



**Most Efficient
2013**
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Proposed Recognition Criteria for Central Air Conditioners and Heat Pumps

Scope

Included products. Residential central air conditioners and heat pumps, as defined below, are eligible for ENERGY STAR® Most Efficient recognition in 2013.

Air-Source Heat Pump (ASHP): An air-source unitary heat pump model consists of one or more factory-made assemblies, which normally include an indoor conditioning coil(s), compressor(s), and outdoor coil(s), including means to provide a heating function. ASHPs shall provide the function of air heating with controlled temperature, and may include the functions of air-cooling, air-circulation, air-cleaning, dehumidifying or humidifying.

Central Air Conditioner: A central air conditioner model consists of one or more factory-made assemblies, which normally include an evaporator or cooling coil(s), compressor(s), and condenser(s). Central air conditioners provide the function of air-cooling, and may include the functions of air-circulation, air-cleaning, dehumidifying or humidifying.

Geothermal Heat Pump: A geothermal heat pump (GHP) uses the thermal energy of the ground or groundwater to provide residential space conditioning and/or domestic water heating. A geothermal heat pump model normally consists of one or more factory-made assemblies that include indoor conditioning and/or domestic water heat exchanger(s), compressors, and a ground-side heat exchanger. A GHP model may provide space heating, space cooling, domestic water heating, or a combination of these functions and may also include the functions of liquid circulation, thermal storage, air circulation, air cleaning, dehumidifying or humidifying. A GHP system generally consists of one or more GHP models, the ground heat exchanger(s), the air and/or hydronic space conditioning distribution system(s), temperature controls, and thermal storage tanks.

Excluded products. The following products are not eligible for Most Efficient recognition in 2013:

- Units that run on three-phase power.
- Central Air Conditioner or Air-Source Heat Pump models rated for more than 65,000 Btu/hr of cooling. This limit does not apply to GHPs.
- Mini-splits, multi-splits and split ductless systems are eligible for Most Efficient in 2013, with different requirements.

Recognition Criteria

1) Product must be ENERGY STAR qualified consistent with applicable ENERGY STAR Partner Commitments and the requirements set forth in the ENERGY STAR Program Requirements Product Specifications for Central Air Conditioners/Air-Source Heat Pumps and Geothermal Heat Pumps Version 4.1 and Version 3.1, respectively. Product performance must be certified by an EPA-recognized certification body.

2) Products must meet the following cooling and heating performance levels:

Product type	SEER	EER	HSPF	COP
Split AC	18	12.5		
Split HP	18	12.5	9.6	
Packaged AC	16	12.0		
Packaged HP	16	12.0	8.0	
Closed Loop Water-to-Air GHP		17.1		3.6
Open Loop Water-to-Air GHP		21.1		4.1
Closed Loop Water-to-Water GHP		16.1		3.1
Open Loop Water-to-Water GHP		20.1		3.5
DGX		16.0		3.6

3) Central AC, ASHPs, and ground source heat pumps must have communications, system status and automated configuration capability as defined below.

System controller: A thermostat or other control device with a user interface, which can be located in conditioned space. It is strongly recommended, but not required, that the controller have access to outside temperature data and that it translate all diagnostic and service messages into plain text.

Communications: Units shall be able to participate in two-way communications with at least one system controller model that is available for sale.

System status: Units shall be able to transmit any fault codes that indicate a need for technician service to at least one system controller model that is available for sale. With this information, the control device is able to advise homeowners to call their service personnel.

Automated configuration: Units shall be able to send and receive information to at least one system controller model that is available for sale to automatically configure settings appropriate to the controlled equipment, such as airflow for heating and cooling. This may include prompting an installer through configuration of HVAC system settings and desired comfort settings, and a test sequence at turn-on.

Recognition Period

Upon review and approval of applications received from ENERGY STAR Partners, EPA will add qualifying models to the 2013 Most Efficient product list for central air conditioners and heat pumps from January 1, 2013 through December 30, 2013. The 2013 Most Efficient designation may be used in association with models recognized during this period for as long as the model remains on the market.