

ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2020 Summary

This is the 19th year in which EPA has collected unit shipment data for the ENERGY STAR Program from program partners and/or their representative associations and used it to project the market penetration of ENERGY STAR certified products.

Data:

For 2020, data was collected for the following ENERGY STAR certified products:

- Audio/Video Products
- Boilers
- Ceiling Fans
- Central Air Conditioners and Air-Source Heat Pumps
- Clothes Dryers
- Clothes Washers
- Commercial Boilers
- Commercial Coffee Brewers
- Commercial Dishwashers
- Commercial Fryers
- Commercial Griddles
- Commercial Hot Food Holding Cabinets
- Commercial Ice Makers
- Commercial Ovens
- Commercial Refrigerators and Freezers
- Commercial Steam Cookers
- Commercial Water Heaters
- Computers
- Computer Servers
- Connected Thermostats
- Data Center Storage
- Decorative Light Strings
- Dehumidifiers
- Dishwashers
- Displays
- Electric Vehicle Supply Equipment
- Freezers
- Furnaces
- Geothermal Heat Pumps
- Imaging Equipment
- Laboratory Grade Refrigerators and Freezers
- Lamps
- Light Commercial HVAC
- Luminaires
- Pool Pumps
- Refrigerators
- Room Air Cleaners
- Room Air Conditioners
- Storm Windows
- Telephony
- Televisions
- Uninterruptible Power Supplies
- Vending Machines
- Ventilating Fans
- Water Coolers
- Water Heaters

Methodology:

ENERGY STAR market penetrations for a given year are derived by dividing U.S. ENERGY STAR certified product shipments by total U.S. shipments.

U.S. ENERGY STAR Shipment Data

ENERGY STAR shipment data is collected from program partners for each calendar year. EPA uses this data as the representative value of all ENERGY STAR certified product shipments for the respective year; that is, no adjustments are made to the totals to account for partners that fail to report their shipments. Using the reported data represents a conservative approach. Though this method may underestimate ENERGY STAR market penetration, the data are reliable and the method is easily replicated. Further, response rates for all collected product categories average approximately 85%. Since many non-responsive partners are no longer shipping ENERGY STAR products, the shipments reported approximate actual ENERGY STAR certified product shipments.

Total U.S. Shipment Data

Total U.S. shipments are based on modeled and documented data. Industry data is used as a direct input whenever available and compared to forecast assumptions to ensure data comparability. Industry sources include trade associations, publications, and commercially-available market research.

Response Rates:
Percent of Partners that Submitted CY2020 Unit Shipment Data:

Product Category	Response Rate	Number of Partners Required to Respond
Audio/Video	87%	23
Boilers	100%	40
Ceiling Fans	100%	20
Central ACs and Air-source Heat Pumps	88%	64
Clothes Washers	100%	19
Commercial Boilers	100%	13
Commercial Coffee Brewers	100%	3
Commercial Dishwashers	100%	19
Commercial Fryers	100%	10
Commercial Griddles	75%	8
Commercial Hot Food Holding Cabinets	100%	8
Commercial Ice Machines	100%	18
Commercial Ovens	90%	30
Commercial Refrigerators and Freezers	87%	46
Commercial Steam Cookers	89%	9
Commercial Water Heaters	100%	12
Computers	85%	66
Connected Thermostats	94%	17
Data Center Storage	92%	13
Decorative Light Strings	78%	41
Dehumidifiers	94%	54
Displays	84%	67
Electrical Vehicle Supply Equipment	88%	17
Enterprise Servers	100%	13
Furnaces	100%	23
Geothermal Heat Pumps	92%	26
Imaging Equipment	98%	56
Laboratory Grade Refrigerators and Freezers	95%	19
Lamps	75%	210
Light Commercial HVAC	100%	3
Luminaires	73%	510
Pool Pumps	94%	18
Refrigerated Beverage Vending Machines	83%	6
Refrigerators and/or Freezers	92%	105
Residential Clothes Dryers	100%	14
Residential Dishwashers	98%	43
Residential Storm Windows	67%	3
Residential Water Heaters	97%	35
Room Air Cleaners	87%	60
Room Air Conditioners	92%	52
Telephones	100%	6
Televisions	94%	16
Uninterruptible Power Supplies	82%	17
Ventilating Fans	93%	45
Water Coolers	72%	32
Total	85%	1929

Results:

The goal of the ENERGY STAR program is to reduce greenhouse gas and other emissions associated with avoidable energy consumption by transforming the market for energy-efficient products, buildings and services, so that more energy-efficient options become the norm and persist in the marketplace. As this occurs, EPA looks for additional opportunities to improve efficiency by tightening energy and environmental performance criteria for a given product or service, and revising specifications accordingly.

The below estimates of market penetration for calendar year 2020 provide a key indicator of whether the market is being transformed for a given product, and are used to inform the [specification revision process and the annual ENERGY STAR Product Development Workplan](#). For most products with high market share, new criteria have already been established or are currently being developed.

ENERGY STAR CY2020 Certified Units Shipped, Corresponding Estimated Market Penetration, and Relevant Specification Updates:

Product Category ¹	2020 Units Shipped (thousand units)	2020 Estimated Market Penetration ²	Recent and Upcoming Specification Revisions (Version - Effective Date)
Audio/Video Products			Revision In Process/Planned
<i>Blu-ray Players</i>	2,021	70%	
<i>DVD Players</i>	705	58%	
<i>Soundbars</i>	1,141	12%	
Boilers	182	59%	
<i>Residential Gas Boilers</i>	150	57%	
<i>Residential Oil Boilers</i>	32	77%	
Ceiling Fans	609	3%	
<i>Ceiling Fan - Fan Only</i>	230	10%	
<i>Ceiling Fan - With Light Kit</i>	379	2%	
<i>Ceiling Fan - Light Kit Only</i>	203	9%	
CAC/ASHP	3,087	33%	Version 6.0 - January 1, 2023
<i>CAC</i>	1,717	29%	
<i>ASHP</i>	1,370	40%	
Clothes Dryers	3,143	39%	Revision In Process/Planned
<i>Clothes Dryers - Electric</i>	2,475	37%	
<i>Clothes Dryers - Gas</i>	668	47%	
Clothes Washers	5,447	55%	
<i>Residential Use</i>	5,395	55%	
<i>Commercial Use</i>	52	N/A	
Commercial Boilers	10	18%	
Commercial Coffee Brewers	23	24%	

¹ The number of ENERGY STAR certified products shipped and market penetrations are provided for select, notable subcategories of products.

² For product categories where 2020 Market Penetration reads "N/A", market penetration was unable to be calculated due to a lack of current market data.

Product Category ¹	2020 Units Shipped (thousand units)	2020 Estimated Market Penetration ²	Recent and Upcoming Specification Revisions (Version - Effective Date)
Commercial Dishwashers	37	63%	Version 3.0 - July 21, 2021
Commercial Fryers	24	25%	
Commercial Griddles	2	18%	
Commercial Hot Food Holding Cabinets	7	15%	
Commercial Ice Makers	59	23%	
Commercial Ovens	35	54%	Revision In Process/Planned
Commercial Refrigerators & Freezers	472	48%	Revision In Process/Planned
Commercial Steam Cookers	4	46%	
Commercial Water Heaters - Gas	41	51%	
Computers	100,037	80%	
<i>Desktop</i>	6,813	52%	Version 8.0 - October 15, 2020
<i>Notebooks</i>	60,706	89%	
<i>Tablets</i>	32,142	76%	
<i>Thin Clients</i>	1,067	N/A	
<i>Workstations</i>	377	33%	
Computer Servers	1,176	25%	
Connected Thermostats	3,929	58%	Revision In Process/Planned
Data Center Storage	42	N/A	Version 2.0 - March 15, 2021
Decorative Light Strings	36,074	23%	
Dehumidifiers	2,403	88%	
Dishwashers ³	8,172	100%	Revision In Process/Planned
Displays	21,242	N/A ⁴	Version 8.0 - January 28, 2020
<i>LCD Monitors</i>	20,783	N/A ⁴	
<i>Signage Display</i>	458	N/A ⁴	
Electric Vehicle Supply Equipment	62	20%	
Freezers ⁵	807	27%	
Furnaces	1,347	40%	
<i>Residential Gas Furnaces</i>	1,340	40%	
<i>Residential Oil Furnaces</i>	8	21%	
Geothermal Heat Pumps	26	N/A	
Imaging Equipment			
<i>Multi-function Devices and Printers</i>	20,238	N/A ⁴	
Laboratory Grade Refrigerators and Freezers	49	N/A	

³ Market penetration for dishwashers includes compact products.

⁴ Market penetration is not available due to indications of dramatic changes in the market in 2020 that are inconsistent with previous market trends.

⁵ Market penetration for freezers includes compact products.

Product Category ¹	2020 Units Shipped (thousand units)	2020 Estimated Market Penetration ²	Recent and Upcoming Specification Revisions (Version - Effective Date)
Lamps ⁶	389,020	20%	
<i>Compact Fluorescent Lamps (CFL)</i> ⁷	42	0%	
<i>LED Lamps</i>	388,978	46%	
Light Commercial HVAC	27	10%	Revision In Process/Planned
Luminaires ⁸	76,139	31%	
<i>Indoor</i>	73,046	38%	
<i>Outdoor</i>	3,093	10%	
<i>Solid State Retrofit Kits</i>	40,388	N/A	
Pool Pumps	432	31%	Version 3.0 – July 19, 2021
Refrigerators ⁹	6,267	55%	
Room Air Cleaners	6,481	N/A ⁴	Version 2.0 - October 17, 2020
Room Air Conditioners	3,260	54%	Revision In Process/Planned
Storm Windows	135	7%	
Telephony	7,084	43%	
<i>Analog</i> ¹⁰	3,803	50%	
<i>VOIP</i>	3,281	38%	
Televisions	1,937	4%	
<i>LCD</i>	1,937	4%	
<i>LCD less than 40 inches</i>	987	11%	
<i>LCD greater than 40 inches</i>	950	3%	
<i>OLED</i>	0	0%	
Uninterruptible Power Supplies	3,565	72%	
Vending Machines	16	22%	Version 4.0 - April 29, 2020
Ventilating Fans ¹¹	5,448	N/A	
Water Coolers	1,944	58%	Version 3.0 - March 23, 2022
Water Heaters	978	N/A	
<i>Gas Storage</i>	303	7%	
<i>Gas Tankless</i>	565	N/A	
<i>Heat Pump</i>	104	2%	
<i>Solar</i>	5	N/A	
Windows, Doors and Skylights ¹²	54,533	84%	Revision In Process/Planned

⁶ This includes ENERGY STAR certified lamps as a percentage of all lamps, including fluorescent, incandescent, halogen and solid state.

⁷ CFL shipments do not include pin-based lamps.

⁸ Shipments and market penetration for luminaires and indoor luminaires do not include solid state lighting retrofit kits or ceiling fan light kits

⁹ Market penetration for refrigerators does not include compact products.

¹⁰ Shipments and market penetration for telephony include corded and cordless analog telephones but do not include additional handsets.

¹¹ Shipments for ventilating fans do not include in-line ventilating fans.

¹² Shipment data and market penetration for windows, doors, and skylights is determined by Ducker Worldwide, LLC through a separate process.