ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2023 Summary

This is the 22nd 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 2023, 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
- Connected Thermostats
- Coolers
- Data Center Storage
- Decorative Light Strings
- Dehumidifiers
- Dishwashers
- Displays
- Electric Vehicle Supply Equipment

- Enterprise Servers
- Freezers
- Furnaces
- Geothermal Heat Pumps
- Imaging Equipment
- Laboratory Grade Refrigerators and Freezers
- Pool Pumps
- Refrigerators
- Room Air Cleaners
- Room Air Conditioners
- Storm Windows
- Telephony
- Televisions
- Uninterruptible Power Supplies
- Vending Machines
- Ventilating Fans
- Water Coolers
- Water Heaters
- Windows, Doors, Skylights

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 represent a conservative approach. Though this method may underestimate ENERGY STAR market penetration, the data is reliable, and the method is easily replicated. Further, response rates for all collected product categories average approximately 86%. 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 CY2023 Unit Shipment Data:

Product Category	Response Rate	Number of Partners Required to Respond
Audio/Video	96%	27
Boilers	100%	40
Ceiling Fans	82%	34
Central ACs and Air-source Heat Pumps	89%	79
Clothes Washers	94%	35
Commercial Boilers	100%	18
Commercial Coffee Brewers	100%	3
Commercial Dishwashers	100%	15
Commercial Fryers	100%	14
Commercial Griddles	86%	7
Commercial Hot Food Holding Cabinets	100%	10
Commercial Ice Machines	87%	23
Commercial Ovens	94%	31
Commercial Refrigerators and Freezers	85%	54
Commercial Steam Cookers	100%	9
Commercial Water Heaters	100%	14
Computers	81%	84
Connected Thermostats	87%	23
Data Center Storage	100%	11
Decorative Light Strings	51%	41
Dehumidifiers	81%	83
Displays	79%	107
Electrical Vehicle Supply Equipment	89%	105
Enterprise Servers	100%	20
Furnaces	96%	23
Geothermal Heat Pumps	92%	26
Imaging Equipment	88%	74
Laboratory Grade Refrigerators and Freezers	90%	30
Pool Pumps	87%	15
Refrigerated Beverage Vending Machines	75%	4
Refrigerators and/or Freezers	81%	131
Residential Clothes Dryers	88%	33
Residential Dishwashers	89%	63
Residential Storm Windows	100%	3
Residential Water Heaters	97%	36
Room Air Cleaners	79%	109
Room Air Conditioners	75%	64
Telephones	80%	10
Televisions	79%	14
Uninterruptible Power Supplies	84%	19
Ventilating Fans	88%	49
Water Coolers	95%	19
Windows, Doors, Skylights	92%	145
Total	**86%**	**1754**

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 2023 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 CY2023 Certified Units Shipped, Corresponding Estimated Market Penetration, and Relevant Specification Updates:

Product Category[1]	2023 Units Shipped (thousands unless otherwise stated)	2023 Estimated Market Penetration[2]	Specification Revisions Affecting Future Market Penetration (Version - Effective Date)
Audio/Video Products			
Blu-ray Players	699	42%	
DVD Players	522	56%	Revision in Process/Planned
Soundbars	331	2%	
Boilers	173	49%	
Residential Gas Boilers	151	53%	
Residential Oil Boilers	22	33%	
CAC/ASHP	1,845	23%	
CAC	365	8%	
ASHP	1,480	44%	
Ceiling Fans	843	4%	
Ceiling Fan - Fan Only	269	11%	
Ceiling Fan - With Light Kit	574	3%	
Clothes Dryers	3,809	42%	
Clothes Dryers - Electric	3,029	40%	Revision in Process/Planned
Clothes Dryers - Gas	780	54%	
Clothes Washers	6,529	N/A	Revision in Process/Planned
Residential Use	6,475	59%	

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[1] The number of ENERGY STAR certified products shipped and market penetrations are provided for select, notable subcategories of products. The totals and market penetrations for each main product category may be comprised of additional subcategories.

[2] For product categories where 2023 Market Penetration reads "N/A", market penetration was unable to be calculated due to a lack of current market data.

Product Category[1]	2023 Units Shipped (thousands unless otherwise stated)	2023 Estimated Market Penetration[2]	Specification Revisions Affecting Future Market Penetration (Version - Effective Date)
Commercial Use	54	N/A	Revision in Process/Planned
Commercial Boilers	13	22%	
Commercial Coffee Brewers	11	7%	
Commercial Dishwashers	39	53%	
Commercial Fryers	36	32%	
Commercial Griddles	5	21%	
Commercial Hot Food Holding Cabinets	8	15%	
Commercial Ice Makers	107	30%	
Commercial Ovens	46	53%	
Commercial Refrigerators & Freezers	501	50%	
Commercial Steam Cookers	9	65%	
Com Water Heaters	42	18%	
Com Water Heaters - Gas	41	48%	
Com Water Heaters - Electric	1	1%	
Computers	114,916	99%[3]	
Desktop	12,506	89%	
Notebooks	68,374	99%[4]	Revision in Process/Planned
Tablets	32,769	99%[4]	
Thin Clients	772	N/A	
Workstations	1,266	95%	
Connected Thermostats	4,260	48%	Revision in Process/Planned
Consumer Refrigeration	9,148	57%	
Refrigerators[5]	8,035	66%	
Freezers[6]	1,025	45%	
Coolers	88	6%	
Data Center Storage	47	N/A	
Decorative Light Strings	N/A[7]	N/A	
Dehumidifiers	2,343	94%	Version 6.0 – October 1, 2025
Dishwashers[8]	6,021	67%	Version 7.0 - July 19, 2023

[3] Market penetration for computers does not include thin clients.
[4] Market data for Tablets and Notebooks indicate values less than the ENERGY STAR shipments reported here. Market penetration rate has been adjusted to 99% to indicate complete market saturation.
[5] Market penetration for refrigerators does not include compact products.
[6] Market penetration for freezers includes compact products.
[7] Due to a low data submission rate, shipment data for decorative light strings is inaccurate.
[8] Market penetration for dishwashers includes compact products.

Product Category[1]	2023 Units Shipped (thousands unless otherwise stated)	2023 Estimated Market Penetration[2]	Specification Revisions Affecting Future Market Penetration (Version - Effective Date)
Displays	24,325	N/A	
LCD Monitors	23,520	80%	
Signage Display	805	N/A	
Electric Vehicle Supply Equipment	887	N/A	
AC	877	52%	
DC	10	N/A	
Enterprise Servers	617	8%	Version 4.0 - January 12, 2024
Furnaces	1,211	40%	
Residential Gas Furnaces	1,208	40%	
Residential Oil Furnaces	3	13%	
Geothermal Heat Pumps	29	40%[9]	
Imaging Equipment - Multi-function Devices and Printers	15,033	N/A	
Laboratory Grade Refrigerators and Freezers	54	N/A	
Light Commercial HVAC	N/A[10]	N/A	
Pool Pumps	474	31%	
Room Air Cleaners	7,046	89%	Revision in Process/Planned
Room Air Conditioners	2,486	49%	Version 5.0 - October 30, 2023
Storm Windows	14	1%	
Telephony	4,131	29%	
Analog[11]	1,300	29%	
VOIP	2,831	30%	
Televisions	561	1%	
Uninterruptible Power Supplies	3,336	N/A	
Vending Machines	18	26%	
Ventilating Fans[12]	6,843	N/A	
Water Coolers	1,176	33%	
Water Heaters	868	N/A	
Gas Storage	143	3%	Version 5.0 - April 18, 2023
Gas Tankless	528	N/A	
Heat Pump	190	4%	
Solar	6	N/A	

[9] Market share has changed significantly since published CY22 data due to new market data for Geothermal Heat Pumps.
[10] 2023 ENERGY STAR Unit Shipment Data was not collected for Light Commercial HVAC.
[11] Shipments and market penetration for telephony include corded and cordless analog telephones but do not include additional handsets.
[12] Shipments for ventilating fans do not include in-line ventilating fans.

Product Category[1]	2023 Units Shipped (thousands unless otherwise stated)	2023 Estimated Market Penetration[2]	Specification Revisions Affecting Future Market Penetration (Version - Effective Date)
Windows, Doors and Skylights	21,459	32%	Version 7.0 - October 23, 2023
Windows	16,281	31%	
Doors	4,623	34%	
Skylights	556	48%	