**No. 22-1030**

Consolidated with Nos. 23-1285, 23-1337

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

AMERICAN GAS ASSOCIATION, et al.
*Petitioners*,
v.
U.S. DEPARMENT OF ENERGY, et al.
*Respondents*.

On Petition for Review of a Rule of the
U.S. Department of Energy

# PROOF BRIEF OF RESPONDENT-INTERVENORS

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

### A. Parties and Amici

All parties, intervenors, and amici supporting Petitioners appearing in this Court are listed in the opening brief of Respondents. Institute for Policy Integrity is *amicus curiae* supporting Respondents.

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, Respondent-Intervenors state that Natural Resources Defense Council, Inc., Sierra Club, Consumer Federation of America, and Massachusetts Union of Public Housing Tenants are non-profit advocacy organizations dedicated to protecting public health, the environment, and the consumer interest. They have no parent companies, and no publicly held company has an ownership interest in any of them.

### B. Rulings Under Review

Petitioners seek review of three Department of Energy final rules, referenced in Petitioners' opening brief.

### C. Related Cases

These consolidated cases have not previously been before this Court or any other court. In *New York v. U.S. Department of Energy*, No. 21-602 (2d Cir. March 16, 2021), a group of states challenged the 2021 withdrawal of proposed rules

addressing the efficiency standards for consumer furnaces and commercial water heaters. That case is currently in abeyance pending resolution of the present petitions for review. Counsel for Respondent-Intervenors are not aware of any other related cases.

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## GLOSSARY

| | |
|---|---|
| Act: | Energy Policy and Conservation Act |
| Btu: | British Thermal Units |
| AFUE: | Annual Fuel Utilization Efficiency |
| Department: | Department of Energy |
| Furnace Rule: | Energy Conservation Program: Energy Conservation Standards for Consumer Furnaces, 88 Fed. Reg. 87,502 (Dec. 18, 2023) |
| Interpretive Rule: | Energy Conservation Program for Appliance Standards: Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters, 86 Fed. Reg. 73,947 (Dec. 29, 2021) |
| Gas Association: | American Gas Association |
| JA: | Join Appendix |
| Unavailability Provision: | 42 U.S.C. 6295(o)(4) |

## INTRODUCTION

These consolidated cases involve the U.S. Department of Energy's (the "Department") updated energy conservation standards for consumer furnaces and commercial water heaters. In developing these standards, the Department issued an interpretive rule clarifying that certain types of furnaces and water heaters known as "non-condensing" appliances do not contain protected "performance characteristics" or "features," as their manner of venting does not sufficiently distinguish them from more efficient "condensing" models. The Department then issued separate final rules adopting condensing-level energy conservation standards for consumer furnaces and commercial water heaters.

Several industry groups raise three arguments against the Department's updated standards. First, they argue that non-condensing products merit protection under the Energy Policy and Conservation Act ("the Act"), because their manner of venting is a "performance characteristic" or "feature." Second, Petitioners claim that the Department erred in recognizing that consumers do not reliably predict long-run costs in complex markets, and in analyzing the possibility that some consumers will switch to electric appliances instead of buying a compliant gas furnace or water heater. Third, Petitioners assert that the Department's consumer furnace rule suffers from procedural shortcomings.

As the Department explains in its brief, Petitioners' claims fall short, and the standards are fully lawful. In addition to endorsing the arguments the Department puts forward in its brief, Intervenors offer additional reasons for rejecting Petitioners' first and second objections to the rules at issue.[1]

## STATUTES AND REGULATIONS

42 U.S.C. §§ 6295 is reproduced in pertinent part in an addendum to this brief. All other pertinent statutes and regulations are contained in addenda to the other parties' briefs.

## SUMMARY OF ARGUMENT

***The Department's reading of the Act is consistent with congressional intent and past practice (argument sections I, II, and III).***

The Act's unavailability provision protects unique "performance characteristics" or "features" of regulated appliances. 42 U.S.C. § 6295(o)(4). The Department's interpretation of the unavailability provision—that non-condensing technology is not a "performance characteristic" or "feature"—is consistent with congressional intent and past practice. When Congress was setting initial standards

[1] Intervenors NRDC and Sierra Club have intervened in all three consolidated cases. The Governmental Intervenors and the Consumer Federation of America have intervened only in the challenges to the Department's interpretive rule and do not join sections IV and V of the arguments below. The Massachusetts Union of Public Housing Tenants has intervened only in the challenges to the standards for consumer furnaces and join the arguments below only insofar as they apply to the standards for consumer furnaces.

for consumer furnaces, it received testimony from the gas industry, including Petitioner American Gas Association, that imposing efficiency standards would change the way furnaces vented their exhaust, with economic repercussions for some consumers. The Act's 1987 amendments mitigated these economic impacts by creating a separate class for small furnaces, but they nonetheless encouraged changes in venting technology.

Applying the Act's unavailability provision to the specific venting technology used by non-condensing gas appliances would undermine Congress' choice to encourage a change in venting and nullify the Act's regulatory scheme. Manufacturers could continue to sell inefficient furnaces and water heaters indefinitely, and the Department could do nothing to improve the efficiency of gas heating products. Congress would have spoken clearly if it intended the unavailability provision to protect venting technology. It did not.

The same circumstances underlying Congress' decision to encourage a shift in venting technology apply today. The Department's energy conservation standards will change existing venting technology to the benefit of most consumers, while raising installation costs for some. Petitioners resist this conclusion by arguing that non-condensing appliances provide "performance characteristics," because replacing a non-condensing with a condensing appliance could cause the loss of aesthetic features in residential installations. Replacing non-

condensing appliances with the same, on the other hand, would not. But Petitioners do not point to a single concrete example to support their claims. Rather, the non-economic impacts of condensing-level energy conservation standards that Petitioners decry—including the loss of windows or balconies—are speculative, and the Department soundly rejected them in an exhaustive technical analysis.

Moreover, even if Petitioners had met their burden under the Act to show by a preponderance of the evidence that installation of condensing appliances adversely impacts certain buildings, the Department reasonably found that the "performance characteristics" and "features" of condensing appliances are "substantially the same" as those of non-condensing appliances. The only difference between the two categories of appliances is the method of venting, resulting in an increase in installation costs for some consumers. The Department's energy conservation standards will not force any change in the way consumers receive a furnace or water heater's end-product: hot air or water. Therefore, the unavailability provision does not protect non-condensing appliances.

Finally, the Department's decision to set condensing-level energy conservation standards is consistent with 30 years of agency practice. Petitioners' interpretation of the Act is a significant departure from the Department's settled understanding of the unavailability provision.

***The Department's economic analysis does not assume that consumers act randomly or irrationally, and it lawfully considers fuel switching (argument sections IV and V).***

The Department correctly determined that predictions of consumer purchasing decisions in appliance markets must account for substantial uncertainty. The Department provided ample evidence that consumers do not reliably predict long-run costs when purchasing appliances. In its final rules for furnaces and water heaters, the Department cited a well-established body of economic literature explaining that, faced with imperfect information and complex decisions, consumers often choose the familiar over the most cost-effective option. And when the Department studied how consumers behave in the consumer furnace market, it found no evidence that consumers routinely optimize cost-savings. The Department reasonably employed a Monte Carlo analysis—a widely adopted statistical tool—to model uncertainty.

The Department also acted reasonably when analyzing the possibility that some consumers will switch to electric appliances (i.e., "fuel switching") if condensing-level standards apply to gas furnaces. In response to prior comments by some Petitioners, the Department examined a range of scenarios to determine whether, with varying levels of fuel switching, condensing-level standards would be economically justified. This sensitivity analysis allowed the Department to ensure that its economic conclusions were appropriately sensitive to any concerns

regarding fuel switching. Despite raising concerns about fuel switching in prior comments, however, Petitioners now complain the Department had no authority to consider these impacts. This is plainly wrong, as the Act requires the Department to consider the economic impacts of new standards on consumers "to the greatest extent practicable." 42 U.S.C. § 6295(o)(2)(B)(i). Because fuel switching is a realistic option for many furnace users, the Department's analysis could be legally vulnerable if it had not considered this possibility.

Nor is there any inconsistency between the Department's economic analysis and its fuel switching analysis. The Department designed the economic analysis to predict consumer purchasing decisions with as much accuracy as possible. It designed the fuel switching analysis, on the other hand, to test its economic model against a wide range of potential scenarios. The Department was therefore reasonable in adopting different assumptions about consumer behavior in the two analyses.

In light of the Department's reasoned factual findings that non-condensing products do not provide any characteristics qualifying for a regulatory exemption, and that condensing-level standards will benefit consumers, the Court should deny the petitions for review and affirm the Department's updated energy conservation standards for commercial water heaters and consumer furnaces.

## ARGUMENT

### I. The Act's unavailability provision does not shield non-condensing appliances from regulation.

Petitioners advance a definition of "performance characteristics," as it appears in the Act's unavailability provision, that is divorced from the Act's history and context. In claiming that the Act unambiguously shields non-condensing appliances from regulation, Petitioners fail to "exhaust the traditional tools of statutory construction to determine whether Congress has spoken to the precise question at issue." *Petit v. U.S. Department of Education*, 675 F.3d 769, 781 (D.C. Cir. 2012). In defending their preferred reading of the unavailability provision, Petitioners rely heavily on "[t]he literal language of a provision taken out of context," which "cannot provide conclusive proof of congressional intent." *Id.* Instead, the Court must also consider, "among other things, 'the problem Congress sought to solve' in enacting the statute in the first place," *id.* (quoting *PDK Labs, Inc. v. Drug Enforcement Admin.*, 362 F.3d 786, 796 (D.C. Cir. 2004)), as well as the statute's "'structure, purpose, and legislative history.'" *Genus Medical Technologies, LLC v. United States F.D.A.*, 994 F.3d 631, 637 (D.C. Cir. 2021) (quoting *Cal. Metro Mobile Communications v. F.C.C.*, 365 F.3d 38, 44-45 (D.C. Cir. 2004)). In this case, the factual circumstances under which Congress enacted energy conservation standards for consumer furnaces, coupled with Congress's

methodical drafting choices, leave no doubt that unpowered, vertical venting systems do not merit the protections that Petitioners seek.

Petitioners' arguments fail for at least three reasons. First, when prescribing standards for consumer furnaces, Congress received gas industry testimony—remarkably similar to Petitioners' arguments today—that unpowered, vertical venting systems cannot accommodate high efficiency appliances. Nonetheless, Congress declined to protect these venting systems from regulation and instead enacted standards that *encouraged* a change in venting technology. Second, given that protecting unpowered, vertical venting systems would entirely forestall efficiency improvements in gas appliances for which Congress ordered the Department to consider updated standards, Congress would have spoken clearly if it wished to protect such venting systems from regulation. It did not. And third, the specter of aesthetic impacts and other non-economic effects that Petitioners raise in response to the Department's updated standards does not withstand scrutiny. Therefore, the installation impacts of condensing technology do not justify a departure from the regulatory scheme that Congress envisioned when crafting its initial consumer furnace standards.

### A. Despite gas industry objections to the impact efficiency improvements would have on venting systems, Congress declined to enact venting-related protections for consumer furnaces.

In setting initial standards for consumer furnaces, Congress created separate classes for small furnaces and for furnaces designed specifically for mobile homes. 42 U.S.C. § 6295(f)(1). It did not, however, establish a separate class or other protection based on venting considerations. *Id.* The legislative history behind the Act's 1987 amendments demonstrates that Congress' choice not to divide gas furnaces based on venting systems was intentional.[2]

When drafting the initial consumer furnace standards, Congress first considered a mandatory standard of 78 Annual Fuel Utilization Efficiency ("AFUE") for all furnaces.[3] H.R. 5465, 99th Cong. § 325(f)(1) (1986). The American Gas Association (the "Gas Association"), however, presented testimony to Congress claiming that a 78 AFUE standard would effectively eliminate "conventional, atmospherically vented furnace[s]." A Bill to Amend the Energy Policy and Conservation Act with Respect to Energy Conservation Standards for

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[2] The 1987 amendments were first passed late in the 99th Congress and pocket-vetoed by the President in 1986. The 100th Congress passed the amendments with a few minor changes unrelated to the present matter, and they became law in 1987. *See* National Appliance Energy Conservation Act of 1987, 100 Stat. 103; S. Rpt. 100-6 at 4-5 (Jan. 30, 1987), *reprinted in* 1987 U.S.C.C.A.N 52, 55 (relating this history of the 1987 amendments).

[3] A 78 AFUE furnace converts 78% of the energy it consumes into heat on an average annual basis.

Appliances: Hearing Before the House Subcommittee on Energy Conservation and Power, 99 Cong. 149-50 (1986). It argued that furnaces with this kind of venting—also called natural draft—would be unable to comply with the proposed standard, and manufacturers would be limited to selling "induced draft" furnaces. *Id.* at 149. While natural draft furnaces rely on the buoyancy of their exhaust to flow upward out of a vent, induced draft furnaces use a motor and fan to regulate air flow through the appliance.

The Gas Association testified that, due to the expense of induced draft furnaces, consumers would begin switching from gas furnaces to electric resistance heating products under a 78 AFUE standard. *Id.* at 150; *see also id.* at 153 (explaining consumers replacing their furnace "will be faced with a narrower range of gas furnace options which, as the market exists today, are more expensive than conventional, atmospherically vented furnaces"). Electric resistance products, despite having a lower initial cost, had (according to the Gas Association) the potential to significantly raise consumers' utility bills. *id.* at 150, especially for those living in "smaller single-family homes, townhouses and apartments, as well as homes in warmer climates which have lower energy needs, *id.* at 155. The Gas Association thus proposed a more lenient 71 AFUE limit for smaller furnaces with an input of 55,000 Btu per hour or less. *Id.* at 154.

To address the potential ramifications of efficiency standards that could not accommodate conventional atmospheric venting, Congress adopted an exception specifically for small furnaces, though one that was different from the Gas Association's proposal. While Congress required all other furnaces to meet a 78 AFUE standard, Congress gave the Department authority to prescribe a standard for small furnaces (having an input of less than 45,000 Btu per hour) between 71 and 78 AFUE, so long as the standard "is not likely to result in a significant shift from gas heating to electric resistance heating." 42 U.S.C. § 6295(f)(1)(B)(iii).

In other words, Congress was informed almost forty years ago of the impact that increasing efficiency standards would have on how furnaces were vented, and to mitigate the costs, created a separate class for a subset of furnaces. It declined, however, to protect the conventional atmospheric venting system itself. And it even allowed the Department to raise the small furnace standard to a level that the Gas Association asserted would result in a shift to induced draft furnaces (78 AFUE), so long as the Department determined that it would not cause the economic losses associated with a significant switch to electric resistance heating. *See* A Bill to Amend the Energy Policy and Conservation Act with Respect to Energy Conservation Standards for Appliances: Hearing Before the Senate Sub-committee on Energy Regulation and Conservation, 99 Cong. 466 (1986) (Statement of Mr.

Cucinelli for the Gas Association) ("What I am saying is when you set the number at 78 percent, you eliminate the atmospheric combustion furnace.").

Congress' choice not to distinguish among furnace venting characteristics applied not only to induced draft, but also to condensing technology. The American Council for an Energy Efficient Economy, for example, testified to the 99th Congress that under a 78 AFUE standard, gas furnaces and boilers must either be "of the power burner or condensing gas flue design" and estimated that one-third of the gas boiler and furnace market could be condensing by 1992. *Id.* at 154. During a hearing of the Senate Subcommittee on Energy Regulation and Conservation, Senator Evans, an original co-sponsor of the 1987 amendments, acknowledged that induced draft was a just stepping stone to condensing technology. In an exchange with representatives from the Gas Association, Senator Evans asked: "In other words you have an induced draft before you can get to the secondary heat exchanger?"[4] A Gas Association representative responded: "Yes, sir." *Id.* at 458.

In addition, Congress demonstrated that it knows how to protect specific product characteristics when appropriate. As this court has recognized, when

[4] Condensing appliances are highly efficient because they either use a secondary heat exchanger or a heat exchanger with a modified geometry. *See, e.g.,* 88 Fed. Reg. 87,502, 87,544 (Dec. 18, 2023) (JA___).

Congress enacted the 1987 amendments, it revised the Act "with purpose, taking to the statutory scheme a scalpel, not a cudgel." *Hearth, Patio & Barbecue Ass'n v. DOE*, 706 F.3d 499, 505 (D.C. Cir. 2013). When setting initial standards for the whole suite of products regulated under the Act, Congress assigned different energy-efficiency standards based on a number of product-specific characteristics, including the type of defrosting used in refrigerators, 42 U.S.C. § 6295(b), the input capacity of room air conditioners, *id.* § 6295(c), and the ability of boilers to adjust their temperature automatically, *id.* § 6295(f)(3).[5] In short, the Act's drafters were informed that improving furnace efficiency would change furnace venting, and they knew how to prevent this change if desirable. They did not. *See Hearth, Patio & Barbecue Ass'n*, 706 F.3d at 506 (holding that decorative fireplaces were not a type of "direct heating equipment" as defined by the "methodically drafted" Energy Policy and Conservation Act, in part because "Congress was well aware of decorative fireplaces" and chose not to specifically mention them); *EchoStar Satellite v. F.C.C.*, 704 F.3d 992, 999-1000 (D.C. Cir. 2013) (finding that statutory provision regulating cable systems did not regulate satellite systems as well, in part because satellite existed at the time of enactment and Congress chose not to include it). Instead, Congress did the opposite, expressly *allowing* a change in

[5] In a subsequent amendment, Congress required a particular type of venting for certain heaters. 42 U.S.C. § 6295(aa) (requiring power venting for unit heaters without an automatic flue damper).

venting to occur so long as it did not impose unacceptable costs on consumers. 42 U.S.C. § 6295(f)(1)(B). Petitioners may not now use the courts to protect what Congress did not, relying on substantially the same arguments they made before Congress almost forty years ago to achieve what they view as a more satisfactory result.

### B. Congress would have spoken clearly if it intended to shield certain venting systems from regulation.

Congress "does not alter the fundamental details of a regulatory scheme in vague terms . . . it does not, one might say, hide elephants in mouseholes." *Whitman v. American Trucking Associations*, 531 U.S. 457, 468 (2001). In the 1987 amendments to the Act, Congress avoided a regulatory scheme that protected specific venting systems, because linking efficiency standards with venting considerations would render the Act's regulatory scheme ineffective. Indeed, if Congress had created a separate product class for natural draft furnaces, or insulated them from regulation entirely, that choice would have severely delayed, or perhaps entirely forestalled, any future advances in furnace efficiency. Manufacturers could have continued producing less efficient natural draft furnaces indefinitely, leaving efficiency improvements entirely up to the market and rendering the Act's requirements for multiple rounds of future gas furnace standards a nullity. *See* 42 U.S.C. § 6295(f)(4) (requiring the Department to update furnace standards twice by 2012).

Instead, Congress took a much less prescriptive approach, supervising the Department's treatment of the relationship between furnace efficiency and venting only in the initial rulemaking for small furnaces. Congress chose not to mention venting whatsoever in the text of the unavailability provision—even as it highlighted other specific product elements such as reliability, size, and volume. And neither did Congress refer to venting in any of the provisions relating to the products at issue in this litigation. 42 U.S.C. § 6295(o)(4). In fact, reading protections for non-condensing technology into the unavailability provision would fundamentally change the regulatory scheme that Congress designed, which expected the Department *not* to forestall changes in venting technology entirely, but instead to consider the economic ramifications of such changes on consumers. *See* 42 U.S.C. § 6295(f)(1)(B). Petitioners cannot now upset this carefully crafted balance by smuggling an absolute protection for inefficient technology into general and undefined terms, including "performance characteristics" and "features."

### C. The Department reasonably found that condensing appliances do not pose installation challenges that justify venting-based protections.

Petitioners were required to demonstrate by a preponderance of the evidence that non-condensing technology is a "performance characteristic" or "feature" justifying protection under 42 U.S.C. § 6295(o)(4). This Court's duty under arbitrary and capricious review is to "confirm that the agency has fulfilled its obligation to 'examine the relevant data and articulate a satisfactory explanation

for its action including 'a rational connection between the facts found and the choice made.'" *Ark Initiative v. Tidwell*, 816 F.3d 119, 127 (D.C. Cir. 2016) (quoting *Motor Vehicle Mfrs. Ass'n of the United States, Inc. v. State Farm*, 463 U.S. 29, 43 (1983)). Here, the Department fully considered Petitioners' allegations and, after conducting an extensive analysis of the installation requirements of condensing appliances, found Petitioners did not meet their burden of proof.

The factual circumstances underlying the Act's 1987 amendments are substantially the same today; the Department's energy conservation standards will influence existing venting technology, benefiting most consumers and raising installation costs for some. Petitioners resist this conclusion by arguing that condensing technology is uniquely and extraordinarily disruptive to install, *see* Petitioner's Br. 13-15, but this argument is baseless for two reasons.

First, Petitioners attempt to rely on vent resizing—a common installation requirement for condensing furnaces—to establish non-condensing technology as a "performance characteristic." *See* Petitioner's Br. 15-16. Petitioners note that, when a condensing furnace replaces a non-condensing furnace that was sharing a vent with a gas water heater, the condensing furnace typically uses newly installed horizontal venting. The water heater remains attached to the original, vertical venting system. In this case of the "orphaned" water heater, the consumer must make additional modifications to the water heater's venting system, including

"upgrading the vent connector, resizing metal vents, or masonry chimney relining." Consumer Furnace Rule, Technical Support Document 8D-24 (JA___). But the Department demonstrated that replacing a natural draft furnace with an induced draft furnace also requires vent resizing about 20% of the time and requires replacing vent connectors about 75% of the time. Consumer Furnace Rule, Technical Support Document at 8D-19 (JA___).[6] In other words, just as concerns about vent resizing for induced draft furnaces did not move Congress to protect specific venting technology in 1987, such concerns are unavailing today.

Second, the venting modifications that are unique to the replacement of a non-condensing with a condensing furnace are not nearly as disruptive as Petitioners allege. Petitioners repeatedly assert that condensing-level efficiency standards could have extraordinary aesthetic impacts on a consumer's home, including the loss of a window, balcony, or other usable space. Petitioner's Br. 14-15. They allege that certain types of homes, including multi-family buildings, rowhouses, and townhouses, would have great difficulty accommodating a condensing furnace because of structural limitations and applicable building codes. *Id.* at 13-14.

[6] The Department found that, although induced draft furnaces "have been the only installed non-condensing design since the early 1990s, there is still a fraction of the stock that includes natural draft non-condensing" furnaces. Consumer Furnace Rule, Technical Support Document 8D-19 (JA___).

The Department, however, considered whether multi-family homes, rowhouses, and townhouses could accommodate a condensing furnace. The Department stated in its final rulemaking for consumer furnaces, for example, that it was not aware of any building codes that would prohibit the installation of a condensing appliance in these residences. 88 Fed. Reg. at 87,562 (JA___). And the Department further found that in other jurisdictions already requiring condensing appliances, such as Canada, multi-family homes, rowhouses, and townhouses regularly and successfully install condensing furnaces. *Id.* (JA___).

The Department also conducted an extensive analysis of the installation process for a condensing furnace in order to determine potential installation costs. It accounted for every installation consideration that Petitioners raise in this litigation, including the installation of new flue venting, modification of existing venting for "orphaned" water heaters, and condensate removal. *See* Consumer Furnace Rule, Technical Support Document 8D-21 (installation of new flue venting) (JA___), 8D-23 (concealing vent pipes) (JA___), and 8D-24 (chimney relining and vent resizing) (JA___). The Department found that in 40% of cases in which a consumer must replace a non-condensing with a condensing furnace, the consumer will face a "difficult" installation. Such an installation might entail resizing venting for orphaned water heaters, running plastic pipe through multiple walls, or dealing with condensate issues (requiring the use of heat tape or

condensate pumps). 88 Fed. Reg. at 87,564 n.127 (JA___). In these cases, a consumer must pay about $900 more on average than they would have if they could more easily install a non-condensing furnace. 88 Fed. Reg. at 87,564 (JA___).

What the Department did *not* find, however, is that installing a condensing furnace would in any instance be impossible, lead to building code violations, or lead to any other impacts significant enough to include in its economic analysis. Instead, the Department found that "virtually all homes can accommodate a condensing furnace." 88 Fed. Reg. at 87,536 (JA___); *id.* at 87,590 (JA___); *see also* 81 Fed. Reg. 34,440, at 34,462 (May 31, 2016), (JA___) (finding that "all gas-fired water heaters require venting and all installations could accommodate a condensing gas water heater"). And while condensing-level standards may impose certain costs on consumers, these costs are properly accounted for in the Department's economic analysis. *See* 42 U.S.C. § 6295(o)(2)(B)(i)(IV) (requiring the Department to weigh "any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard" in its economic analysis).

In response, Petitioners offer only speculation, as they have failed to identify any specific situation in which the installation of a condensing appliance has resulted or would result in notable aesthetic impacts on a consumer's home,

including a significant loss of interior or exterior space. Rather, Petitioners rest their allegations almost entirely on the fact that installing a condensing furnace may require the installation of a horizontal plastic pipe to carry exhaust gases. Petitioner's Br. 14. Petitioners offer no concrete examples, however, where installing a new pipe would require the loss of windows, balconies, or other aesthetic features of a residence, or where it would be impossible to complete the installation in accordance with building codes.

Simply put, in light of the Department's thorough and extensive factual analysis, and Petitioners' lack of concrete evidence to support their claims, Petitioners cannot show that the Department failed to "examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *State Farm*, 463 U.S. at 43 (internal quotation marks and citation omitted). To the contrary, the Department searched high and low for any installation impacts equaling the scale that Petitioners allege, and such impacts were nowhere to be found. There is therefore no basis for the Court to depart from Congress' original choice to encourage changes in venting technology.

## II. Condensing technology provides installation characteristics that are "substantially the same" as those of non-condensing technology.

To prevail, Petitioners must show not only that non-condensing technology offers "performance characteristics" to users of gas appliances, but also that the

purported characteristics are not "substantially the same" as those of appliances using condensing technology. 42 U.S.C. § 6295(o)(4). Congress explained that "[a] valid standard may entail some minor loss of characteristics, features, sizes, etc.; for this reason, the Act requires that 'substantially the same,' though not necessarily identical, characteristics or features should continue to be available." H. Rep. 100-11 at 23 (1987). When impacts on consumer utility do not trigger the prohibition under the unavailability provision the Department must evaluate them in its economic analysis. *See* 42 U.S.C. § 6295(o)(2)(B)(i)(IV) (requiring the Department to consider "any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard").

The Department incorporated the "substantially the same" requirement into its definition of protected "performance characteristics" or "features" and reasonably applied it. 86 Fed. Reg. 73,947, 73,955 (Dec. 29, 2021) (JA___) ("DOE finds the better reading of the 'features' provision . . . to be those features that provide a consumer *unique* utility during the operation of the appliance in performance of its major function(s).") (emphasis added). The Department applied the "substantially the same" requirement when responding to Petitioners' claims that the standards established in prior rulemakings justify protecting non-condensing technology in the present rulemaking.

For example, in response to the Petitioners' comments, the Department considered a prior rulemaking in which it created a separate product class for ventless clothes dryers. In that rulemaking, the Department deemed it necessary to create a separate product class to avoid depriving a "substantial subset of consumers"—high-rise apartment dwellers—of "the benefits of having clothes-drying appliance[s] in their residence entirely." 86 Fed. Reg. at 73,957 (JA___). Non-condensing furnaces, on the other hand, do not have installation characteristics making them the only feasible or desirable heating choice for any subset of consumers. Instead, the Department concluded that "[u]nlike consumers of ventless dryers, consumers facing the prospect of replacing a non-condensing furnace or water heater do have options available to either modify existing venting or install a new venting system . . . or to install a feasible alternative." *Id.*

The Department applied a similar rationale in evaluating its prior rulemaking for space-constrained air conditioners. In that rulemaking, the Department created a separate class for space-constrained air conditioners, because their size allowed for installation in certain buildings where other types of central air conditioners would not fit. Non-condensing furnaces, on the other hand, "are not significantly different in overall footprint, size, or heating capacity from their condensing

counterparts." *Id.* In other words, they do not have any installation characteristics making them the only feasible or desirable heating option for consumers.[7]

The Department's Technical Support Document in the consumer furnace rulemaking provides additional evidence that non-condensing and condensing furnaces have substantially similar installation requirements. Notably, in its analysis of the differences between the two technologies, the Department found that a condensing furnace could be installed in the same location as a non-condensing furnace. *See* 88 Fed. Reg. at 87,562 (JA___). It also found that while condensing and non-condensing furnaces may vent exhaust gases in different directions, they operate in fundamentally the same way. Each type of appliance generates heat and exhaust, which is expelled through a vent from the interior to the exterior of a building.

As explained in Section I, *supra*, a change in the direction of venting is not likely to have any significant non-economic impacts on consumers. While some consumers may face an increase in installation costs, none will experience a change in the way that they receive a furnace or water heater's end product: hot air or water. And while the Department must consider installation costs under the Act,

[7] Petitioners' analogy to space-constrained air conditioners is also inapt because Congress designated "size" as a protected characteristic under 42 U.S.C. § 6295(o)(4).

it may not completely insulate inefficient products from regulation based on costs alone. 42 U.S.C. § 6295(o)(2)(B)(i)(II) (requiring the Department to consider "any increase in the price of, or in the initial charges for," an appliance subject to new efficiency standards).

## III. The Department's treatment of non-condensing products is consistent with its past practice.

Petitioners rely heavily on a mistaken assumption that the Department's treatment of non-condensing appliances is inconsistent with its prior rulemakings concerning these appliances. *See* Petitioner's Br. 57-62. In fact, the Department has expressly declined to create a separate product class for non-condensing products in several prior rulemaking proceedings, and it was the Department's January 2021 rulemaking—which it reversed in the rulemakings at issue—that departed from past practice.

The Department has grouped together gas appliances that rely on different venting approaches for more than 30 years. In 1993, the Department proposed to analyze condensing technology as a design option to improve the energy efficiency of furnaces, instead of dividing furnaces into classes based on use or absence of this technology. *See* 58 Fed. Reg. 47,326, 47,329 (Sept. 8, 1993). Similarly, in 1994, DOE followed the same approach when analyzing the impact of a potential shift to higher efficiency gas water heaters that carried additional venting costs. *See* 59 Fed. Reg. 10,464, 10,486 (Mar. 4, 1994) ("Additional installation cost to bring

electricity to water heaters not close to outlets was included in the analysis of those design options. When condensation from mid-efficiency water heaters would damage masonry chimneys, the cost of retiring or power venting was added to the installation costs.").

In 2004, the Department published an advanced notice of proposed rulemaking for residential furnaces and boilers. 69 Fed. Reg. 45,420 (July 29, 2004). In that proposal, the Department considered commenters' suggestion to create separate product classes for non-condensing and condensing furnaces. It found, however, that "condensing furnaces and boiler designs are more efficient but otherwise differ very little from non-condensing designs." *Id.* at 45,429. The only difference between the two designs is "the addition of a second heat exchanger" that does not "change utility to the consumer." *Id.* As such, the Department declined to propose a separate product class for non-condensing furnaces.

Similarly, in 2010 the Department published a final rule establishing energy conservation standards for residential gas storage water heaters, which requires condensing performance for water heaters in the larger storage capacity sizes. 75 Fed. Reg. 20,112 (April 16, 2010). In that final rule, the Department explained that it had considered whether to create separate product classes for non-condensing and condensing appliances, given the unique venting and condensate disposal

requirements associated with condensing appliances. The Department, however, ultimately decided to treat condensing gas-fired water heaters as a technology option to increase appliance efficiency, and not as a separate class of appliances altogether. *Id.* at 20,138. In support of this decision, the Department cited comments noting that the only installation requirements of condensing water heaters, beyond those associated with non-condensing water heaters, are "cutting and gluing PVC pipe, and hooking up a condensate pump, if required." *Id.*

The Department continued to follow the policy it established in 2004 and 2010 when it proposed new efficiency standards for consumer furnaces and commercial water heaters in 2015 and 2016, respectively. 80 Fed. Reg. 13,120 (March 12, 2015) (JA___) (furnaces); 81 Fed. Reg. 34,440 (May 31, 2016) (JA___) (water heaters). In both of those rulemakings the Department declined to insulate non-condensing technology from future improvements in efficiency, noting that condensing-level standards will not deprive consumers of the utility provided by these appliances: hot air and water. *See* 80 Fed. Reg. at 13,138 (JA___); 81 Fed. Reg. at 34,462 (JA___).

Simply put, the efficiency standards at issue in this litigation are consistent with the Department's past practice. The one instance in which the Department

proposed to define non-condensing technology as a "performance characteristic" is the exception, not the rule.[8]

## IV. The Department's economic analysis does not assume that consumers act randomly or irrationally.

"The map is not the territory," cautions an old adage. A map is a representation of territory and terrain, but it necessarily entails simplifying assumptions. Yet it would be nonsensical to deny the usefulness of a map just because it is not identical to reality in every respect. Unfortunately, Petitioners make just this mistake in their relentless attacks on the Department's economic analysis and, in particular, the Department's assumptions about consumer behavior. *See* Petitioner's Br. 22-28.

The Department used a Monte Carlo analysis to help model the market and consumer choices, both of which feature high levels of uncertainty that defy simplistic, rules-based predictions (e.g., that consumers will always choose the most cost-effective appliance). This analysis is *not* an assertion that consumers "act randomly" or without any regard for incentives. *See id.* at 95, 99.

Instead, Monte Carlo analysis "measures the probability of various outcomes, within the bounds of input variables." *Lyondell Chemical Company v. Occidental Chemical Corporation*, 608 F.3d 284, 293 (5th Cir. 2010). It is used

[8] Because they have intervened only in case no. 22-1030, the Governmental Intervenors and Consumer Federation of America do not join parts IV and V below.

"not only in the physical sciences but in a wide variety of fields including, for instance, the world of high finance." *Id.* at 293-94 (discussing Monte Carlo analyses in a case concerning pollution estimates in Comprehensive Environmental Response, Compensation, and Liability Act litigation)*; see also, e.g.,* 12 C.F.R. § 1277.5(b)(1)-(2) (Federal Housing Finance Agency regulation identifying Monte Carlo simulations as a "generally accepted measurement technique" for regulated banks to estimate market risk); 14 C.F.R. § 25.981(b) & pt. 25 app. N (Federal Aviation Administration regulation setting forth Monte Carlo analysis as method for assessing flammability exposure time for fuel tanks). A Monte Carlo analysis "accounts for variability and uncertainty" in data inputs by employing probability distributions to model a range of probable outcomes across hundreds, or even thousands, of possible scenarios. *Schultz v. Akzo Nobel Paints, LLC*, 721 F.3d 426, 428 (7th Cir. 2013) (noting that the Environmental Protection Agency has "endorsed this methodology as a reliable way to evaluate risk"); *see also, e.g.,* 81 Fed. Reg. 37,950, 38,006 (June 10, 2016) (Health and Human Services regulation using Monte Carlo simulation to estimate the impact of Medicare policy changes by modelling 1,000 different scenarios to "produce a distribution of potential outcomes that reflects the assumed probability distributions of the incorporated variables").

The Department used Monte Carlo analyses to generate 10,000 outcomes in both the furnace and commercial water heater rulemakings. *See, e.g.,* 88 Fed. Reg. at 87,550-51 (JA___-__); 88 Fed. Reg. 69,686, 69,735 (Oct. 6, 2023) (JA___). In both cases, the Department used the analysis to deal with large amounts of multi-faceted variability and uncertainty in the respective marketplaces for these products.

One of the uncertainties described by the Department is consumer behavior. Contrary to Petitioners' naked assertions, Pets.' Br. 25, purchasers do not automatically make the economically optimal choice for a variety of reasons, reasons discussed at length by the Department. Factors that influence consumer choices include the timing of a decision (including whether a purchase is being made as an emergency replacement), information asymmetry, and the complexity and frequency of a type of decision. 88 Fed. Reg. at 87,577 (JA___); *see also* 88 Fed. Reg. at 69,758 (JA___) (discussing similar considerations).

With respect to the furnace rule, the Department cited academic literature which indicated that consumers frequently fail to make purchases that maximize their net present value when it comes to the space conditioning of their home. 88 Fed. Reg. at 87,576-77 (JA___-__). This literature includes data from several studies specific to the consumer furnace market, all of which undercut Petitioners' claims. The American Home Comfort Study, for example, showed at most a weak

correlation between the square footage of a home and the efficiency of the furnace used, despite the fact that larger homes would reap greater financial benefits from efficient furnaces because they have greater heating loads. *Id.* at 87,576 (JA___). Similarly, data provided by Heating, Air Conditioning, and Refrigeration Distributors International found no meaningful relationship between furnace input capacity and condensing furnace market share in a given region (i.e., regions with more high-input capacity furnaces were not more likely to have higher market shares of condensing furnaces, despite the fact that the use of a high-input capacity furnace suggests a larger heating load). *Id.* (JA___).

Nor are commercial purchasers immune from such factors. As the Department pointed out, commercial enterprises still face issues with respect to lack of information or information asymmetry, as well as (at least occasionally) issues with unmotivated staff, and potential tax incentives which can make it advantageous to minimize capital expenditures (which are deducted over a period of years) in lieu of operating costs (which can be deducted immediately). 88 Fed. Reg. at 69,759 (JA___) (citing numerous studies and articles).

Furthermore, for both the residential and commercial markets, the Department pointed out that there are frequent issues of split-incentives. A purchaser of an appliance, such as a landlord or property developer, is frequently not the person or entity responsible for paying the utility bills from its use. In such

situations, purchasers often select the equipment that minimizes upfront cost even if a more expensive, more efficient product would result in a higher net present value overall. 88 Fed. Reg. at 87,577 (JA___); 88 Fed. Reg. at 69,758-59 (JA___-__).

The evidence cited by the Department more than credibly establishes that an accurate model of the markets for furnaces and water heaters must account for a large portion of installations in which the appliance selected does not minimize long-term costs. Thus, the Department sensibly incorporated this uncertainty surrounding the choices of individual purchasers into a Monte Carlo analysis, a technique which, again, is particularly well suited to addressing uncertainty and variability.

Petitioners cannot forestall the standards for these products without offering actual evidence that purchasers reliably calculate long-run costs in complex appliance markets.[9] But instead of offering such evidence, Petitioners make specific objections that only undermine their case. For example, Petitioners take as

[9] Petitioners' attempts to imply that this court has already held the Department's economic analysis is arbitrary and capricious or otherwise inherently suspect are equally unavailing. Petitioners' Br. 27. In *APGA I* this court remanded the Department's commercial packaged boiler standards for additional explanation. The vacatur in *APGA II* was on other grounds and contained no ruling on the merits of the Department's random assignment. *See* 88 Fed. Reg. at 69,757, n.104 (JA___).

self-evident that home builders will always, without exception, select furnaces that minimize their own purchase and installation costs. Proceeding from this assumption, Petitioners claim that the Department's modeling approach must be invalid because it predicts that in 499 cases builders will install non-condensing furnaces into new homes. In 80 percent of these cases, the builders will not minimize their costs. Petitioners' Br. 77-78. But the Department's model does not assign non-condensing furnaces to newly constructed homes arbitrarily. Those 499 (out of 10,000) homes reflect the actual rate at which non-condensing furnaces are installed in newly constructed homes. *See* 88 Fed. Reg. at 87,582 (JA___) (explaining that because "in some States, the market share and estimated total shipments of condensing furnaces are lower than the estimated new construction," builders must be installing non-condensing furnaces in new construction, "even though a higher-efficiency furnace would cost less"). Petitioners offer no data to show that the Department overestimated the share of non-condensing furnaces going into new homes; they merely insist that the Department's model must find some way to make the cost numbers work out in the builders' favor. But the Department is charged with modeling reality, not Petitioners' expectations of reality. If the best available data indicates that builders install non-condensing furnaces in more new homes than they should, that is not the fault of the Department's analysis. Indeed, it is evidence that, contra Petitioners, even

commercial actors do not reliably predict and minimize their costs in complex markets.

## V. The Department's fuel switching analysis is lawful.

Petitioners raise two objections to the Department's consideration of fuel switching, i.e., the possibility that consumers may replace a gas product with an electric product.[10] The first is that the Department *cannot* consider the benefits that might accrue from standards-induced fuel switching. Petitioners' Br. 90-95. The second is that it was arbitrary and capricious for the Department to treat consumer behavior differently in the fuel switching analysis than in the Monte Carlo analysis. *Id.* at 95-96. Both claims are meritless and rely on misunderstandings of the Act and the Department's analysis.

### A. Nothing in the Act precludes consideration of the benefits of fuel switching.

In attempting to show that the Act forbids the Department from considering impacts that result from standards-induced fuel switching, Petitioners selectively recite factors that the Department must consider in determining whether a potential standard level is economically justified. *See* Petitioners' Br. 93. Petitioners omit the two statutory criteria that most clearly authorize the Department's consideration of

[10] Petitioners appear to take issue with the Department's fuel switching analysis only with regard to furnaces. For commercial water heaters, the Department found that fuel switching was unlikely to occur. *See* 88 Fed. Reg. at 69,771(JA___).

fuel switching. The Act requires the Department to consider, "to the maximum extent practicable," both "the need for national energy and water conservation" and "other factors the Secretary considers relevant." 42 U.S.C. §§ 6295(o)(2)(B)(i)(VI)-(VII), 6313(a)(6)(B)(ii)(II)(VI)-(VII). Both of these factors, particularly the latter, are broad, flexible, and cut against Petitioners cramped reading of the Act.

Further, Petitioners' interpretation of the statutory criteria they do discuss would lead to odd results. For example, the Department's obligation to consider "the economic impact of the standard on the manufacturers and the consumers of the product subject to such standard," 42 U.S.C. §§ 6295(o)(2)(B)(i)(I), 6313(a)(6)(B)(ii)(I), would not encompass the economic impacts on manufacturers due to possible reduced sales as a result of fuel switching. Nor would the Department be able to consider, when setting a standard for a component product, "any lessening of the utility or performance" for the finished product using the component. 42 U.S.C. §§ 6295(o)(2)(B)(i)(IV), 6313(a)(6)(B)(ii)(IV). For example, the Department could not assess possible lessening of utility of products that use electric motors as a result of imposing standards for electric motors, in Petitioners' view.

Next, Petitioners point to other parts of the Act in an attempt to divine some broad policy of fuel neutrality that would prevent consideration of fuel switching.

Specifically, they point to 42 U.S.C. § 6295(q)(1)(A), which requires the Department to set separate standards for products that consume different kinds of energy. Petitioner's Br. 93. Nothing in this provision, however, prohibits the Department from considering the incidental impacts of fuel switching resulting from a standard.

Indeed, this provision cuts *against* Petitioners. It demonstrates that Congress knows how to impose specific commands governing the Department's treatment of different kinds of energy. In fact, Congress did exactly this for the initial efficiency standards for small furnaces, directing the Department to issue standards which did not result in "a significant shift from gas heating to electric resistance heating." 42 U.S.C. § 6295(f)(1)(iii). Notably, at no point in the subsequent decades has Congress extended this explicit requirement to other rulemakings.

Petitioners attempt to buttress their argument with a statement by Senator Johnson, concluding that "Congress thus plainly designed the statute to 'encourage energy conservation without unduly altering the economics of fuel choices.'" Petitioners' Br. 94 (citing a discussion of the legislative history at 88 Fed. Reg. at 87,591 (JA___)). However, this excerpt is acontextual. Senator Johnson was speaking only about small furnaces:

> That is why I added language in our Energy and Natural Resources Committee report making it clear that the Secretary must pay due consideration to the need for utilities to continue to compete fairly when the Department considers setting the standard for small gas furnaces. I made it

> clear the committee was concerned that setting a standard for small gas furnaces at or near the 78-percent level mandated in the bill for larger gas furnaces would increase the first cost of the small gas furnace sufficiently to induce a significant switch to electric resistance heating.

88 Fed. Reg. at 87,591 (JA___) (citing 132 Cong. Rec. 31,328 (Oct. 15, 1986)) (emphasis removed).

Despite Petitioners' fervent wishes, they cannot transform a one-off mandate to limit fuel switching into a free-floating obligation that applies to the rulemakings at issue. Congress knows how to speak directly about the subject, and it simply has not done so here.

Moreover, even if the restriction in 42 U.S.C. § 6295(f)(1)(iii) somehow applied to this rulemaking, the provision blocks only a "significant shift" in fuels. Similarly, Senator Johnson referred to "*unduly altering*" fuel choice. In contrast, the Department reasonably concluded that the furnace standards will result in "only a modest fraction of consumers . . . switch[ing] to an electric alternative." 88 Fed. Reg. at 87,594 (JA ___). Thus, Petitioners have failed to demonstrate that the furnace standards would violate 42 U.S.C. § 6295(f)(1)(iii) if the provision were applicable.

### B. The Department's fuel switching analysis did not drive the Department's selection of the adopted standards.

The Department examined fuel switching from furnaces to electric heating equipment using multiple sets of assumptions. First, the Department looked at two

extreme cases: a world in which *no one* switched fuels, and a world in which *everyone* (for whom it would make financial sense) switched fuels. The Department explained that "[t]hese scenarios [we]re intended to bookend the range of reasonably plausible switching results foreseeable as a result of this rule." 88 Fed. Reg. at 87,587 (JA___). Having established the full range of possible outcomes, the Department then made its best prediction of the expected extent of fuel switching and used that prediction in the reference case of the analysis. *Id.* at 87,588 (JA___). This third, reference case estimate was shaped by survey data on how consumers value tradeoffs between upfront costs and efficiency savings when considering efficiency-related purchases. *Id.*

Testing a range of assumptions ensured the rigor of the Department's analysis. Assuming that no one switches fuel is a conservative assumption in that it makes it less likely for a standard to be economically justified. As explained above, it is possible for some furnace replacements to be more expensive due to the characteristics of a particular home. For some consumers in this position, it would be cheaper and easier to install an electric product to avoid those added costs. However, if *no one* takes this cheaper route, consumers would spend more on installation costs, and the calculated benefits of the furnace standards would be lower. Conversely, if everyone who could save money by switching fuels did so, the benefits of the rule would be larger.

But critically, the Department found that the adopted standards were economically justified no matter which of the three scenarios governed fuel switching. The Department explained that its "evaluation of economic justification for [furnaces] does not depend on the specific details or assumptions regarding product switching, and the Department comes to the same conclusions even if the impacts of fuel switching are not included." 88 Fed. Reg. at 87,592 (JA___). Because the Department's analysis of this issue was not determinative, Petitioners' objections to the Department's conduct of the analysis necessarily fail, even if they otherwise had merit. *See Prohibition Juice Co. v. FDA*, 45 F.4th 8, 24 (D.C. Cir. 2022) ("When an agency's mistake plainly had no bearing on the substance of its decision, we do not grant a petition for review based on that mistake.") (internal quotation marks omitted) (citing *Massachusetts Trustees of Eastern Gas and Fuel Associates v. U.S.*, 377 U.S. 235, 248 (1964)).

Petitioners' attempt to prove the Department's fuel switching analysis materially impacted the outcome of the furnace rulemaking only confirms that the fuel switching benefits are not necessary for the rule's cost effectiveness. *See* Petitioners' Br. 99. The only way Petitioners can claim the adopted standards would impose net costs on the simulated consumers in the Department's Monte Carlo analysis is by subtracting the benefits of fuel switching *and* replacing DOE's

data-driven efficiency distribution with the fictitious appliance purchases made by 10,000 impeccably well-informed and properly motivated consumers.

Consequently, the Court need not reach the issue of whether the Department can include the benefits of fuel switching. The furnace standards would remain cost effective either way.

### C. It was not arbitrary and capricious to consider a scenario in which consumers optimized costs with respect to fuel switching.

Petitioners claim an inconsistency between the Department's Monte Carlo analysis and its fuel switching analysis. Petitioners again assert—incorrectly—that the Department's Monte Carlo analysis amounts to an assumption that consumers "act randomly." Petitioners' Br. 35. Petitioners then contend that it was arbitrary and capricious for the Department to assume that consumers optimize their cost-savings when analyzing the impacts of consumers switching fuels in response to the furnace standards. *Id.*

This simply misunderstands the Department's fuel switching analysis. First, the Department considered fuel switching scenarios with consumers who perfectly optimize cost-savings (i.e., engage in fuel switching whenever it would be financially advantageous) and those who never optimize cost-savings (i.e., never engage in fuel switching no matter how financially advantageous). As discussed above, these two extremes were analyzed to give a range of the possible impacts, and the Department reasonably concluded that even assuming no consumers

engage in fuel switching, the furnace standards are economically justified. *See supra* at 28-30.

Second, the Department does not *rely* on an assumption that consumers reliably optimize cost-savings with respect to fuel switching. The Department made a primary estimate of the amount of fuel switching in addition to the two extreme scenarios. 88 Fed. Reg. at 87,588 (JA___). Importantly, the standards are cost-effective under all scenarios. *Id.*

## CONCLUSION

The Department reasonably found that Petitioners failed to meet their burden of proof under the Act's unavailability provision, and that the updated energy conservation standards are economically justified. This Court should deny the petitions for review.

Respectfully submitted,

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**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMIT**

Counsel hereby certifies, in accordance with Federal Rule of Appellate Procedure 32(g)(1), that the foregoing brief contains 8,660 words, as counted by counsel's word processing system, and thus complies with the 9,100-word limit set in this Court's order of January 29, 2024.

Further, this document complies with the typeface and type-style requirements of Federal Rule of Appellate Procedure 32(a)(5) and (a)(6) because this document has been prepared in a proportionally spaced typeface using **Microsoft Word for Microsoft 365** using **size 14 Times New Roman** font.

Dated: June 17, 2024

*/s/ Kevin Breiner*
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**CERTIFICATE OF SERVICE**

I hereby certify that on this 17 day of June 2024, I served the foregoing brief on all registered counsel through the court's electronic filing system (ECF).

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