

ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2019 Summary

This is the 18th 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 2019, 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 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
- Set-top Boxes
- Small Network Equipment
- 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 81%. 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 CY2019 Unit Shipment Data:

Product Category	Response Rate	Number of Partners Required to Respond
Audio/Video	74%	27
Boilers	93%	40
Ceiling Fans	100%	15
Central ACs and Air-source Heat Pumps	89%	45
Clothes Dryers	100%	11
Clothes Washers	100%	18
Commercial Boilers	100%	10
Commercial Dishwashers	100%	19
Commercial Fryers	100%	8
Commercial Griddles	100%	9
Commercial Hot Food Holding Cabinets	89%	9
Commercial Ice Machines	93%	14
Commercial Ovens	92%	26
Commercial Refrigerators and Freezers	91%	44
Commercial Steam Cookers	100%	8
Commercial Water Heaters	100%	12
Computers	82%	55
Connected Thermostats	100%	14
Data Center Storage	93%	14
Decorative Light Strings	66%	44
Dehumidifiers	91%	66
Dishwashers	90%	40
Displays	77%	62
Electrical Vehicle Supply Equipment	92%	12
Enterprise Servers	78%	23
Furnaces	100%	21
Geothermal Heat Pumps	92%	25
Imaging Equipment	84%	76
Laboratory Grade Refrigerators and Freezers	87%	15
Lamps	73%	239
Light Commercial HVAC	100%	3
Luminaires	69%	522
Pool Pumps	100%	16
Refrigerators and/or Freezers	86%	95
Room Air Cleaners	82%	56
Room Air Conditioners	96%	49
Set-top Boxes	83%	6
Small Network Equipment	100%	2
Storm Windows	100%	3
Telephones	100%	6
Televisions	91%	11
Uninterruptible Power Supplies	88%	17
Vending Machines	100%	5
Ventilating Fans	93%	42
Water Coolers	86%	28
Water Heaters	90%	30
Total	81%	1912

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 2019 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 CY2019 Certified Units Shipped, Corresponding Estimated Market Penetration, and Relevant Specification Updates:

Product Category ¹	2019 Units Shipped (thousand units)	2019 Estimated Market Penetration ²	Recent and Upcoming Specification Revisions (Version - Effective Date)
Audio/Video Products			Revision In Process/Planned
<i>Blu-ray Players</i>	2,399	69%	
<i>DVD Players</i>	901	38%	
<i>Soundbars</i>	1,933	19%	
Boilers	179	59%	
<i>Residential Gas Boilers</i>	147	56%	
<i>Residential Oil Boilers</i>	32	72%	
Ceiling Fans			
<i>Ceiling Fan - Fan Only</i>	113	5%	
<i>Ceiling Fan - With Light Kit</i>	259	1%	
<i>Ceiling Fan - Light Kit Only</i>	219	9%	
CAC/ASHP	3,461	41%	Revision In Process/Planned
<i>CAC</i>	1,830	30%	
<i>ASHP</i>	1,631	59%	
Clothes Dryers	2,927	38%	
<i>Clothes Dryers - Electric</i>	2,292	36%	
<i>Clothes Dryers - Gas</i>	635	45%	
Clothes Washers	4,917	50%	
<i>Residential Use</i>	4,850	50%	
<i>Commercial Use</i>	67	34%	
Commercial Boilers	11	22%	
Commercial Dishwashers	51	59%	Version 3.0 - May 24, 2021
Commercial Fryers	25	21%	

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 2019 Market Penetration reads "N/A", market penetration was unable to be calculated due to a lack of market data.

Commercial Griddles	3	19%	
Commercial Hot Food Holding Cabinets	9	13%	
Commercial Ice Makers	71	23%	
Commercial Ovens	44	51%	Revision In Process/Planned
Commercial Refrigerators & Freezers	438	46%	
Commercial Steam Cookers	6	41%	
Commercial Water Heaters - Gas	42	47%	
Computers ³	84,292	77%	Version 8.0 - October 15, 2020
<i>Desktop</i>	13,435	80%	
<i>Notebooks</i>	43,440	82%	
<i>Tablets</i>	27,062	68%	
<i>Thin Clients</i>	1,634	N/A	
<i>Workstations</i>	355	33%	
Computer Servers	1,228	27%	Version 3.0 - June 17, 2019
Connected Thermostats ^{4,5}	3,813	61%	
Data Center Storage	47	N/A	Version 2.0 - March 15, 2021
Decorative Light Strings	36,612	24%	
Dehumidifiers	2,376	80%	Version 5.0 - October 31, 2019
Dishwashers ⁶	7,360	91%	Revision In Process/Planned
Displays	20,747	86%	Version 8.0 - January 28, 2020
<i>LCD Monitors</i>	20,151	86%	
<i>Signage Display</i>	596	99%	
Electric Vehicle Supply Equipment ⁷	69	20%	Revision In Process/Planned
Freezers ⁸	454	30%	
Furnaces	1,050	30%	
<i>Residential Gas Furnaces</i>	1,041	30%	
<i>Residential Oil Furnaces</i>	9	22%	
Geothermal Heat Pumps	29	N/A	
Imaging Equipment			Version 3.0 - October 11, 2019
<i>Multi-function Devices and Printers</i>	21,332	90%	
Laboratory Grade Refrigerators and Freezers	45	N/A	
Lamps ⁹	361,255	34%	
<i>Compact Fluorescent Lamps (CFL)¹⁰</i>	321	1%	
<i>LED Lamps</i>	360,934	48%	
Light Commercial HVAC	46	18%	

³ Shipments and market penetration for computers do not include thin clients.

⁴ Market penetration for connected thermostats is a percentage of smart thermostat shipments, not including other programmable thermostats.

⁵ Shipments were corrected based on updated information from partners.

⁶ Market penetration for dishwashers includes compact products.

⁷ Market penetration for electric vehicle supply equipment was updated based on more recent market information.

⁸ Market penetration for freezers includes compact products.

⁹ This includes ENERGY STAR certified lamps as a percentage of all lamps, including fluorescent, incandescent, halogen and solid state.

¹⁰ CFL shipments do not include pin-based lamps.

Luminaires ¹¹	80,938	34%	
<i>Indoor</i>	77,230	45%	
<i>Outdoor</i> ⁵	3,708	11%	
<i>Solid State Retrofit Kits</i>	45,136	N/A	
Pool Pumps	332	25%	Version 2.0 - January 2, 2019
Refrigerators ¹²	4,761	43%	
Room Air Cleaners	2,224	43%	Version 2.0 - October 17, 2020
Room Air Conditioners	3,041	50%	
Set-top Boxes ¹³	4,482	9%	Revision In Process/Planned
Small Network Equipment	0	0%	Revision In Process/Planned
Storm Windows	156	8%	
Telephony	4,869	31%	Revision In Process/Planned
<i>Analog</i> ¹⁴	3,631	43%	
<i>VOIP</i>	1,237	15%	
Televisions	3,416	9%	Version 8.0 - March 1, 2019
<i>LCD</i>	3,416	9%	
<i>LCD less than 40 inches</i>	1,115	11%	
<i>LCD greater than 40 inches</i>	2,301	8%	
<i>OLED</i>	0	0%	
Uninterruptible Power Supplies	2,898	58%	Version 2.0 - January 1, 2019
Vending Machines	29	40%	Version 4.0 - April 29, 2020
Ventilating Fans ¹⁵	6,130	N/A	
Water Coolers	1,614	51%	Revision In Process/Planned
Water Heaters	859	N/A	
<i>Gas Storage</i>	283	6%	
<i>Gas Tankless</i>	491	N/A	
<i>Heat Pump</i>	84	2%	
<i>Solar</i>	2	N/A	
Windows, Doors and Skylights ¹⁶	54,127	84%	

¹¹ Shipments and market penetration for luminaires and indoor luminaires do not include solid state lighting retrofit kits or ceiling fan light kits.

¹² Market penetration for refrigerators does not include compact products.

¹³ Includes shipments to consumers, retailers, and set-top box service providers including both ENERGY STAR partners and non-partners.

¹⁴ Shipments and market penetration for telephony include corded and cordless analog telephones but do not include additional handsets.

¹⁵ Shipments for ventilating fans do not include in-line ventilating fans.

¹⁶ Shipment data and market penetration for windows, doors, and skylights is determined by Ducker Worldwide, LLC through a separate process.