

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
AIR AND RADIATION

November 4, 2013

Dear ENERGY STAR[®] Room Air Conditioner Manufacturer or Other Interested Party:

In light of the new Federal standards that take effect next year, the U.S. Environmental Protection Agency (EPA) is evaluating energy saving opportunities for room air conditioners (ACs) that could be captured by revising the ENERGY STAR Room AC specification. To this end, EPA has developed a Framework Document to share initial thoughts on potential areas for further energy savings and seek feedback from stakeholders on these opportunities. Stakeholders are encouraged to provide written comments to appliances@energystar.gov by December 9, 2013.

Key topic areas discussed in the Framework include:

- **Improved Installation Practices:** Reducing air leakage through and around room ACs has been shown to provide measurable savings and can also provide improved comfort for consumers. EPA is seeking input from stakeholders on the potential for capturing installation-related energy savings in a revised room AC specification and/or ideas for how the Agency could support further customer engagement and education on better room AC installation techniques.
- **Component Improvements:** While the information captured in the last DOE Technical Support Document (TSD) depicted that efficiency gains beyond the levels ultimately adopted by DOE for 2014, for R-410a based systems, were not cost effective, the timing of this TSD coincided with the industry transition away from R-22. Due to this, the selection of high efficiency compressors for new refrigerant designs had been limited. EPA is seeking feedback on the availability of higher efficiency compressors. The Agency is also interested in any additional data on potential efficiency improvements from higher-efficiency room AC components, associated incremental costs, any ancillary benefits associated with improving efficiency, and any potential performance tradeoffs (e.g., noise or reduced dehumidification).
- **Reducing Evaporator Recirculation:** Recent investigative testing by the National Renewable Energy Laboratory has shown that air recirculation on the evaporator can reduce efficiency by as much as 10%. EPA is interested in stakeholder input on the potential to save energy by reducing this recirculation, and whether these savings would be measured under the DOE room AC test procedure in Appendix F.
- **New Refrigerants:** ENERGY STAR is interested in additional stakeholder feedback and data on the potential energy savings associated with room ACs that use refrigerants with lower Global Warming Potential (GWP) and manufacturers' plans to introduce room ACs with low GWP refrigerants to the U.S. market.
- **"Connected" Functionality:** EPA had planned to amend the current ENERGY STAR RAC specification to integrate optional new "connected" criteria. In light of the current timing, EPA would instead plan to include these optional connected criteria in this latest potential revision. EPA is interested in better understanding how stakeholders anticipate the market will evolve for

network connected room ACs, considering there are room ACs with built-in communications available now on the market as well as add-on communication devices (e.g., ThinkEco Modlet) that can be used with an existing room ACs.

- **Portable ACs:** The Agency is aware of the growing market for portable ACs, not presently covered under the ENERGY STAR Room AC program. EPA welcomes additional information that would help the program evaluate the energy efficiency opportunity associated with extending the label to portable ACs once a DOE or ENERGY STAR test procedure is available.

EPA welcomes stakeholder comments on all topics related to this potential ENERGY STAR Room Air Conditioner specification revision, including topics not addressed in this document. All comments will be posted to the ENERGY STAR Product Development website unless the submitter requests otherwise.

The exchange of ideas and information between EPA, industry, and other interested parties is critical to the success of ENERGY STAR. To follow EPA's progress in developing new criteria for room ACs please visit the ENERGY STAR Product Development website at www.energystar.gov/revisedspecs and follow the Version 4.0 link for Room Air Conditioners.

Please direct any specific questions to Amanda Stevens at EPA, stevens.amanda@epa.gov, 202-343-9106 or Jessica Lyman, ICF International at jessica.lyman@icfi.com, 202-862-1557. Room AC test method questions should be directed to Ashley Armstrong, DOE, at Ashley.Armstrong@ee.doe.gov or (202) 586-6590. Thank you for taking the time to review this Framework Document, provide feedback and your continued support of the ENERGY STAR program. I look forward to working with you over the coming months.

Sincerely,

A handwritten signature in cursive script that reads "Amanda Stevens".

Amanda Stevens, Product Manager
ENERGY STAR for Room Air Conditioners