

August 21, 2023



Ann Bailey
ENERGY STAR Product Labeling
United States Environmental Protection Agency
Office of Air and Radiation
Washington D.C. 20460
MostEfficient@energystar.gov

Subject: NEEA Comments on the EPA's ENERGY STAR Most Efficient 2024 Proposed Criteria

Dear Ms. Bailey:

NEEA is a non-profit organization working to encourage the development and adoption of energy-efficient products, practices, and services. Funded by regional utilities, NEEA is a collaboration of 140 utilities and efficiency organizations working together to advance energy efficiency in the Northwest on behalf of more than thirteen million consumers. This unique partnership has helped make the Northwest region a national leader in energy efficiency.

NEEA has been promoting the market adoption of energy efficient appliances in the Northwest since 2015 as part of the U.S. Environmental Protection Agency (EPA) ENERGY STAR® Retail Products Platform (ESRPP). NEEA strongly supports the U.S. Environmental Protection Agency (EPA)'s efforts to update its ENERGY STAR Most Efficient requirements and has developed feedback on several items.

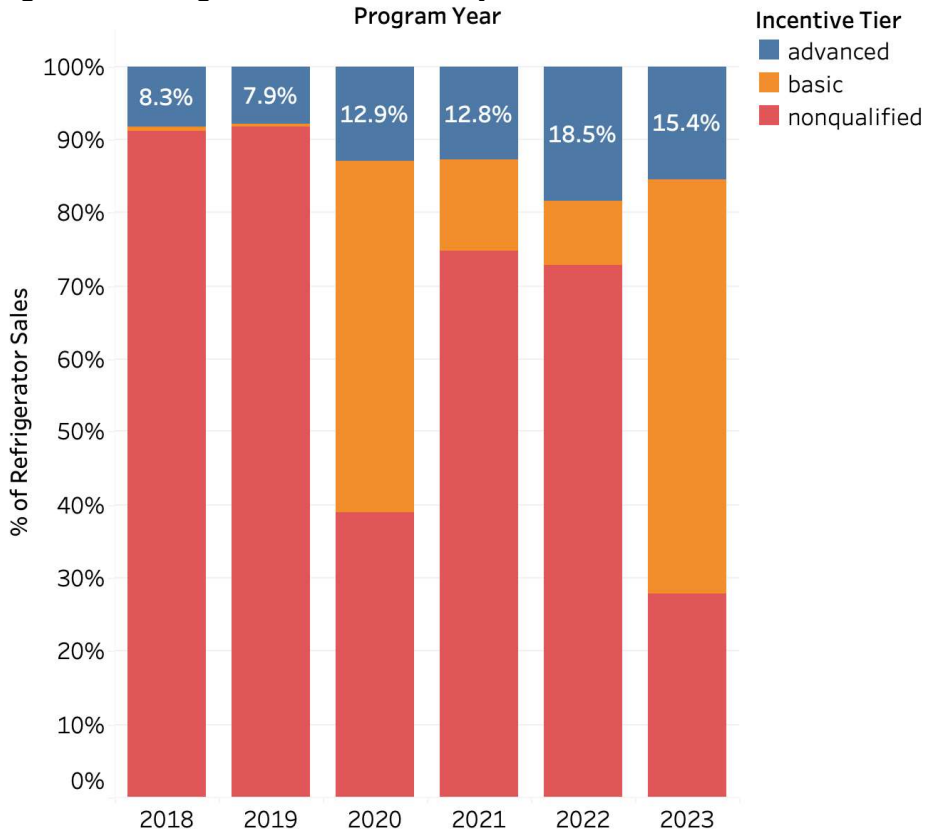
Thank you for the opportunity to provide a response to EPA on its proposed 2024 ENERGY STAR Most Efficient criteria. We respectfully submit these comments for your consideration.

Advanced Adaptive Compressors in Consumer Refrigeration:

NEEA strongly recommends that EPA continue working to develop a test procedure that captures the efficiency gains from advanced adaptive compressors, as did the 2020-2021 Emerging Technology Award (ETA) for Consumers. NEEA used the 2020-2021 ETA as the criterion for the Advanced Tier for ESRPP in 2021 and 2022, then returned to ESME as the criterion in 2023. With the new criterion, market share of ETA-qualified units dropped from 18.5% to 13.6%, and the share of Advanced Tier-qualified products dropped from 18.5% to 15.4%, as shown in Figure 1. Being able to recognize units with advanced adaptive compressors would increase the number of units qualifying for the Advanced Tier.

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Figure 1: Refrigerator Unit Sales by ESRPP Tier, 2018-2023



Source: NEEA ESRPP Sales, Pacific Northwest. Program Years start with Q2. 2023 data includes Q2 only.

Mandatory Reporting of Refrigerant Type:

NEEA urges the EPA to include refrigerant type reporting to the ESME applications for all products that use refrigerant. Currently refrigerant type reporting is only required for room air conditioners, so this would affect heat pumps, clothes dryers, dehumidifiers, freezers, geothermal heat pumps, and refrigerators. Requiring refrigerant type to be reported would allow improved analysis of market trends over time. This data will be important to support implementation of EPA’s American Innovation and Manufacturing (AIM) Act of 2020 and other regulations to address hydrofluorocarbons.

Increased Criteria for Room Air Conditioners:

NEEA strongly supports EPA’s proposal to significantly increase the ESME criteria for most but not all product classes.

To qualify for ESME 2023, all product classes had to have a Combined Energy Efficiency Ratio (CEER) at least 35% better than the Federal Standard. Starting October 2023, the ENERGY STAR criteria will increase as ENERGY STAR Version 5.0 takes effect, so EPA is proposing to also raise ESME criteria. The proposal is to raise them to between 46% and 50% better than the Federal Standard, but not in all product classes.

The DOE’s test procedure described in 10 CFR 430 defines sixteen product classes across six sizes. To analyze its sales data, NEEA uses just three sizes for clarity: Small units have capacity under 8 kBtu/h; Medium units have capacity between 8-14 kBtu/h; and

Large units have capacity of 14 kBtu/h or more. The classes for which the EPA is proposing to not increase ESME criteria are those in NEEA’s Small category are shown in Table 1.

Table 1: Room Air Conditioner DOE Product Classes with 2024 ESME Criteria unchanged from 2023.

DOE Product Class	Description
1	Without reverse cycle, with louvered sides, and less than 6,000 Btu/h
2	Without reverse cycle, with louvered sides, and 6,000 to 7,999 Btu/h
6	Without reverse cycle, without louvered sides, and less than 6,000 Btu/h
7	Without reverse cycle, without louvered sides, and 6,000 to 7,999 Btu/h

Figure 2 shows the 2023 market share for units that meet ENERGY STAR v4, v5, and ESME 2024. The total market share of units sold that qualify for ESME 2024 was 10.6%, but none of these had capacity under 8 kBtu/h. However, in the Pacific Northwest, units in that range make up over 50% of the market (see

Figure 3. Therefore, NEEA supports not increasing the ESME criteria for units with capacity under 8 kBtu/h.

Figure 2: Room Air Conditioner Market Share by Unit Sales Volume

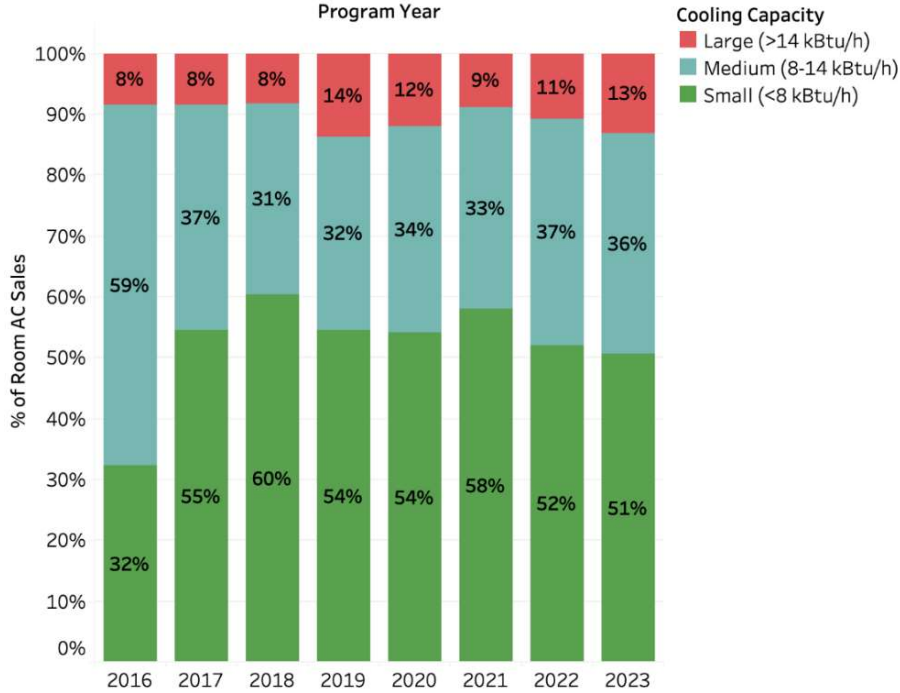
Room ACs by Size, 2023



Source: Pacific Northwest ESRPP Data

Product Class 11 (defined as <20 kBtu/h) and Produce Class 12 (defined as <14 kBtu/h) were grouped as Medium.

Figure 3: Room Air Conditioner Sales by Cooling Capacity

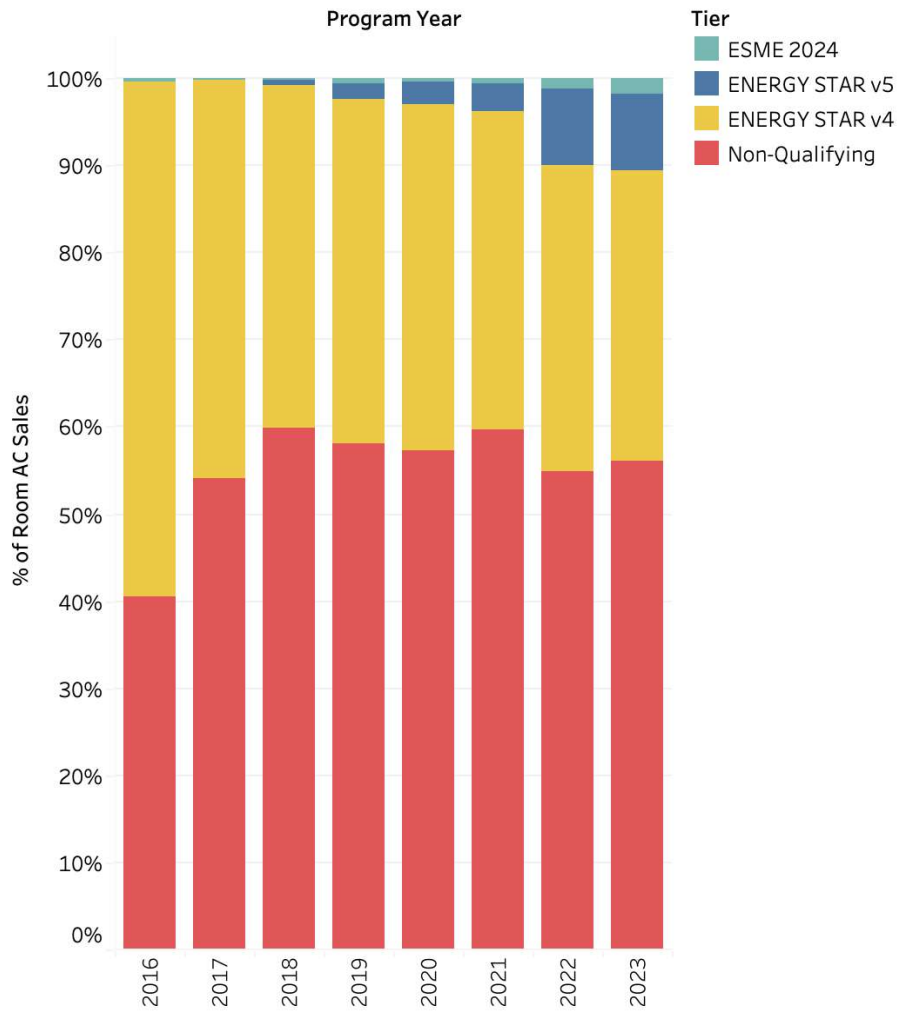


Source: NEEA ESRPP Sales, Pacific Northwest. Program Years start with Q2. 2023 data includes Q2 only.

In its [ENERGY STAR Most Efficient 2023 Update and 2024 Proposed Criteria](#), EPA notes there are currently 13 base models from 6 brands meeting the proposed ESME 2024 criteria, representing 2% of the models in its database. As seen in

Figure 4 showing unit sales, the market share of units meeting ESME 2024 has been slowly growing. The data from the 2023 program year, which is from April -June, also shows market share around 2% across all sizes, validating the proposed 2024 ESME criteria.

Figure 4: Market Share by Unit Sales ESRPP
Room ACs by Year



Source: NEEA ESRPP Sales, Pacific Northwest. Program Years start with Q2. 2023 data includes Q2 only.

Interim Seasonal Rating for Room Air Conditioners:

NEEA strongly supports the use of an interim seasonal rating for room air conditioners with heating capability until such time that AHAM or AHRI can develop an ANSI accredited rating. The heating mode efficiency should be a seasonal estimate that differentiates those products that can operate below 40F and use a defrost cycle. The designation should also differentiate window-mounted 120V units with heat pumps from air-conditioning-only window units.

Separate Product Class for Compact Ventless 120V Clothes Dryers:

EPA is proposing to create a separate product class for compact ventless 120V units. In NEEA's ESRPP data, only one model fits this category and accounts for just 0.1% of dryer sales. Although the product class is currently very small in its territory, NEEA agrees this type of product could have strong market appeal and supports EPA's initiative to make it more visible.

Utility Combined Energy Factor (UCEF) for Clothes Dryers:

NEEA would also like to continue advocating for the Utility Combined Energy Factor (UCEF) that was described in its 2018 report entitled [*Heat Pump Clothes Dryers in the Pacific Northwest – Abridged Field & Lab Study Report*](#). The testing to determine UCEF more realistically simulates consumer usage, and it may be appropriate to use this more in-depth test method for evaluating the Most Efficient level, even if it is not practical to require for all basic ENERGY STAR dryers. Having separate requirements for the normal cycle and the maximum dryness cycle is a positive step towards showing the efficiency under a variety of contexts, but the UCEF shows the full range of efficiencies.

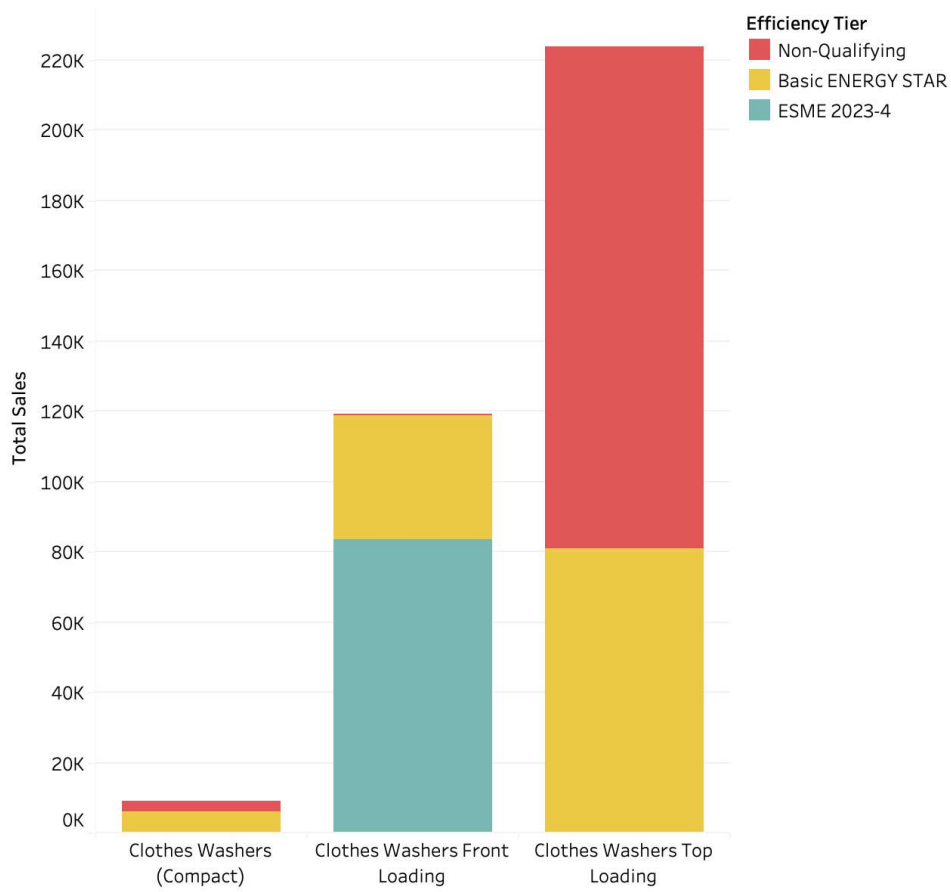
Clothes Washers:

NEEA supports EPA's proposal to not make any updates for 2024. The current ENERGY STAR Most Efficient list includes forty-one base models from five brands.

Front-loading models are far more water and energy efficient than top-loading models but are more expensive. As seen in

Figure 5, about two-thirds of front-loading models meet ESME criteria, but no top-loading models qualify for ESME.

Figure 5: Washer Unit Sales by Product Type in the Pacific Northwest
Washers Sales, Q3 2022 - Q2 2023

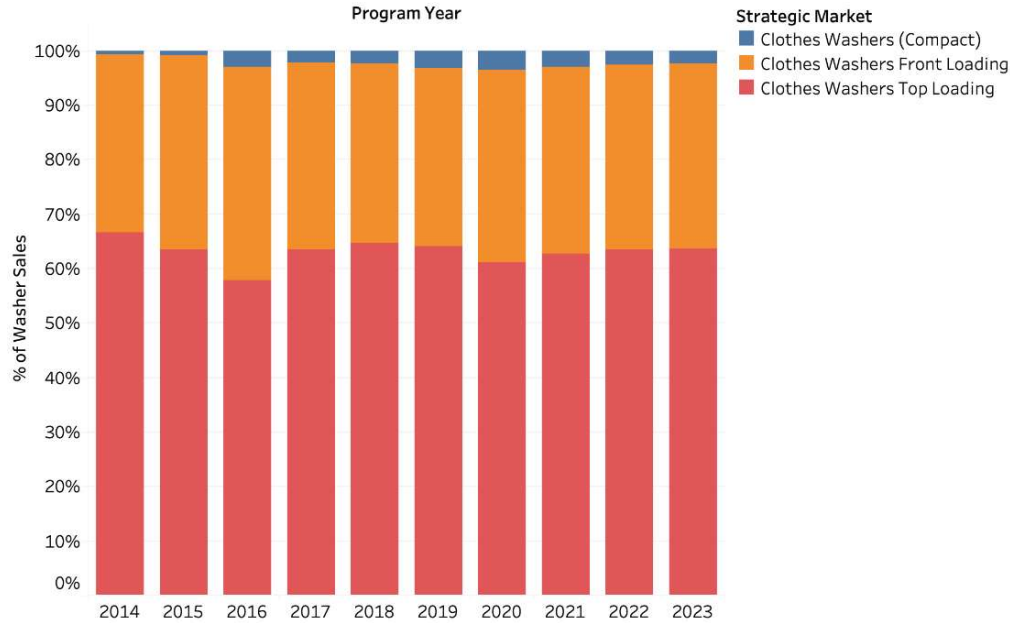


Source: Pacific Northwest ESRPP Data

As seen in

Figure 6, it has been difficult to increase the market share of front-loading washers. Because of this reality, NEEA has focused on encouraging the development of better top-loading washers. Since April 2019, it has only offered ESRPP incentives for the basic tier of top-loading models. NEEA would support separate ESME criteria for top-loading models so it could more strongly influence efficiency improvements of this product type.

Figure 6: Market Share of Compact, Front-loading and Top-loading Clothes Washers, Pacific Northwest



Source: NEEA ESRPP Sales, Pacific Northwest. Program Years start with Q2. 2023 data includes Q2 only.

Classification for Combination Washers and Dryers:

NEEA works with EPA to support the ENERGY STAR Retail Products Platform (ESRPP) for utilities throughout the country. Certain utilities that offer incentives through ESRPP for efficient clothes washers and dryers have begun seeing combination washers and dryers in the market. Currently, these combination units can only be classified as either a washer or a dryer. If both components meet ESME requirements, utilities cannot currently claim savings for both. NEEA encourages EPA to allow the same unit to appear on both QPLs, or create a separate category for combination units.

Sleep Mode for Computer Monitors:

NEEA strongly supports that EPA is continuing to include Sleep Mode power consumption in its calculation for Total Energy Consumption.

Thank you for the opportunity to provide our responses. NEEA would welcome any further discussions on these topics and looks forward to continued engagement with EPA on any matters related to ENERGY STAR.

Sincerely,

Chris Wolgamott CEM, CDSM
 SENIOR PRODUCT MANAGER, TECHNOLOGY AND PRODUCT MANAGEMENT