ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2017 Summary

This is the 16th 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 2017, data was collected for the following ENERGY STAR certified products:

- Audio/Video
- Boilers
- Central Air Conditioners and Air-Source Heat Pumps
- Ceiling Fans
- Clothes Dryers
- Clothes Washers
- Commercial Boilers
- Commercial Dishwashers
- Commercial Fryers
- Commercial Griddles
- Commercial Hot Food Holding Cabinet
- Commercial Ice Machines
- Commercial Ovens
- Commercial Refrigerators and Freezers
- Commercial Steam Cookers
- Commercial Water Heaters
- Computer Servers
- Computers
- Connected Thermostats
- Data Center Storage
- Decorative Light Strings
- Dehumidifiers
- Dishwashers

- Displays
- Furnaces
- Geothermal Heat Pumps
- Imaging Equipment
- Lamps
- Laboratory Grade Refrigerators and Freezers
- Light Commercial HVAC
- Luminaires
- Pool Pumps
- Refrigerators and Freezers
- Room Air Cleaners
- Room Air Conditioners
- Set-Top Boxes
- Set-Top Box Service Providers
- Small Network Equipment
- 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 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 CY2017 Unit Shipment Data:

Product Category	Response Rate	Number of Partners Required to Respond
Audio/Video Equipment	76%	29
Boilers	97%	39
Ceiling Fans	86%	42
Central ACs and Air Source Heat Pumps	88%	72
Clothes Dryers	100%	13
Clothes Washers	100%	16
Commercial Boilers	100%	8
Commercial Dishwashers	94%	18
Commercial Fryers	100%	9
Commercial Griddles	100%	9
Commercial Hot Food Holding Cabinets	100%	10
Commercial Ice Machines	89%	18
Commercial Ovens	96%	23
Commercial Refrigerators and Freezers[1]	91%	47
Commercial Steam Cookers	100%	8
Commercial Water Heaters	100%	13
Computers	72%	83
Computer Servers	83%	24
Connected Thermostats	100%	3
Data Center Storage	100%	13
Decorative Light Strings	74%	43
Dehumidifiers	93%	54
Dishwashers	90%	30
Displays	88%	42
Furnaces	100%	20
Geothermal Heat Pumps	100%	26
Imaging Equipment	91%	76
Lab Grade Refrigerators and Freezers	100%	6
Lamps[1]	82%	238
Light Commercial HVAC	100%	7
Luminaires	79%	477
Pool Pumps	93%	15
Refrigerators and Freezers	89%	79
Room Air Cleaners and Purifiers	89%	44
Room Air Conditioners	92%	38
Set-top Box Service Providers[1]	100%	2
Set-top Box Brand Owners[1]	80%	5
Small Network Equipment	100%	4
Telephony	67%	9
Televisions	88%	32
Uninterruptible Power Supplies	85%	20
Vending Machines	100%	6
Ventilating Fans	92%	38
Water Coolers	93%	27
Water Heaters	100%	28
Total	**86%**	**1863**

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[1] Response rates for products with specification revisions effective in the calendar year for which data was collected typically have lower response rates due to partners who have not yet certified models to the new specification version.

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 2017 provide a key indicator of whether the market is being transformed for a given product, and are used to inform the specification revision process. As noted in highlights, significant market penetration was anticipated for some product categories, and new criteria have already been established or are currently being developed.

ENERGY STAR CY2017 Certified Units Shipped, Corresponding Estimated Market Penetration, and Relevant Specification Updates:

Key and notes	
	New specification version effective in 2017 or 2018; market penetration under the new version is likely to be lower.
	New specification version effective in 2019 or later.

Product Category[2]	2017 Units Shipped (thousand units)	2017 Estimated Market Penetration[3]	Specification Revisions Affecting Future Market Penetration (Version - Effective Date)
Audio/Video Products			
Blu-ray Players	1,285	60%	Revision Planned 2019
DVD Players	2,765	57%	
Soundbars	132	16%	
Boilers	132	43%	
Residential Gas Boilers	114	45%	
Residential Oil Boilers	18	36%	
Ceiling Fans			
Ceiling Fan - Fan Only[4]	1,541	66%	Version 4.0 - June 15, 2018
Ceiling Fan - With Light Kit	496	3%	
Ceiling Fan - Light Kit Only	145	N/A	
CAC/ASHP	2,215	28%	
ASHP[5]	1,075	41%	
CAC	1,140	22%	
Clothes Dryers[6]	2,305	29%	

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

[3] For product categories where 2017 Market Penetration reads "N/A", market penetration was unable to be calculated due to a lack of market data.

[4] The market penetration for Ceiling Fans – Fan Only is substantially higher than previous years due to new market information indicating that Fan Only models comprise a smaller portion of the total market than previously assumed.

[5] As percent of heat pump market.

[6] Shipments and market share for gas and electric dryers modified January 30, 2020 based on revised shipment data.

Clothes Dryers - Electric	1,965	*31%*	
Clothes Dryers - Gas	340	*24%*	
Clothes Washers	4,636	46%	
Residential Use	*4,564*	*46%*	Version 8.0 - February 5, 2018
Commercial Use	*71*	*37%*	
Commercial Boilers	9	21%	
Commercial Dishwashers	51	67%	Revision Planned 2019
Commercial Fryers	24	27%	
Commercial Griddles	3	18%	
Commercial Hot Food Holding Cabinets	10	23%	
Commercial Ice Makers	125	63%	Version 3.0 - January 28, 2018
Commercial Ovens	42	59%	Revision Planned 2019
Commercial Refrigerators & Freezers	310	44%	Version 4.0 - March 27, 2017
Commercial Steam Cookers	7	N/A	
Commercial Water Heaters - Gas	50	53%	
Computers	76,338	65%	
Desktop	*8,699*	*52%*	Revision Planned 2019
Notebooks	*44,005*	*90%*	Version 7.0 - November 16, 2018
Tablets	*23,447*	*45%*	
Thin Clients	*852*	*N/A*	
Workstations	*187*	*21%*	
Computer Servers	334	9%	
Connected Thermostats	1,236	19%	
Data Center Storage	*54*	*N/A*	
Decorative Light Strings	42,960	25%	
Dehumidifiers	2,252	88%	Revision Planned 2019
Dishwashers[7]	7,325	91%	Revision Planned
Displays	19,205	92%	
LCD Monitors	*19,009*	*94%*	Revision Planned 2019
Signage Display	*197*	*29%*	
Freezers[8]	775	42%	
Furnaces	852	27%	
Residential Gas Furnaces	*845*	*27%*	
Residential Oil Furnaces	*7*	*19%*	
Geothermal Heat Pumps	20	N/A	
Imaging Equipment			
Multi-function Devices and Printers	21,755	99%	Revision Planned 2019
Laboratory Grade Refrigerators and Freezers	6	N/A	
Lamps[9]	384,897	21%	

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[7] Market penetration for dishwashers includes compact products.
[8] Market penetration for freezers includes compact products.
[9] This includes ENERGY STAR certified lamps as a percentage of all lamps, including incandescent, fluorescent, halogen and solid state.

Compact Fluorescent Lamps (CFL)[10]	*3,758*	*5%*	
LED Lamps	*381,138*	*70%*	
Light Commercial HVAC	66	13%	
Luminaires[11]	46,439	20%	
Indoor	*41,293*	*21%*	
Outdoor	*3,857*	*12%*	
Solid State Retrofit Kits	*39,255*	*N/A*	
Pool Pumps	320	43%	Version 2.0 - January 2, 2019
Refrigerators[12]	5,288	46%	
Room Air Cleaners	1,838	*39%*	
Room Air Conditioners	2,744	34%	
Set-top Boxes[13]	13,802	28%	Version 5.0 - January 1, 2017 (Thin Clients - January 1, 2018)
Cable	*202*	*1%*	
Satellite	*3,677*	*76%*	
Over the Top IP	*2,009*	*12%*	
MVPD IP	*35*	*1%*	
Thin Client/Remote	*7,879*	*92%*	
Small Network Equipment	319	0%	
Telephony	7,991	44%	Revision Planned 2019
Analog[14]	*5,741*	*51%*	
VOIP	*2,251*	*29%*	
Televisions	25,250	58%	Version 8.0 - March 1, 2019
Uninterruptible Power Supplies	3,135	65%	Version 2.0 - January 1, 2019
Vending Machines	41	17%	
Ventilating Fans[15]	4,372	N/A	
Water Coolers	1,596	67%	Revision Planned 2019
Water Heaters			
Gas Storage	*278*	*6%*	
Gas Tankless	*387*	*N/A*	
Heat Pump	*72*	*2%*	
Solar	*8*	*N/A*	
Windows, Doors and Skylights[16]			

[10] CFL shipments do not include pin-based lamps.

[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 and will be available at a later date.