

## Appliance Standards Awareness Project

September 1, 2022

Ga-Young Park  
Product Manager for Appliances, ENERGY STAR Labeled Products  
U.S. Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

### **RE: ENERGY STAR® Room Air Conditioner Version 5.0 Draft 1 Specification**

Dear Ms. Park,

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) on the Room Air Conditioner (RAC) Version 5.0 Draft 1 Specification released on July 25, 2022. We appreciate the opportunity to comment.

**We support the minimum efficiency requirements in the draft specification.** The current ENERGY STAR specification v4.2 requires RACs to be at least 10% more efficient than a model just meeting the current minimum federal efficiency standards (“baseline model”). The proposed ENERGY STAR v5.0 specification would increase the levels, requiring RACs to be 19 to 50% more efficient than baseline models, depending on the product class (PC). This draft specification would align the efficiency levels in the ENERGY STAR program with the recently proposed federal standards.<sup>1</sup> The incremental installed cost of units meeting the updated ENERGY STAR levels is offset by the decreased operational costs in a short period of time—between 0.7 and 4 years (compared to the 9 year lifetime of this equipment)—depending on the product class.

We note that the proposed ENERGY STAR efficiency levels would encourage the adoption of variable-speed compressors in RACs with a cooling capacity of at least 8,000 Btu/hr. EPA recognizes the benefit of variable-speed compressors, stating on the RAC product finder webpage that this feature is “able to save a significant amount of energy during operation by continuously and quietly regulating the temperature”.<sup>2,3</sup> As the market evolves to make the necessary design adjustments to meet future federal

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<sup>1</sup>In April 2022, the Department of Energy published a notice of proposed rulemaking (NPR) for energy conservation standards for RACs. The anticipated compliance date of amended standards is 2026.

<https://www.regulations.gov/document/EERE-2014-BT-STD-0059-0031>

<sup>2</sup> <https://www.energystar.gov/productfinder/product/certified-room-air-conditioners/results>

<sup>3</sup>We note an added benefit—RACs with variable-speed compressors are also likely to increase occupant comfort, as the inverter controls allow the equipment to better match building load, delivering more optimized space cooling or heating.

energy efficiency standards, the ENERGY STAR program can encourage early adoption of efficient variable-speed technology.

**We encourage EPA to consider including a compressor type reporting requirement.** There are both energy efficiency gains as well as occupant comfort benefits associated with variable-speed technology. We therefore think that information about compressor type may be important for consumers to help inform their purchasing decision, and yet more than half of RAC models in the qualifying product list (QPL) do not list whether they have a variable-speed compressor. As part of the effort to better understand compressor technology in the marketplace for RACs, we encourage EPA to require reporting of compressor type in the v5.0 specification.

**We support the amendments to the optional connected criteria.** EPA has recognized that many manufacturers of Smart or Wi-Fi capable RACs do not certify their models as Connected under the ENERGY STAR program. We support the streamlining of the ENERGY STAR connected criteria to encourage manufacturers to more easily certify these models as Connected, as these design features provide value to consumers and can unlock the potential benefits of grid connectivity. We also support the discontinuation of the 5% energy use allowance. EPA determined that most of the models that claim the credit are those that need it to meet the ENERGY STAR efficiency criteria; EPA's proposal to discontinue the energy use allowance will ensure that all ENERGY STAR certified RACs deliver a high level of energy-efficient performance for consumers.

**We support the inclusion of a refrigerant type reporting requirement, but encourage EPA to also consider excluding RACs with high-GWP refrigerants from ENERGY STAR eligibility.** EPA is proposing a reporting requirement for refrigerant type to allow consumers to easily identify products with lower-GWP refrigerants. We note that this information is not currently commonly reported—only about 7% of models in the QPL list this information. (Of those models with refrigerant listed, 10% list a high-GWP refrigerant.) Therefore, we support such a reporting requirement that requires disclosure of this relevant information to consumers.

We also note that there is likely an ongoing market shift away from high-GWP refrigerants largely driven by state-level prohibitions of high-GWP refrigerants in certain HVAC applications.<sup>4,5</sup> However, due to the widely-recognized negative impact of high-GWP refrigerants (that is unable to be captured in an energy efficiency metric like CEER), we encourage EPA to consider excluding refrigerants with GWP values greater than 750 from eligibility from ENERGY STAR recognition.

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<sup>4</sup>In the recent NOPR for RAC federal efficiency standards, DOE stated that “based on manufacturer interviews, DOE understands that all [original equipment manufacturers] and major manufacturers intend to transition their complete portfolio of room AC offerings for the U.S. market to R-32 refrigerant to meet [the California Air Resources Board’s] proposed requirement by 2023.”

<https://www.regulations.gov/document/EERE-2014-BT-STD-0059-0031>. p. 20641.

<sup>5</sup> CARB will prohibit GWPs of greater than 750 in this equipment starting January 1, 2023.

<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2020/hfc2020/frorevised.pdf>

**We support the inclusion of a sound reporting requirement.** Due to their placement in a window, the sound output of RACs has the potential to disturb room occupants. We therefore support the indoor sound pressure performance (at the lowest operational cooling level) reporting requirement in the ENERGY STAR v5.0 specification.

Thank you for considering these comments.

Sincerely,

A handwritten signature in black ink that reads "Rachel Margolis". The signature is written in a cursive style and is placed on a light gray rectangular background.

Rachel Margolis  
Technical Advocacy Associate  
Appliance Standards Awareness Project