

## Appliance Standards Awareness Project

December 30, 2024

Holly Tapani  
Product Manager ENERGY STAR HVAC  
U.S. Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

### **RE: ENERGY STAR® Draft Test Method to Determine Packaged Terminal Heat Pump Low Ambient Temperature Heating Mode Performance**

Dear Ms. Tapani,

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) on the packaged terminal heat pump (PTHP) draft test method to determine low ambient temperature heating performance, which was released on November 25, 2024. We appreciate the opportunity to comment.

**We support the development of a test procedure to measure low ambient temperature performance of PTHPs.** In August, EPA released the Draft 1 PTHP v1.0 specification, which included heating efficiency (coefficient of performance; COP) requirements at 47 °F. However, there is equipment on the market today that operates in heat pump mode at much lower temperatures. EPA has released the draft 1 test method, which specifies a procedure to measure the heating performance at 17 °F for Type 3 PTHPs and the heating performance at 17 °F, 5 °F, and (optionally) the lowest temperature at which the unit can operate in heat pump mode for Type 4 PTHPs.<sup>1</sup> We support the development of a test method to be able to recognize the performance of this equipment in the absence of an existing DOE test procedure for low ambient temperature heating performance of PTHPs.

**We encourage EPA to recognize better performing PTHPs.** EPA has solicited feedback on the COP requirement at 17 °F and 5 °F to be considered for a future update to the ENERGY STAR specification. EPA has initially considered a COP >1 for Type 3 and Type 4 PTHPs at 17°F and 5°F, respectively. While this level would differentiate heat pump operation from resistance heat, it fails to differentiate between better and worse heat pump performance. Manufacturers of this equipment would not be able to differentiate their better-performing products based upon the widely recognized ENERGY STAR label.

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<sup>1</sup> EPA defines Type 3 packaged terminal heat pump as “A packaged terminal heat pump that has active defrost and for which the specified compressor cut-in and cut-out temperatures are both less than 17°F but not both less than 5°F. EPA defines Type 4 packaged terminal heat pump as “A packaged terminal heat pump that has active defrost and for which the specified compressor cut-in and cut-out temperatures are both less [sic] 5°F.”

Furthermore, the minimum COP requirement of 1 is not in line with either the existing PTHP low ambient specification managed by NEEP or EPA's proposed specification for room heat pumps.

The NEEP cold climate PTHP specification requires a COP of at least 1.5 at 5 °F.<sup>2</sup> The COP at 5 °F of listed models ranges from 1.69 to 1.95.<sup>3</sup> We also note that the PTHP test method is based on the ENERGY STAR room heat pump test method, which was finalized by EPA in July.<sup>4</sup> The similarity in test methods for characterizing low ambient temperature performance suggests some similarities between these two types of equipment. We therefore think that it would be reasonable to set similar heating mode efficiency levels for PTHPs as those for room heat pumps. In the Draft 1 Room Air Conditioner v6.0 specification, EPA has proposed a minimum COP of 1.5 at 17 °F for Type 3 room heat pumps and a minimum COP of 1.5 at 5 °F for Type 4 room heat pumps,<sup>5</sup> which would increase to 1.75 in the Draft 1 Room Air Conditioner v7.0 specification.<sup>6</sup> We believe that purchasers of Type 3 and 4 PTHPs would benefit from having the ENERGY STAR label recognize better PTHP performance given the high operating cost associated with resistance heating. In addition, the higher COP requirement would allow manufacturers to differentiate their products in the growing marketplace of heat pump equipment suitable for colder climate installations.

Thank you for considering these comments.

Sincerely,



Rachel Margolis  
Senior Technical Advocacy Associate  
Appliance Standards Awareness Project

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<sup>2</sup> [https://neep.org/sites/default/files/media-files/ccpthp\\_spvhp\\_specification\\_v1.pdf](https://neep.org/sites/default/files/media-files/ccpthp_spvhp_specification_v1.pdf); The scope of the NEEP specification does not include Type 3 PTHPs.

<sup>3</sup> [https://ashp.neep.org/#!/product\\_list/](https://ashp.neep.org/#!/product_list/); Accessed 12/18/2024.

<sup>4</sup>

<https://www.energystar.gov/sites/default/files/2024-07/ENERGY%20STAR%20Final%20Test%20Method%20to%20Determine%20Room%20Air%20Conditioner%20Heating%20Mode%20Performance.pdf>

<sup>5</sup>

<https://www.energystar.gov/sites/default/files/2024-11/ENERGY%20STAR%20Version%206.0%20Room%20Air%20Conditioners%20Draft%201%20Specification.pdf>; Released November 26, 2024.

<sup>6</sup>

<https://www.energystar.gov/sites/default/files/2024-11/ENERGY%20STAR%20Version%207.0%20Room%20Air%20Conditioners%20Draft%201%20Specification.pdf>; Released November 26, 2024.