

Frequently Asked Questions

Request for Information and Notice of Data Availability pertaining to Energy Conservation Standards for Variable Refrigerant Flow Multi-split Air Conditioners and Heat Pumps

1. What is the purpose of this notice?

This Notice of Data Availability (NODA) is a preliminary step pursuant to Energy Policy and Conservation Act's (EPCA) requirements for DOE to consider amended standards for certain categories of commercial equipment covered by ASHRAE Standard 90.1, whenever ASHRAE amends its standard to increase the energy efficiency level for an equipment class within a given equipment category. Specifically, this NODA presents for public comment DOE's analysis of the potential energy savings for amended national energy conservation standards for VRF multi-split systems based on: (1) the amended efficiency levels contained within ASHRAE Standard 90.1-2016, and (2) more-stringent efficiency levels. DOE describes these analyses and preliminary conclusions and seeks input from interested parties, including the submission of data and other relevant information.

For those equipment classes of VRF multi-split systems that are not triggered by ASHRAE 90.1-2016, this Request for Information (RFI) initiates the six-year review process outlined by the EPCA and seeks input from the public to assist DOE with its determination about whether new and/or amended energy conservation standards are warranted for VRF multi-split systems.

Information received in response to this request will help DOE determine whether amending the energy efficiency requirements for VRF multi-split systems would result in significant energy savings and whether such standards would be technologically feasible and economically justified. This RFI is part of DOE's ongoing commitment to consider feedback from all interested stakeholders and promote an open and transparent rulemaking process.

2. What type of information is the Department looking for?

In this RFI, DOE seeks information related to the VRF multi-split systems industry, technology, and market. In particular, DOE seeks information regarding VRF multi-split systems' shipments and market share, as well as VRF multi-split systems' applications and sizing practices. DOE also seeks input on the overall approach and analyses that will be used to evaluate potential standard levels for VRFs.

3. What are VRF multi-split systems?

DOE describes "variable refrigerant flow multi-split air conditioner" as a unit of commercial air conditioning and heating equipment with the following characteristics:

- Configured as a split system (*i.e.*, having an outdoor unit located outdoors for exchange of heat directly with outdoor air connected to multiple indoor fan coil units that can directly cool indoor air). Furthermore, it is a multi-split, meaning that multiple indoor units are connected to the outdoor unit using a single refrigerant circuit.
- Has at least one variable-speed compressor or a combination of compressors that allow for varying the capacity by three or more steps.
- Each indoor unit has its own controls to allow for independent control of the cooling for the zone that it serves.

DOE describes "variable refrigerant flow multi-split heat pump" similarly, but with the addition that it uses reverse-cycle refrigeration as its primary heating source, thereby allowing the indoor units to provide individual control of heating for the zone that it serves. These systems may also include supplemental heat using electrical resistance heaters, steam, hot water, or gas.

4. How much energy do VRF multi-split systems consume?

Average annual per-unit energy consumption is approximately 9,100 kWh. Nationally, they consume an estimated 0.04 percent of all national annual building energy use for an estimated total of 0.01 quads of primary energy consumption in 2016.

5. How many VRF multi-split systems are shipped annually in the United States?

Approximately 28,000 VRF multi-split systems are shipped annually in the United States.

6. Who are the parties that may be interested in this notice?

Interested parties include manufacturers of VRF multi-split systems, trade associations, distributors, energy utilities, State agencies, international organizations, and consumer, energy, and environmental advocacy groups. Interested parties are currently negotiating test procedures and energy conservation standards for VRFs through DOE's Appliance Standards and Rulemaking Federal Advisory Committee, which has a charter through December 31, 2019.

7. How does an interested party comment on this notice, and when are comments due?

The comment period for this rule will be 45 days, beginning on the date in which this notice publishes in the *Federal Register*. Interested parties may submit comments via the Federal e-Rulemaking Portal at <http://www.regulations.gov> or via email to CommACHeatingEquipCat2017STD0017@ee.doe.gov, identified with docket number EERE-2018-BT-STD-0003. Comments may also be submitted via postal mail or hand delivery by following the instructions found in the notice.