWP "the recommended metric to compare future climate impacts" of emissions of different greenhouse gases. Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis 211 (2007), JA\_\_\_[EPA-HQ-OAR-2014-0198-0003]. The United Nations Framework Convention on Climate Change guidelines require countries that report their greenhouse gas inventories under the framework to use the GWP values listed in the above-cited Fourth Assessment

Report.<sup>2</sup> EPA uses these GWP values in its periodic Inventory of Greenhouse Gas Emissions and Sinks and its domestic Greenhouse Gas Reporting Program. Given the risks of climate change and the broad acceptance of using GWP as an index for comparing greenhouse gases, EPA reasonably used GWP as the indicator of the relative climate risks of HFCs and other substitutes.

Since the 1994 Rule, EPA has required reporting of the GWP of any new substitute for which an applicant seeks EPA's approval under Section 612(c). 59 Fed. Reg. 13,149, JA\_\_\_; 40 C.F.R. §82.178(a)(6). Likewise, EPA has always considered atmospheric effects, including GWP, as part of the Alternatives Program comparative evaluation process. 80 Fed. Reg. 42,938, JA\_\_\_.<sup>3</sup> Over time, newer compounds with lower GWP have become available, and new science has made the risks facing our climate more clear and urgent. As noted, EPA's 1994 regulations authorize the Agency to revisit prior listings of alternatives as new alternatives emerge, and GWP is a reasonable metric by which to compare the climate risks of HFCs with the climate risks of the expanded pool of safer alternatives.

---

<sup>2</sup> United Nations Framework Convention on Climate Change, Decision 24/CP.19: Revision of the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention (Jan. 31, 2014), *available at* <http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf>.

<sup>3</sup> EPA notes in the 1994 rule that “in the Agency’s consideration of global warming as a criterion under [the Alternatives Program], EPA has principally compared different global warming gases among themselves, as opposed to attempting to establish some methodology for comparing directly the effects of global warming and ozone depletion.” 59 Fed. Reg. 13,046, JA\_\_\_.

### **C. EPA Reasonably Evaluated the Climate Risks Posed by HFCs Without Setting a Quantitative Standard**

Petitioners assert that EPA should have set a bright-line rule acceptable risk rule across all end uses with respect to HFCs. Pet. Br 69-73. Section 612(c) requires EPA to make listing decisions on an end-use by end-use basis, using a comparative risk framework. Petitioners argue that EPA must set a single quantitative GWP standard for determining acceptable climate risk across all end-uses, but this would conflict with EPA's statutory obligation to determine acceptability on a comparative use-by-use basis.

A single number across all uses would make no sense. For example, for certain commercial refrigeration uses, the HFCs that EPA listed as unacceptable have GWPs of 2,730 to 3,985. HFC-134a, with a GWP of 1,430, compares favorably with these alternatives, and as a result EPA left its approval undisturbed for these end uses. 80 Fed. Reg. 42,904, JA\_\_\_. In contrast, EPA listed HFC-134a as unacceptable for use in motor vehicle air conditioning because there are three acceptable alternatives for that end use with GWPs lower than 150. 80 Fed. Reg. 42,888-90, JA\_\_\_. These examples show the perversity of a bright-line standard across all end-uses. This is why the statute commands a comparative analysis on a use-by-use basis, not a fixed standard dividing the acceptable from the unacceptable.

EPA made clear in the 1994 rule's guiding principles that the Agency "does not believe that a numerical scheme producing a single index to rank all substitutes based



on risks is appropriate. A strict quantitative index would not allow for sufficient flexibility in making appropriate risk management decisions” such as the availability of other substitutes and other data. 59 Fed. Reg. 13,046, JA\_\_\_\_. Even if this judgment were open for review now, it is eminently reasonable.

In *Coalition for Responsible Regulation, Inc. v. EPA*, this Court rejected a similar plea for a rigid quantitative test of excessive risk. The Court found that the endangerment inquiry required by Section 202(a) of the Act “necessarily entails a case-by-case, sliding-scale approach to endangerment.” 684 F.3d 102, 122-23 (D.C. Cir. 2012), *rev’d in part on other grounds sub nom. Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427 (2014). *See also Catamba Cty., N.C. v. EPA*, 571 F.3d 20, 39-40 (D.C. Cir. 2009) (“[N]othing in the statute compels EPA to quantify a uniform amount of contribution below which counties will automatically escape nonattainment designations or to quantify similar thresholds for the nine factors EPA evaluated in making those determinations.”). Here EPA reasonably applied the comparative risk framework to change the listing status of certain HFCs for certain end-uses based on the availability of safer alternatives that reduce climate risks.

## CONCLUSION

The petitions for review should be denied.

Respectfully submitted,

Dated: June 10, 2016

/s/ Benjamin Longstreth

Emily K. Davis  
Natural Resources Defense Council  
111 Sutter Street, 21st Floor  
San Francisco, CA 94104  
(415) 875-6100  
edavis@nrdc.org

David Doniger  
Benjamin Longstreth  
Melissa J. Lynch  
Natural Resources Defense Council  
1152 15th Street NW, Suite 300  
Washington, D.C. 20005  
(202) 289-6868  
ddoniger@nrdc.org  
blongstreth@nrdc.org  
llynch@nrdc.org

**CERTIFICATE OF COUNSEL REGARDING SEPARATE BRIEFING**

Pursuant to D.C. Circuit Rule 28(d)(4), counsel states that separate briefs are necessary due to the distinct interests and perspectives of Intervenor. Intervenor Natural Resources Defense Council and the intervening corporations support the final agency action under review; however, their interests in the outcome of this litigation are different, as reflected in Intervenor's respective motions to intervene. As Intervenor Natural Resources Defense Council's interest in protecting its members and others from the impacts of greenhouse gas pollution is distinct from the commercial interests of the intervening corporations, separate briefs representing those different interests are warranted. The combined briefs of all Intervenor in Support of Respondent do not exceed the type-volume limitation of D.C. Circuit Rule 32(e)(2)(B)(i).

/s/ Benjamin Longstreth

Dated: June 10, 2016

**CERTIFICATE OF COMPLIANCE**

I hereby certify that this brief complies with the requirements of Rules 32(a)(5) and (6) of the Federal Rules of Appellate Procedure because it has been prepared in 14-point Garamond, a proportionally spaced typeface.

I further certify that this brief complies with the type-volume limitation of D.C. Circuit Rule 32(e)(2)(B)(i) because it contains 3,981 words, excluding the parts exempted under Federal Rule 32(a)(7)(B)(iii) and Circuit Rule 32(e)(1), and the combined words of this brief and that of the other Intervenors in Support of Respondent do not exceed 8,750 words.

/s/ Benjamin Longstreth

Dated: June 10, 2016

**CERTIFICATE OF SERVICE**

I hereby certify that on June 10, 2016, the foregoing Brief of Intervenor Natural Resources Defense Council in Support of Respondent was served upon all registered counsel via the Court's CM/ECF system.

/s/ Benjamin Longstreth

Dated: June 10, 2016