COMMENTS OF THE ATTORNEYS GENERAL OF NEW YORK, CALIFORNIA, COLORADO, DISTRICT OF COLUMBIA, ILLINOIS, MAINE, MARYLAND, THE COMMONWEALTH OF MASSACHUSETTS, MINNESOTA, NEW JERSEY, OREGON, VERMONT, WASHINGTON, AND THE CORPORATION COUNSEL OF THE CITY OF NEW YORK

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Submitted via e-mail:
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U.S. Department of Energy
Building Technologies Program

Re: Docket No. EERE-2018-BT-STD-0018
Energy Conservation Standards for Residential Gas Furnaces and Commercial Water Heaters

The undersigned state and local government entities submit the following comments in response to the U.S. Department of Energy's (DOE's) proposed interpretive rule, published in the Federal Register on July 11, 2019, determining that non-condensing combustion technology used in gas residential furnaces and commercial water heaters is a performance-related "feature" within the meaning of the Energy Policy and Conservation Act of 1975 (EPCA), 42 U.S.C. §§ 6295(o)(4) and 6295(q)(1), and that DOE may not adopt an energy efficiency standard which would result in the unavailability of that feature.[1] DOE's proposed rule responds to an October 2018 petition by members of the gas industry seeking a DOE interpretation of EPCA's "features" provisions applicable to product classification and standard setting. The petition also requested that DOE withdraw its 2015 and 2016 proposed gas furnace and water heater standards, which would have resulted in the elimination of less efficient non-condensing appliances.[2]

In its July 2019 notice, DOE partially granted the gas industry petition for an interpretive rule but denied as unnecessary petitioners' request to withdraw the proposed standards. According to DOE, its proposed updated interpretation of 42 U.S.C. §§ 6295(o)(4) and (q)(1) could lead DOE to establish, in a future rulemaking, separate product/equipment classes for condensing and non-condensing furnaces, boilers, water heaters, and similarly-situated

[1] Notice of Partial Grant of Petition for Rulemaking and Proposed Interpretive Rule, energy Conservation Standards for Residential Furnaces and Commercial Water Heaters, 84 Fed. Reg. 33,011 (July 11, 2019), *available at* https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0065.

[2] Notice of Petition for Rulemaking, Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters, 83 Fed. Reg. 54,883 (November 1, 2018). The American Public Gas Association, Spire, Inc., the Natural Gas Supply Association, the American Gas Association, and the National Propane Gas Association petition requested that DOE: (1) issue an interpretive rule stating that DOE's proposed energy conservation standards for residential gas furnaces and commercial gas water heaters would result in the unavailability of "performance characteristics" within the meaning of EPCA, as amended, 42 U.S.C. §§ 6291, *et seq.*; and (2) withdraw DOE's proposed energy conservation standards for residential gas furnaces and commercial gas water heaters based upon appropriate findings pursuant to 42 U.S.C. §§ 6295(o)(4) and 6313(a)(6)(B)(iii)(II).

appliances.[3] For the reasons set forth in our March 1, 2019 comments filed in this docket in opposition to the gas industry petition,[4] and set forth herein,[5] DOE's proposed interpretive rule unlawfully delays the adoption of efficiency standards required by EPCA, is arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law, and undermines state and local energy policy and conservation goals. We therefore urge DOE to withdraw its proposal.

As government entities charged with reducing the economic and environmental costs of energy use, we strongly support DOE's adoption of product standards that can achieve the maximum level of efficiency that is both technically feasible and economically-justified. DOE's efficiency standards have been highly effective in reducing consumer and industrial energy consumption and costs, as well as environmental impacts associated with operating common household and commercial equipment.[6] DOE estimates that national energy efficiency standards

[3] Such classification changes would only apply to applicable residential products, non-ASHRAE commercial products, and ASHRAE products for which DOE's standard exceeds ASHRAE Standard 90.1. 84 Fed. Reg. 33,021.
[4] Comments of Attorneys General of New York, District of Columbia, Illinois, Maine, Massachusetts, Minnesota, New Jersey, Oregon, Vermont, Washington, and the Corporation Counsel of New York City in Response to Gas Industry Petition (March 1, 2019), *available at* https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0049.
[5] These comments build upon a long history of state engagement with DOE's appliance efficiency standards program, including DOE's furnace standard rulemaking. For example, many of the undersigned states joined in litigation against DOE in 2005 to compel compliance with statutory deadlines for the adoption of amended efficiency standards for furnaces and 21 other products (*New York, et al. v. Bodman*, 05 Civ. 7807, 7808 (S.D.N.Y. 2005)). This litigation resulted in a 2006 Southern District of New York Consent Decree establishing firm deadlines for DOE publication of final amended standards and obligating DOE to publish semi-annual reports regarding its progress on efficiency standards rulemaking. Following DOE's publication of a final rule establishing furnace standards in 2007, many of the undersigned states petitioned for judicial review, alleging among other things, that DOE's 80% AFUE standard for residential indoor furnaces was insufficiently stringent and that DOE had failed to adequately consider the benefits of a 90% AFUE standard (*New York, et al. v. Bodman*, 08-0311, 0312 (2d Cir. 2008)). DOE voluntarily remanded the rule, and after extensive stakeholder discussions, issued a Direct Final Rule in 2011 establishing a 90% AFUE furnace standard. When industry challenged the Direct Final Rule, many of the undersigned states filed an amicus brief in support of DOE (*American Public Gas Association, et al. v. DOE*, No. 11-1485 (D.C. Cir. 2011)). *See also* letter to then DOE Secretary Steven Chu, dated December 6, 2012, on behalf of Attorneys General of Massachusetts, New York, Vermont, Oregon, Illinois, and the California Energy Commission, regarding "Defending the Department's Energy Efficiency Standards for Natural Gas Furnaces"; and letter to J. Cymbalsky, DOE Building Technologies Program, dated November 22, 2016, on behalf of Northeast Energy Efficiency Partnerships (NEEP), and various state energy agencies, including the Connecticut Department of Energy and Environmental Protection, the New York State Energy Research and Development Authority (NYSERDA), the Rhode Island Office of Energy Resources, and the Vermont Public Service Department, regarding Residential Furnace SNOPR, *available at* https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0285.
[6] According to DOE, national energy efficiency standards completed through 2016 are expected to save 71 quadrillion British thermal units (quads) of energy by 2020 and nearly 142 quads through 2030—more energy than the entire nation uses in one year. DOE further estimates that as a result of standards, a typical household saves about $321 per year off its energy bills. As consumers replace their appliances with newer models, they can expect to save over $529 annually by 2030. *See* DOE Fact Sheet, "Saving Energy and Money with Appliance Equipment Standards in the United States," *available at* https://www.energy.gov/sites/prod/files/2017/01/f34/Appliance%20and%20Equipment%20Standards%20Fact%20Sheet-011917_0.pdf. National standards have also helped the United States avoid emissions of 2.6 billion tons of carbon dioxide (CO_2) emissions, which is equivalent to the annual CO_2 emissions from nearly 543 million automobiles. *See* DOE Fact Sheet *available at*

completed through 2016 will save consumers more than $1 trillion by 2020 and more than $2 trillion by 2030. DOE's partial grant of the gas industry petition and proposed interpretive rule is contrary to these goals, EPCA's requirements, and DOE precedent. As the agency itself has concluded in prior rulemaking, venting capabilities of gas-powered furnaces and water heaters are not performance-related features that justify separate product classes subject to lower efficiency requirements. DOE's current proposed interpretive rule would effectively grandfather inefficient product designs and further unlawfully delay the benefits of final, improved efficiency standards for residential gas furnaces and commercial gas hot water heaters. Accordingly, the proposed interpretative rule should be withdrawn.

I. Background

Congress' primary goals in adopting EPCA included reducing domestic energy demand and increasing energy efficiency. EPCA and its amendments authorize DOE to set minimum energy conservation standards for approximately 60 categories of appliances and equipment used in residences and businesses. Any new or amended standard must be designed to achieve the maximum improvement in energy efficiency which is technologically feasible and economically justified. 42 U.S.C. § 6295(o)(2)(A). EPCA authorizes DOE to divide covered products into product classes by the type of energy used, capacity, or other performance-related features that justify a unique standard. 42 U.S.C. § 6295(q)(1).

To protect against the elimination of performance-related features that provide unique utility to consumers, EPCA provides that DOE may not prescribe an amended or new standard if it finds, based on a preponderance of the evidence, that the standard is likely to result in the loss of "performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same" as those in currently available products.[7] 42 U.S.C. §§ 6295(o)(4); 6313(a)(6)(B)(iii)(II). Thus, where DOE identifies a product feature within the scope of 42 U.S.C. §§ 6295(o)(4), DOE may establish a separate product type or class which would be subject to a different standard. 42 U.S.C. § 6295(q)(1). In determining whether a performance-related feature justifies the establishment of a higher or lower standard under 42 U.S.C. § 6295(q)(1), DOE must "consider such factors as the utility to the consumer of such a feature, and such other factors as [DOE] deems appropriate."[8]

EPCA also mandates that DOE conduct periodic reviews and update established efficiency standards[9] to ensure that they are as stringent as technologically feasible and economically justified. Moreover, EPCA's anti-backsliding provision, 42 U.S.C. § 6295(o)(1),

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https://www.energy.gov/sites/prod/files/2016/02/f29/Appliance%20Standards%20Fact%20Sheet%20-%202-17-2016.pdf.

[7] Congress envisioned the need to balance the preservation of product utility with product efficiency: "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).

[8] *See also*, 42 U.S.C. §§ 6295(o)(4) and 6313(a)(6)(B)(iii)(II).

[9] 42 U.S.C. §§ 6295(m)(1); 6313(a)(6).

prohibits DOE from weakening energy efficiency standards that have already been established by Congress or the agency.

A. DOE's Proposed Efficiency Standards for Residential Furnaces and Commercial Water Heaters

In 2015, after nearly a decade of litigation, negotiated rulemaking and public comment regarding appropriate standards for residential gas furnaces,[10] DOE published proposed standards that would increase the minimum efficiency standard for indoor residential gas furnaces[11] and mobile home gas furnaces from 80% to 92% annual fuel utilization efficiency (AFUE).[12] Based on comments received, DOE issued a supplemental proposed furnace rule in 2016. Supporting DOE's proposal was its conclusion that the proposed standards would achieve the maximum improvement in energy efficiency that was technologically feasible and economically justified and would result in significant energy savings and environmental benefits.[13] Moreover, DOE recognized that products meeting these standards were already commercially available. DOE estimated that energy savings from the proposed residential gas furnace standards would more than offset incremental costs over a furnace's life, even taking into consideration potentially increased installation or retrofitting costs. For example, the net consumer impact of the proposed standards for indoor gas furnaces was an average annual savings of $411, with an average payback period of seven years. For mobile home gas furnaces, DOE estimated net consumer savings of $1,050, with a payback period of 1.9 years.[14] DOE projected that the national energy savings for furnaces purchased over a 30-year period would total approximately 2.9 quadrillion BTUs, resulting in up to $30.2 billion in consumer savings and $13.1 billion in cost savings associated with decreased CO_2 and nitrogen oxide emissions.[15]

With respect to commercial water heating equipment, DOE's 2016 proposed standards would increase the minimum thermal efficiency required of gas-fired storage and instantaneous

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[10] *See fn.* 5, *supra*; SNOPR, II.B.2, "History of Standards Rulemaking for Residential Furnaces," 81 Fed. Reg. at 65,732-65,735; Public comments filed in response to SNOPR *available at* https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=PS&D=EERE-2014-BT-STD-0031.

[11] DOE proposed to establish a separate class of small indoor gas furnaces with a capacity input of 55 kBtu/h or less. *See* 42 U.S.C. §§ 6295(o)(4); 6295(q) (authorizing separate class or special treatment based on capacity). These smaller furnaces would be subject to an 80% AFUE standard and therefore exempt from the 92% AFUE standard applicable to larger gas furnaces. DOE's cost benefit analysis found that a less stringent standard for small furnaces was economically justified because it would reduce the number of consumers, especially low-income consumers who typically have smaller homes, who might experience net costs due to reasons including fuel-switching. 81 Fed. Reg. at 65,752, 65,755.

[12] AFUE is a measure of how efficiently a furnace converts fuel to energy. For example, a gas furnace with a 92% AFUE rating can turn 92% of the gas it consumes into heat.

[13] 81 Fed. Reg. at 65,729.

[14] 81 Fed. Reg. at 65723, Table I.5. In calculating lifecycle costs and payback periods, DOE included total installed costs (product price and installation), operating costs (annual energy use, energy prices, repair/maintenance costs), product lifetime (est. 21 years), and discount rate. DOE's discussion of installation costs included consideration of basic new installations, replacement installations and difficult installations. *See* 81 Fed. Reg. at 65776. DOE also evaluated scenarios where consumers were predicted to switch to a non-gas heating source. *See* 81 Fed. Reg. at 65812.

[15] 81 Fed. Reg. at 65,722-730.

water heaters from 80% to either 94% or 95% AFUE, depending on the equipment type. According to DOE, the proposed standards would reduce national energy usage by 1.8 quadrillion BTUs, save commercial consumers up to $6.8 billion, and reduce CO_2 emissions by 98 million metric tons over 30 years of sales.[16]

DOE received numerous comments during its rulemaking, including substantial support from government entities, energy efficiency and consumer advocates, and regulated utilities. In contrast, gas industry members expressed concern that the proposed minimum efficiency standards could only be met using condensing technology, which would result in the elimination of non-condensing products from the market. That, they contended, would result in the loss of a performance-related feature of non-condensing appliances: the ability to utilize conventional atmospheric venting (*i.e.*, via a metal flue) without a plumbing connection to drain liquid condensate.[17]

B. The Gas Industry Petition and DOE's Partial Grant/Denial

In October 2018, despite DOE's rejection of the gas industry contentions in the agency's 2015 and 2016 proposed rules, gas industry members filed a petition with DOE in which they presented the same arguments once again. Among other things, the petition requested an interpretation of EPCA finding that the agency's proposed gas furnace and water heater standards violate 42 U.S.C. §§ 6295(o)(4) and 6313(a)(6)(B)(iii)(II), which prohibit the adoption of standards that result in the unavailability of an existing performance-related feature.

On July 11, 2019, DOE granted the gas industry's petition for an interpretive rule. DOE denied the petitioners' request to withdraw DOE's proposed standards as unnecessary, however, because of DOE's stated intention to develop supplemental notices of proposed rulemaking to implement the final interpretive rule.

II. DOE Improperly Granted Petitioner's Request for an Interpretive Ruling and Should Therefore Withdraw the Proposed Interpretive Ruling

The DOE should withdraw its proposed interpretive rule because it: (A) would impermissibly further delay DOE's publication of amended standards in violation of EPCA's statutory deadlines, 42 U.S.C. §§ 6295(m)(3)(A) and 6313(a)(6)(C)(iii)(I); (B) is arbitrary and capricious, an abuse of discretion, and otherwise not in accordance with law in violation of the Administrative Procedure Act, 5 U.S.C. §551, *et seq.*; and (C) would result in lost economic and environmental benefits and interfere with state and local energy and climate goals.

A. DOE's Partial Grant of the Gas Industry Petition and Anticipated Implementation of Its Proposed Interpretive Rule Impermissibly Delays DOE's Publication of Final Rules as Required by EPCA, 42 U.S.C. §§ 6295(m)(3)(A) and 6313(a)(6)(C)(iii)(I)

[16] 81 Fed. Reg. at 34,445.

[17] Gas furnaces and water heaters that use condensing combustion technology are more energy efficient because they use an additional heat exchanger to extract residual heat from combustion gases prior to venting. However, mechanical or horizontal venting and condensate drainage is typically required for their operation.

DOE's proposed interpretive rule and its anticipated implementation of that rule through additional rulemaking to establish separate product classes for condensing and non-condensing furnaces and water heaters will further delay DOE compliance with EPCA's statutory deadlines. EPCA requires DOE to publish final rules prescribing amended standards within two years of their being proposed.[18] DOE's statutory deadlines for promulgating final furnace and water heater standards expired in March 2017 and May 2018, respectively. DOE has failed to meet EPCA's two-year deadline for finalizing the proposed standards, and its proposed action impermissibly compounds that delay. *See South Carolina v. United States*, 907 F.3d 742, 758 (4th Cir. 2018), citing *Forest Guardians v. Babbitt*, 174 F.3d 1178, 1187 (10th Cir. 1998) ("[W]hen Congress by organic statute sets a specific deadline for agency action, neither the agency nor any court has discretion. The agency must act by the deadline.")

As previously noted, EPCA mandates that DOE periodically review and update consumer and commercial product efficiency standards.[19] Specifically, EPCA, 42 U.S.C. §§ 6295(m) and 6313(a)(C)(6), requires DOE to consider amended standards for furnaces and water heaters at least every six years. Under EPCA's timeline for amendment of standards, DOE must first determine whether amendment of a product standard is warranted, based on whether an amended standard will result in significant energy conservation and is technologically feasible and cost-effective.[20] If DOE determines amendment of the standard is warranted, it must issue a proposed rule with the amended standard within the six-year review period.[21] It must furthermore *complete* the rulemaking and issue a final rule amending the product standard within two years of issuing a proposed rule.[22]

DOE's two-year deadlines for finalizing the furnace and water heater standards have long lapsed; DOE published its proposed furnace rule in March 2015 and its proposed water heater rule in May 2016. [23] DOE's July 11, 2019 notice attempts to justify its delay on the grounds that "DOE is not at liberty to pick and choose among its legal obligations…[and] must evaluate and respond to the Gas Industry Petition and then implement any revised interpretation in the context of its ongoing rulemaking obligations." DOE fails to address, however, the fact that the gas industry petition was filed in October 2018, well after the comment period on the rulemaking closed and the statutory deadlines for DOE to publish final rules had already passed. Under those circumstances, DOE should have rejected the petition as duplicative or untimely.

While DOE properly denied the gas industry petitioners' request for the agency to withdraw the proposed standards, DOE's issuance of the proposed interpretive rule frustrates Congress' intent in specifying deadlines for DOE completion of agency action to amend energy efficiency standards under EPCA. Petitioners had ample opportunity to raise, and repeatedly did

[18] 42 U.S.C. §§ 6295(m)(3)(A) and 6313(a)(6)(C)(iii)(I).
[19] *See* 42 U.S.C. §§ 6295(f), (m); 6313(a)(5), (6).
[20] 42 U.S.C. § 6295(n)(2).
[21] 42 U.S.C. §§ 6295(m)(1)(B); 6313(a)(6)(C)(i)(II).
[22] 42 U.S.C. §§ 6295(m)(3)(A); 6313(a)(6)(C)(iii)(1).
[23] This is so even assuming the two-year period is measured from DOE's issuance of the September 2016 supplemental proposed furnace standards.

raise, their concerns during DOE's rulemaking on revising the efficiency standards.[24] DOE cannot further delay its statutory obligations by revisiting these previously rejected arguments, issuing arbitrary and capricious interpretive rulings and engaging in supplemental rulemaking to implement an unfounded interpretation of EPCA.[25]

B. DOE's Proposed Interpretive Rule is Arbitrary and Capricious, an Abuse of Discretion, and Is Otherwise Unlawful

DOE's proposed interpretive rule is arbitrary and capricious, an abuse of discretion, and otherwise contrary to law. 5 U.S.C. § 706(2). A plain reading of EPCA and a review of comments submitted in response to the gas industry petition reveals that the venting technology employed in a gas furnace or water heater is not a performance-related feature within the scope of 42 U.S.C. §§ 6295(o)(4) and (q)(1) that DOE can use to create a separate product class subject to lower efficiency requirements.

Indeed, DOE's proposed interpretive rule represents a radical departure from DOE's historical interpretation of EPCA's "features" provisions. The proposal relies on arguments DOE specifically addressed and rejected during the furnace and water heater rulemaking process. DOE has offered an inadequate explanation for why its previously-stated rationale—including the agency's concern that technology-based determinations under EPCA's "features" provisions would undermine EPCA's goal to improve appliance efficiency[26]—is no longer valid. DOE has failed to identify valid reasons for its revised interpretation. Instead, DOE's interpretive rule is based on subjective factors such as consumer aesthetics, unfounded assumptions about the compatibility of co-vented appliances, and economic factors more properly considered during DOE's cost-benefit analysis for standard setting under 41 U.S.C. § 6295(o)(2)(A) rather than during product classification under §§ 6295(o)(4) and (q)(1). DOE's proposal is therefore arbitrary and capricious, in violation of law and should be withdrawn. *See, e.g.*, *Air Alliance Houston v. EPA*, 906 F.3d 1049 (D.C. Cir. 2018) (EPA action delaying effective date of chemical disaster rule was arbitrary and capricious because the agency failed to explain why its previously-stated rationale in support of rule implementation was no longer valid); *California v. United States DOI*, 381 F. Supp. 3d 1153 (N.D. Cal. 2019) (Department of Interior's repeal of regulations governing the payment of royalties on oil, gas and coal extracted from leased federal and tribal lands was arbitrary and capricious where the agency failed to explain the inconsistencies between its prior findings and its decision to repeal rule). "When an agency changes its position, it must 'display awareness that it is changing position' and 'show that there are good reasons for the new policy.'" *NRDC v. U.S. DOE*, 362 F. Supp. 3d 126, 144 (S.D.N.Y. 2019) (citing *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) (DOE failure to follow agency precedent regarding the standard for issuing stay, without explanation, was

[24] Spire Inc./American Public Gas Association/American Gas Association et al. Request for Interpretation dated June 6, 2017 *available at* https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0316; American Public Gas Association Furnace SNOPR Comments dated November 22, 2016 *available at* https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0292; Spire Inc. Residential Furnace SNOPR Comments dated January 6, 2016 *available at* https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0309.

[25] Petitioners are not without recourse: they can petition for judicial review of final standards ultimately promulgated by the agency.

[26] 80 Fed. Reg. at 13,138.

arbitrary). DOE's rationale for its interpretative rule do not provide a reasoned explanation for its change in policy.

1. DOE Has Historically and Correctly Maintained that Venting Capability Is Not a Performance-Related Feature Under EPCA, 42 U.S.C. §§ 6295(o)(4)

As DOE correctly and repeatedly noted over the course of its extensive gas furnace and water heater rulemakings, non-condensing technology is not a performance-related feature within the scope of EPCA, 42 U.S.C. § 6295(o)(4). DOE explicitly rejected the gas industry's repeated attempts to characterize how a gas appliance is vented as a performance-related feature or characteristic that would justify the creation of a separate product class with a lower efficiency standard. For example, in its 2015 notice of proposed rule and 2016 supplemental notice for furnaces, DOE explained that when evaluating and establishing efficiency standards, DOE divides covered products into classes by the type of energy used, capacity, or other performance-related features that justify different standards. In determining whether a feature justifies establishing a different standard, DOE considers factors such as the feature's utility to the consumer, as opposed to "complicated design features, or costs that anyone, including the consumer, manufacturer, installer, or utility companies may bear."[27]

For example, DOE noted that its 2009 standards for electric water heaters did not distinguish between water heaters that use heat pump technology and conventional water heaters that use electric resistance technology. DOE found no basis to establish separate product classes, even though water heaters using heat pumps require additional installation of a condensate drain while electric resistance water heaters do not. Similarly, in the as-yet published[28] final rule regarding efficiency standards for commercial packaged boilers, DOE determined that venting design was not a performance feature supporting a separate product class and efficiency standard. In the case of commercial packaged boilers, DOE eliminated the class distinctions for mechanical and natural draft boilers,[29] instead imposing uniform standards notwithstanding potentially increased costs associated with mechanical draft boiler installations.[30] While DOE did recognize in its 2015 electric clothes dryers standard that installation and venting features supported creating a separate product class for ventless clothes dryers, it did so not because of the relative cost of installation but because of the *impossibility* for people living in small

[27] 80 Fed. Reg. at 13,137-13,138; 81 Fed. Reg. 65,752-65,753.
[28] A suit brought by members of the undersigned to compel publication of those standards is currently pending in the United States Court of Appeals for the Ninth Circuit. *NRDC v. Perry*, Nos. 18-15380, 18-1545.
[29] The final rule maintains the class distinction for very large boilers because such boilers were outside the scope of DOE's rulemaking.
[30] Air Conditioning, Heating, and Refrigeration Institute (AHRI) letter to DOE dated January 20, 2015 regarding Preliminary Technical Support Document on Commercial Packaged Boilers, Docket. No. EERE-2013-BT-STD-0030 ("[T]he minimum efficiency standards specified for commercial boilers … have been applied to all models, natural draft or otherwise, for the past 20 years…we do not believe that need extends to creating a separate equipment class for those products in the efficiency standards.") *available at* https://www.regulations.gov/document?D=EERE-2013-BT-STD-0030-0037.

apartments in multistory buildings to utilize a clothes dryer at all if all such appliances required exterior venting.[31]

In the case of residential gas furnaces, DOE determined in its 2015 proposed standard that "the consumer utility of a furnace is that it provides heat to a dwelling, and that … **the methods by which a furnace is vented … do not provide any separate performance-related utility, and therefore, DOE has no statutory basis for defining a separate product class based on venting and drainage characteristics**."[32] DOE's reading of its authority under EPCA was properly grounded upon its larger policy concern:

> Tying the concept of ''feature'' to a specific technology would effectively lock-in the currently existing technology as the ceiling for product efficiency and eliminate DOE's ability to address technological advances that could yield significant consumer benefits in the form of lower energy costs while providing the same functionality for the consumer. DOE is very concerned that determining features solely on product technology could undermine the Department's Appliance Standards Program. If DOE is required to maintain separate product classes to preserve less-efficient technologies, future advancements in the energy efficiency of covered products would become largely voluntary, an outcome which seems inimical to Congress's purposes and goals in enacting EPCA.[33]

This same rationale and concern for maximizing efficiency while preserving consumer utility guided DOE to propose standards for commercial gas water heaters without regard to whether the heaters use condensing or non-condensing technology.[34] Thus, in both the furnace and water heater rulemakings, DOE rejected the argument raised by the gas industry petitioners that non-condensing technology constitutes a performance-related feature upon which the agency could justify creation of separate product classes or standards.[35]

Comments submitted in response to the gas industry petition echoed DOE's historic view that a furnace or water heater's manner of venting does not provide consumers unique utility separate and apart from its basic utility of providing heat or hot water. For example, A.O. Smith Corporation, North America's largest manufacturer and seller of residential and commercial water heating equipment and high efficiency boilers, stated in opposition to the gas industry

[31] 80 Fed. Reg. at 13,137-13,138. *See also* 42 U.S.C. §§ 6295(q); 6295(o)(4); 74 Fed. Reg. 65852, 65871 (December 11, 2009) (Electric Water Heater NOPR); 75 Fed. Reg. 22,454, 22,485 (April 21, 2011) (Residential Clothes Dryers NOPR).
[32] 81 Fed. Reg. at 65,752-65,753 (emphasis added).
[33] 80 Fed. Reg. at 13,138.
[34] 81 Fed. Reg. at 34,462-34,463.
[35] 80 Fed. Reg. at 13,127-13,138; 81 Fed. Reg. 65,752-65,753; 81 Fed. Reg. at 34,462-34,463.

petition: "a system's venting system does not provide separate features or additional product utility."[36]

In its July 2019 notice, DOE admits that its "proposed revised approach may have some impact on overall energy saving potential as a result of establishing separate product/equipment classes."[37] Although DOE stated that "any potentially negative programmatic impacts of its revised interpretation are likely to be limited,"[38] DOE failed to reconcile its previous concern that maintaining separate product classes to preserve less-efficient technologies would impede future advancements in the energy efficiency of covered products. DOE's conclusory dismissal of its previous concerns is arbitrary and capricious.

2. DOE Improperly Considered Vague Notions of Consumer Aesthetics in Determining Furnace and Water Heater Utility

In support of its proposed interpretive rule, DOE noted that venting requirements for condensing furnaces could impact the lay-out of a room and thereby deprive consumers of their aesthetic enjoyment of their home.[39] However, DOE's consideration of consumer aesthetics to determine consumer utility undermines EPCA's goal of maximizing energy efficiency. In the past, DOE properly focused on the primary function of the furnace or water heater (e.g., providing heat to a home or potable hot water), noting that consumers were interested in obtaining heat or hot water from the appliance but not the mechanism for generating that end product. Now, DOE expresses concern that "in at least some cases, the physical changes associated with a condensing appliance may change a home's aesthetics (e.g., by adding new venting into the living space or decreasing closet or other storage space), thereby impacting consumer utility."[40] DOE's consideration of aesthetics—a uniquely subjective criterion—creates the potential for unlimited product classes subject to lower efficiency limits in violation of EPCA. Moreover, by creating separate product classes for condensing and non-condensing furnaces, water heaters, and similarly situated products/equipment, DOE would effectively prioritize individual consumer aesthetics and the gas industry's financial interests in selling more gas over Congress' desire for national energy savings.

3. Initial Cost Impacts of Condensing Gas Appliances Are Minimal and Should Instead Be Addressed During Energy Standards Setting

DOE's recently expressed concerns regarding costs are unwarranted.[41] To address the potential economic impact on consumers due to increased installation costs, DOE proposed a

[36] A.O. Smith Comments in Response to Gas Industry Petition (March 1, 2019), available at https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0051.
[37] 84 Fed. Reg. 33,020.
[38] *Id.*
[39] 84 Fed. Reg. 33,016.
[40] 84 Fed. Reg. 33,020.
[41] DOE acknowledges that, other than its own analysis of the venting costs for residential furnaces, which considered potential venting modifications that could be required when replacing an existing category I furnace with a condensing (category IV) furnace (*see* appendix 8D of the 2016 SNOPR TSD for further details), "limited data were provided to address the actual costs that consumers and commercial customers would face to modify their existing category I venting."

separate small furnace product class that would remain subject to the current 80% AFUE standard. This proposed exception from the improved 92% AFUE standard for small furnaces would serve to reduce the number of consumers for whom installation of a condensing furnace could result in net increased costs (i.e., consumers in smaller homes, rowhouses, and multifamily homes).[42] According to the Air Conditioning, Heating, and Refrigeration Institute, this was "a reasonable solution to balancing efficiency and costs."[43]

In addition, 42 U.S.C. § 6295(o)(2)(B) directs DOE to consider costs as part of the economic justification for setting an energy efficiency standard in the first instance. Thus, any increased costs associated with installations of condensing appliances are properly considered in the cost benefit analysis that DOE is required to perform at the standard-setting stage. While DOE expressly endorsed this approach, the agency nevertheless gave such economic considerations undue weight in its "features" analysis for the proposed interpretive rule.[44]

Moreover, DOE's rulemaking record demonstrates that the gas industry petitioners' claims regarding increased consumer costs and challenging installation scenarios were overstated.[45] For example, DOE determined that the product price of condensing furnaces was approximately $200-$500 more than non-condensing ones and that on average retrofit installation costs amounted to a little over $500. Based on these estimates, and consumers' projected operational savings, DOE concluded that furnaces compliant with the new standards would enable consumers to recoup their costs within the first seven years of ownership.[46] DOE also noted that in Canada, where the condensing standard has been in effect since 2012, survey information revealed that residential furnace retrofits have not been a significant concern.[47]

Further, recent market research contradicts petitioners' claims regarding the impracticality or impossibility of condensing appliance retrofit installations.[48] This research, conducted on behalf of a group of American and Canadian stakeholders who collectively represent utilities, energy efficiency organizations, and regulatory agencies,[49] examined the

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[42] DOE estimates that the percentage of consumers who would experience a net cost under the 92% AFUE standard for non-weatherized gas furnaces is 11.1% and for mobile home gas furnaces is 8.2%. *See* 81 Fed. Reg. at 65,837.
[43] *See* DOE discussion of AHRI comments at 81 Fed. Reg. at 65,753.
[44] *See* 84 Fed. Reg. 33,020 ("DOE continues to believe that costs are properly addressed in the economic analysis portion of its rulemakings."); *see also*, 42 U.S.C. §§ 6295(o)(4) and 6295(q)(1) (no mention of product acquisition or operational costs as factors for DOE consideration in "features" and product classification analyses).
[45] 81 Fed. Reg. at 65,773-82.
[46] DOE estimated that commercial gas-fired storage water heaters and storage-type instantaneous water heaters would yield average life cycle cost savings of $794 with a simple payback period of 4.3 years. 81 Fed. Reg. at 34,444.
[47] 81 Fed. Reg. at 65,779.
[48] While DOE expresses concern with potentially significant increased first costs associated with installation of condensing appliances for some consumers, DOE does not contend that installation of such appliances is impossible for consumers.
[49] *See* 2050 Partners, Inc., "Memorandum Report: Investigation of Installation Barriers and Costs for Condensing Gas Appliances," February 20, 2019, filed as attachment to Comments of Northeast Energy Efficiency Alliance (NEEA), Northeast Energy Efficiency Partnership (NEEP), NYSERDA, National Grid, Natural Resources Canada (NRCan), National Consumer Law Center (NCLC), Natural Resources Defense Council (NRDC) and Pacific Gas & Electric (PG&E) in Response to Gas Industry Petition dated March 1, 2019 *available at* https://www.regulations.gov/docket?D=EERE-2018-BT-STD-0018.

nature and extent of barriers encountered during actual installations of condensing gas appliances. Based on in-depth interviews with installers, distributors and subject matter experts from around the United States in both the residential and commercial specialties, the researchers found that less than 5% of retrofit installations required significant modifications (i.e., building or site modifications where the installation cost would be more than double the total system cost of a typical retrofit). Contractors indicated condensing equipment typically could be integrated with only minor changes to existing venting and plumbing infrastructure. Condensate management, orphaned water heaters, or chimney relining were not identified as significant concerns. Interviewees noted that even in "difficult" cases, technical solutions were always available.

In comments opposing the gas industry petition, Mitsubishi Electric, a major manufacturer of heating ventilation and air conditioning equipment stated "[i]nstalling the PVC flues required for high efficiency condensing furnaces is in fact a comparatively simple operation that in most cases costs less than $100 in materials and approximately 1.5 man-hours to install, a relatively trivial operation and cost."[50] It further contested the basis for the gas industry's claim that 80% AFUE non-condensing furnaces are advantageous for replacement purposes because they are more compatible with atmospherically vented equipment: "This is a dangerous assertion, because all or most .80 AFUE equipment is power vented, and can cause back-drafting (infiltration of flue gasses) if it is configured to share a common vent with an atmospherically vented water heater. In short, virtually all of the critical arguments made by the Gas Industry Petitioners assert product 'features' that are made on false assumptions and which if followed would result in significant increases in CO poisoning hazards due to heat exchanger equipment failure and back-drafting." Finally, Mitsubishi noted that the percentage of homes with conditions that could make a retrofit more challenging is probably less than 1% of the total housing stock.[51] By contrast, gas industry petitioners proffered no new evidence to support their claims.

DOE's July 2019 notice also asserted that energy conservation standards at condensing levels could price some low-income consumers out of the manufactured housing market entirely or create financial hardship for consumers forced to purchase a condensing furnace. DOE's proposal tentatively concluded that the totality of such concerns could raise non-condensing appliances (and their associated venting) sufficiently in the consciousness of the consumer as to be deemed a "feature" under EPCA.[52] Yet, the record betrays DOE's alleged basis for that determination. For example, DOE itself determined earlier that "the expected average cost of a condensing furnace in a new mobile home is comparable to a non-condensing furnace, because the increase in the price of the product is offset by a lower installation cost for a condensing furnace for most installations. [Therefore,] there is not likely to be any effect on the affordability of single-section mobile homes due to the SNOPR's proposed [mobile home gas furnace]

[50] Comments of Mitsubishi Electric in Response to Gas Industry Petition (Jan. 23, 2019) *available at* https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0010.
[51] Comments of Mitsubishi Electric at 4.
[52] 84 Fed. Reg. 33,017.

standard."[53] DOE's rulemaking record does not support its new and unfounded concerns about affordability.

C. DOE's Proposed Interpretive Rule Will Result in Lost Economic and Environmental Benefits and Interfere with State and Local Energy and Climate Goals

DOE's partial grant of the gas industry petition and its issuance of the proposed interpretive rule will create missed opportunities for consumers, businesses and governments to conserve energy and reduce the economic and environmental costs of energy production and use. Notably, DOE finalized the current standards for indoor residential gas furnaces in 2007. The standard was set at 80% AFUE, a level already met in 2007 by 99% of furnaces sold.[54] Adoption and implementation of DOE's proposed interpretive rule will improperly prolong the time that less efficient appliances stay on the market. Given the long lifespan of furnaces and water heaters, together with the fact that manufacturers need not comply with final standards until three- to five- years after publication, the lost consumer savings and increased environmental costs would be significant.

Delayed standards also hamper state and municipal energy efficiency, clean energy, and climate goals.[55] For example, significant improvements in energy efficiency will be needed to meet efficiency targets under various renewable energy or climate policies. A recent analysis estimated that direct emissions from buildings due to fossil fuel sources combusted on site for heating and cooking increased by 10% in 2018.[56] In light of the potential preemptive effect of national appliance and equipment standards under EPCA, 42 U.S.C. § 6297, it is important for DOE to fulfill its statutory duty to develop and adopt aggressive standards that support states' renewable energy and climate policy goals.

Finally, the Energy Efficiency 2018 market report of the International Energy Agency (IEA) highlights the value and untapped potential of energy efficiency savings to help achieve global energy sustainability.[57] According to the IEA, increased efficiency could account for nearly half of the CO_2 emissions reductions needed to attain a sustainable development scenario in 2040, and American leadership in setting efficiency standards will help drive the deployment of more efficient appliances and equipment around the world. Consistent with the United Nation's IPCC Special Report on Global Warming of 1.5 ºC [58] that highlights the urgent need for energy solutions to help avert potentially catastrophic climate change, and the 2018 National

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[53] 81 Fed. Reg. 65,744.
[54] *See* https://appliance-standards.org/product/furnaces.
[55] *See, i.e.,* NYSERDA, "New Efficiency: New York – A milestone energy efficiency target and comprehensive strategy," Report and Factsheet *available at* https://www.nyserda.ny.gov/About/Publications/New-Efficiency; City of New York, "One City Built to Last: Transforming New York City's Buildings for a Low-Carbon Future" (2014) at 6, *available at* http://www.nyc.gov/html/builttolast/assets/downloads/pdf/OneCity.pdf.
[56] *See* Rhodium Group, "Preliminary U.S. Emissions Estimates for 2018," *available at* https://rhg.com/research/preliminary-us-emissions-estimates-for-2018/.
[57] IEA, "Energy Efficiency 2018" (October 2018) *available at* https://www.iea.org/efficiency2018/.
[58] IPCC, "The Special Report on Global Warming of 1.5 ºC" (October 2018) *available at* http://www.ipcc.ch/report/sr15/.

Climate Assessment offering similar warnings on climate change and the dire need to curb our national consumption of carbon-based energy,[59] DOE must promptly publish final energy conservation standards for residential furnaces and commercial water heaters and not further delay the crucial energy efficiency savings that will result from these standards.

For the foregoing reasons, we urge DOE to withdraw its proposed interpretive rule and instead issue final energy conservation standards for gas furnace and water heaters.

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[59] USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II (Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)). U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018 *available at* https://nca2018.globalchange.gov/.

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