

**ENERGY STAR® 2019-2020 Emerging Technology Award Requirements:  
Air-to-Water Heat Pumps<sup>1</sup>**

<b>Performance Metric</b>	<b>Criteria</b>	<b>Test Method/Required Documentation</b>
<b>Air-to-Water Heat Pump Performance</b>		
Energy Efficiency Requirements	Heating Coefficient of Performance (COP <sub>H</sub> ) shall be ≥ 1.7 at full load capacity and the following conditions: <ul style="list-style-type: none"> <li>• Dry bulb air temperature of 5°F</li> <li>• Leaving water temperature of 110°F</li> </ul> COP <sub>H</sub> and capacity (in BTUs) will be reported	AHRI Standard 550/590 2018 Standard for Performance Rating of Water-chilling and Heat Pump Water-heating Packages Using the Vapor Compression Cycle
Reporting Requirements	COP <sub>H</sub> and capacity (in BTUs) at air temperature of 47°F dry bulb, 43°F wet bulb, and a leaving water temperature of 105°F	
	COP <sub>H</sub> and capacity (in BTUs) at air temperature of 17°F dry bulb, 15°F wet bulb, and a leaving water temperature of 105°F	
	OR	
	COP <sub>H</sub> and capacity (in BTUs) at air temperature of 14°F dry bulb, 12°F wet bulb, and a leaving water temperature of 105°F	
	Integrated Part-Load Value (IPLV) to be reported if the heat pump is capable of providing space cooling	
	Refrigerant type used	
	Energy measurements must be performed at an ISO/IEC 17025 accredited lab <sup>2</sup>	
Warranty Minimum	One year on compressor and all other parts	Copy of warranty agreement
Certification	Must meet all applicable U.S. electrical safety requirements	Copy of case files
<b>Additional Company Requirements</b>		
Product Commercial Status	This Award is only granted to products that are available for sale in the U.S. Products must meet one of the following criteria: 1) available for sale at multiple supplier locations, or 2) have commercial orders pending and firm plans to sell products to customers within 3 months of the Award application date.	

<sup>1</sup> Air-to-Water Heat Pumps must meet the following description to be eligible:

- Must be an air source heat pump,
- Has refrigerant to water or water/glycol heat exchange, and
- Provides space heating (and potentially also provides space cooling and domestic hot water)

<sup>2</sup> [ENERGY STAR Partner Resources Third Party Certification Laboratory Resources Webpage](#)