Appliance Standards Awareness Project
American Council for an Energy-Efficient Economy
Natural Resources Defense Council
Northwest Energy Efficiency Alliance
New Buildings Institute

July 18, 2022

Ms. Julia Hegarty
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Building Technologies Office, EE-5B
1000 Independence Avenue SW, Washington, DC 20585

RE: Docket Number EERE-2022-BT-STD-0018: Request for Information on Energy Conservation Standards for Direct Heating Equipment

Dear Ms. Hegarty:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), the American Council for an Energy-Efficient Economy (ACEEE), the Natural Resources Defense Council (NRDC), the Northwest Energy Efficiency Alliance (NEEA), and the New Buildings Institute (NBI) on the request for information (RFI) for direct heating equipment (DHE). 87 Fed. Reg 36249 (June 16, 2022). We appreciate the opportunity to provide input to the Department.

We encourage DOE to consider standards for vented hearth heaters that capture both heating performance and standby and off mode consumption. By definition, the primary function of vented hearth heaters is to provide heat to the indoor space in which they are used. Therefore, we believe that it makes sense for DOE to establish energy conservation standards that capture how efficiently this equipment converts fuel into useful heat.

Available information on vented hearth heater efficiency suggests that there may be significant potential for energy savings from improving heating efficiency. NRCan established standards for gas fireplaces, which took effect in January 2020, based on the fireplace efficiency metric.[1] In NRCan's searchable database, there are a significant number of models with considerably higher efficiencies than the required minimum fireplace efficiency (50%), as shown in the histograms of natural gas- and propane-burning fireplaces in Figures 1 and 2, respectively.[2] We expect that hearth heaters sold in the U.S. exhibit similar ranges of efficiencies that reflect design characteristics that either positively or negatively impact efficiency. In the RFI, DOE identified 20 potential technology options for improving the efficiency of hearth heaters.[3]

[1]We understand that the scope of the NRCan regulation only includes vented gas fireplaces, and therefore is a subset of the scope of this RFI for hearth heaters. https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-regulations/guide-canadas-energy-efficiency-regulations/gas-fireplaces/6865.
[2]As of 6/27/2022. https://oee.nrcan.gc.ca/pml-lmp/index.cfm?action=app.search-recherche&appliance=FIREPLACE_G
[3] https://www.regulations.gov/document/EERE-2022-BT-STD-0018-0001. p. 36254.

DOE is also required to address standby and off mode consumption, which can be especially significant for products that use a standing pilot light. We urge DOE to develop standby and off mode standards considering both electrical components and gas (pilot light).

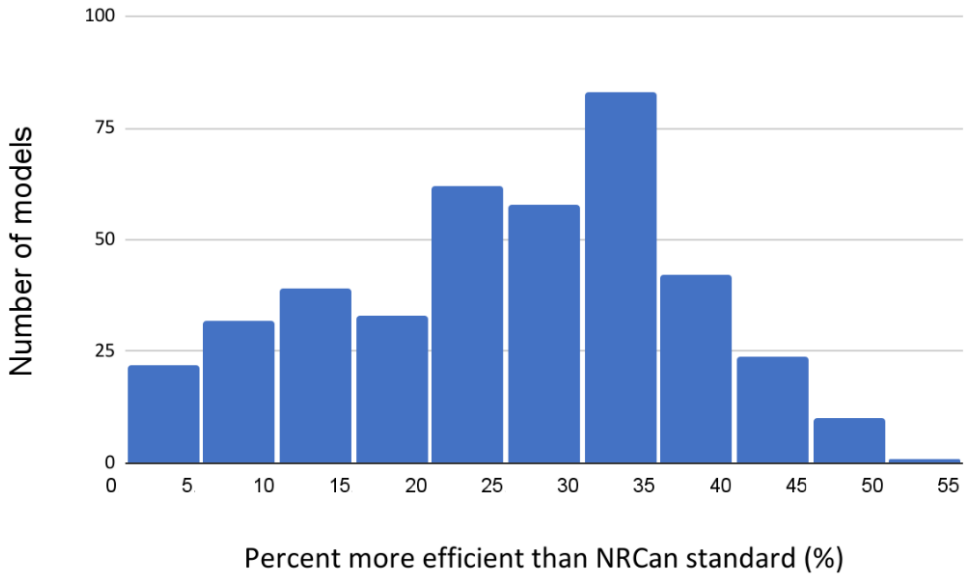

Figure 1. Distribution of natural gas-burning fireplaces with efficiencies greater than the minimum 50% fireplace efficiency standard set by NRCan.

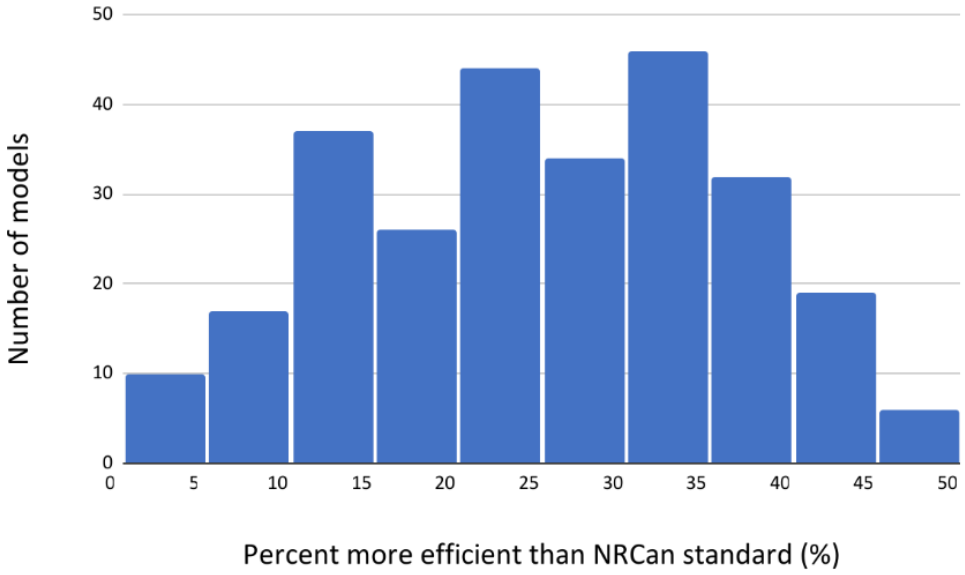

Figure 2. Distribution of propane-burning fireplaces with efficiencies greater than the minimum 50% fireplace efficiency standard set by NRCan.

We encourage DOE to consider standards addressing off mode energy consumption for unvented hearth heaters. We understand that unvented hearth heaters are essentially 100% efficient during active mode, and, unlike for vented hearth heaters, a heating performance metric would not be meaningful. However, as DOE notes in the RFI, during the non-heating season, any energy consumed by a standing pilot light of an unvented hearth heater is wasted, and the heat produced by a standing pilot light may contribute to the cooling season cooling load. DOE indicated in the RFI that the Department may

consider setting standards for off mode energy consumption of unvented hearth heaters if such standards could lead to significant conservation of energy.[4] We support DOE considering off mode standards for unvented hearth heaters to reduce wasted energy consumed by standing pilot lights.

We encourage DOE to ensure that the definition of hearth heater fully encompasses the scope of the equipment intended for regulation. We note that there are several models of gas fireplaces on the market that are marketed as indoor/outdoor or see-through.[5] We understand that these models may be installed on an exterior wall, thus heating both the indoor space and outdoor space proximate to the unit. We note that in the RFI, DOE states that, in the absence of an existing definition of hearth heaters, the Department is generally considering this equipment to be "a category of DHE that is comprised of products that simulate a solid-fuel fireplace and/or present an aesthetic flame pattern and that are designed to provide heat to the indoor space in which they are used."[6] DOE's proposed definition of decorative hearth products (a category of miscellaneous gas products), includes products "designed for indoor use, outdoor use, or either indoor or outdoor use" that are "not designed to be operated with a thermostat".[7] While the definitions of hearth heater and decorative gas fireplace should be complementary, we're concerned that any indoor/outdoor or see-through units with a thermostat might not fall under either definition and therefore may not be subject to any standard. Therefore, we encourage DOE to ensure that these indoor/outdoor or see-through units are appropriately covered.

Thank you for considering these comments.

Sincerely,

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[4] https://www.regulations.gov/document/EERE-2022-BT-STD-0018-0001. p. 36257.
[5] See, for instance, https://www.kozyheat.com/wp-content/uploads/2021/03/CLW-ST-R.1-EN-2.21.pdf.
[6] https://www.regulations.gov/document/EERE-2022-BT-STD-0018-0001. p. 36253.
[7] https://www.regulations.gov/document/EERE-2022-BT-STD-0017-0001. P. 35929.