



ENERGY STAR® Information to Assist Energy Efficiency Program Planning

June 2024

| Cross Cutting ENERGY STAR Tools & Resources | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------|-------|------|-------|------------------|-------|-------|------|-----------------------------|-------|-------|------|--------------|-------|-------|-------------------------------|-------|------|---------------------------|-------|------|-----------------------------|-------|------|
| <ul style="list-style-type: none"> Data Sets and APIs Emerging Technology Award ENERGY STAR Home Upgrade | <ul style="list-style-type: none"> ENERGY STAR Most Efficient 2024 Inclusive Utility Investment Marketing Materials Partner Resources Product Finder Product Specification Search | | | | | | | | | | | | | | | | | | | | | | | | |
| Heating & Cooling Equipment | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current Product Scope with Links to Consumer Resources | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Air-Source Heat Pumps Boilers* Central Air Conditioners** | <ul style="list-style-type: none"> Commercial Boilers Ductless Heating & Cooling Furnaces Geothermal Heat Pumps Light Commercial Heating & Cooling Smart Thermostats Ventilation Fans | | | | | | | | | | | | | | | | | | | | | | | | |
| Selected Product Highlights | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product | Key Highlights for Product Specification | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Source Heat Pumps (HPs) | <ul style="list-style-type: none"> Current Specification: V6.1. <p>Energy Efficiency Criteria: <i>Heat Pumps (non-Cold Climate designation):</i></p> <table border="1"> <thead> <tr> <th>Product Type</th> <th>SEER2</th> <th>EER2</th> <th>HSPF2</th> </tr> </thead> <tbody> <tr> <td>HP Split Systems</td> <td>≥15.2</td> <td>≥11.7</td> <td>≥7.8</td> </tr> <tr> <td>HP Single Package Equipment</td> <td>≥15.2</td> <td>≥10.6</td> <td>≥7.2</td> </tr> </tbody> </table> <p><i>Cold Climate Heat Pumps:</i></p> <table border="1"> <thead> <tr> <th>Product Type</th> <th>SEER2</th> <th>HSPF2</th> </tr> </thead> <tbody> <tr> <td>HP Split Systems (non-ducted)</td> <td>≥15.2</td> <td>≥8.5</td> </tr> <tr> <td>HP Split Systems (ducted)</td> <td>≥15.2</td> <td>≥8.1</td> </tr> <tr> <td>HP Single Package Equipment</td> <td>≥15.2</td> <td>≥8.1</td> </tr> </tbody> </table> <ul style="list-style-type: none"> V6.1 added cold climate distinction. <ul style="list-style-type: none"> A separate verification procedure was established for cold climate HPs. Added optional criteria for connectivity, aligned with AHRI 1380 connectivity standards, and added optional criteria for capabilities to aid in quality installation. | Product Type | SEER2 | EER2 | HSPF2 | HP Split Systems | ≥15.2 | ≥11.7 | ≥7.8 | HP Single Package Equipment | ≥15.2 | ≥10.6 | ≥7.2 | Product Type | SEER2 | HSPF2 | HP Split Systems (non-ducted) | ≥15.2 | ≥8.5 | HP Split Systems (ducted) | ≥15.2 | ≥8.1 | HP Single Package Equipment | ≥15.2 | ≥8.1 |
| Product Type | SEER2 | EER2 | HSPF2 | | | | | | | | | | | | | | | | | | | | | | |
| HP Split Systems | ≥15.2 | ≥11.7 | ≥7.8 | | | | | | | | | | | | | | | | | | | | | | |
| HP Single Package Equipment | ≥15.2 | ≥10.6 | ≥7.2 | | | | | | | | | | | | | | | | | | | | | | |
| Product Type | SEER2 | HSPF2 | | | | | | | | | | | | | | | | | | | | | | | |
| HP Split Systems (non-ducted) | ≥15.2 | ≥8.5 | | | | | | | | | | | | | | | | | | | | | | | |
| HP Split Systems (ducted) | ≥15.2 | ≥8.1 | | | | | | | | | | | | | | | | | | | | | | | |
| HP Single Package Equipment | ≥15.2 | ≥8.1 | | | | | | | | | | | | | | | | | | | | | | | |

*EPA has proposed sunsetting the ENERGY STAR Version 3.0 Specification for Boilers specification and launching a new specification to cover heat pump hydronic heating appliances, for which EPA and DOE will develop test methods.

**EPA has proposed removing Central Air Conditioners (CAC) from the ENERGY STAR V6.1 Specification for CAC and Heat Pump Equipment effective February 1, 2026.

| Product | Key Highlights for Product Specification | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|----------------------------|----------------------------|------|----------------------------|-------------|-----------------|---------------|--------------|----------|---------------|-------------|-----------------|---------------|--------------|------|----------------------------|-------------|---------------|--------------|-------------|---------------|
| Furnaces | <ul style="list-style-type: none"> Current Specification: V4.1. <p><u>Energy Efficiency Criteria:</u></p> <table border="1" data-bbox="488 411 1408 646"> <thead> <tr> <th>Product Type</th> <th>Regions</th> <th>AFUE</th> <th>Air Leakage (Q_{leak})</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Gas Furnace</td> <td>US North/Canada</td> <td>$\geq 95.0\%$</td> <td rowspan="3">$\leq 2.0\%$</td> </tr> <tr> <td>US South</td> <td>$\geq 90.0\%$</td> </tr> <tr> <td>Oil Furnace</td> <td>US (all)/Canada</td> <td>$\geq 85.0\%$</td> </tr> </tbody> </table> <p><u>Upcoming Specification Information:</u></p> <ul style="list-style-type: none"> V5.0 is currently in development. Proposed energy efficiency criteria as of June 2024: <table border="1" data-bbox="488 858 1408 1035"> <thead> <tr> <th>Product Type</th> <th>AFUE</th> <th>Air Leakage (Q_{leak})</th> </tr> </thead> <tbody> <tr> <td>Gas Furnace</td> <td>$\geq 97.0\%$</td> <td rowspan="2">$\leq 2.0\%$</td> </tr> <tr> <td>Oil Furnace</td> <td>$\geq 87.0\%$</td> </tr> </tbody> </table> | Product Type | Regions | AFUE | Air Leakage (Q_{leak}) | Gas Furnace | US North/Canada | $\geq 95.0\%$ | $\leq 2.0\%$ | US South | $\geq 90.0\%$ | Oil Furnace | US (all)/Canada | $\geq 85.0\%$ | Product Type | AFUE | Air Leakage (Q_{leak}) | Gas Furnace | $\geq 97.0\%$ | $\leq 2.0\%$ | Oil Furnace | $\geq 87.0\%$ |
| Product Type | Regions | AFUE | Air Leakage (Q_{leak}) | | | | | | | | | | | | | | | | | | | |
| Gas Furnace | US North/Canada | $\geq 95.0\%$ | $\leq 2.0\%$ | | | | | | | | | | | | | | | | | | | |
| | US South | $\geq 90.0\%$ | | | | | | | | | | | | | | | | | | | | |
| Oil Furnace | US (all)/Canada | $\geq 85.0\%$ | | | | | | | | | | | | | | | | | | | | |
| Product Type | AFUE | Air Leakage (Q_{leak}) | | | | | | | | | | | | | | | | | | | | |
| Gas Furnace | $\geq 97.0\%$ | $\leq 2.0\%$ | | | | | | | | | | | | | | | | | | | | |
| Oil Furnace | $\geq 87.0\%$ | | | | | | | | | | | | | | | | | | | | | |

| Water Heaters | |
|---|--|
| Current Product Scope with Links to Consumer Resources | |
| <ul style="list-style-type: none"> Commercial Water Heaters Gas Storage Water Heaters Heat Pump Water Heaters Solar Water Heaters Tankless Gas Water Heaters | |
| Selected Product Highlights | |
| Product | Key Highlights for Product Specification |

| <p>Heat Pump Water Heaters (HPWHs)</p> | <ul style="list-style-type: none"> Current Specification: V5.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1" data-bbox="492 354 1411 663"> <thead> <tr> <th>Product</th> <th>Uniform Energy Factor (UEF)</th> </tr> </thead> <tbody> <tr> <td>Integrated HPWH</td> <td>≥3.30</td> </tr> <tr> <td>Integrated HPWH, 120 Volt/15 Amp Circuit</td> <td>≥2.20</td> </tr> <tr> <td>Split-System HPWH</td> <td>≥2.20</td> </tr> </tbody> </table> <ul style="list-style-type: none"> While all residential water heaters fall under one specification, the recent specification update affected gas water heaters <i>only</i>. | Product | Uniform Energy Factor (UEF) | Integrated HPWH | ≥3.30 | Integrated HPWH, 120 Volt/15 Amp Circuit | ≥2.20 | Split-System HPWH | ≥2.20 | |
|---|---|---------------------|-----------------------------|---|---------------------------------|--|------------------------------------|-------------------|--------------------------|------------|
| Product | Uniform Energy Factor (UEF) | | | | | | | | | |
| Integrated HPWH | ≥3.30 | | | | | | | | | |
| Integrated HPWH, 120 Volt/15 Amp Circuit | ≥2.20 | | | | | | | | | |
| Split-System HPWH | ≥2.20 | | | | | | | | | |
| <p>Gas Water Heaters</p> | <ul style="list-style-type: none"> Current Specification: V5.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1" data-bbox="492 898 1411 1230"> <thead> <tr> <th>Product Type (Size)</th> <th>Uniform Energy Factor (UEF)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Storage (20 gallons < Tank Volume ≤ 55 gallons)</td> <td>Medium Draw Pattern: UEF ≥ 0.81</td> </tr> <tr> <td>High Draw Pattern: UEF ≥ 0.86</td> </tr> <tr> <td>Storage (Tank Volume > 55 gallons)</td> <td>UEF ≥ 0.86</td> </tr> <tr> <td>Instantaneous (Any size)</td> <td>UEF ≥ 0.95</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Adjusted the efficiency criteria for gas-fired water heaters to a high efficiency condensing-equivalent level. Removed EF as an option for certification, only uses UEF. While all residential water heaters fall under one specification, the recent specification update affected gas water heaters <i>only</i>. | Product Type (Size) | Uniform Energy Factor (UEF) | Storage (20 gallons < Tank Volume ≤ 55 gallons) | Medium Draw Pattern: UEF ≥ 0.81 | High Draw Pattern: UEF ≥ 0.86 | Storage (Tank Volume > 55 gallons) | UEF ≥ 0.86 | Instantaneous (Any size) | UEF ≥ 0.95 |
| Product Type (Size) | Uniform Energy Factor (UEF) | | | | | | | | | |
| Storage (20 gallons < Tank Volume ≤ 55 gallons) | Medium Draw Pattern: UEF ≥ 0.81 | | | | | | | | | |
| | High Draw Pattern: UEF ≥ 0.86 | | | | | | | | | |
| Storage (Tank Volume > 55 gallons) | UEF ≥ 0.86 | | | | | | | | | |
| Instantaneous (Any size) | UEF ≥ 0.95 | | | | | | | | | |

| Appliances | | |
|---|---|---|
| Current Product Scope with Links to Consumer Resources | | |
| <ul style="list-style-type: none"> Clothes Dryers Clothes Washers Commercial Clothes Washers | <ul style="list-style-type: none"> Dehumidifiers Dishwashers Freezers Refrigerators | <ul style="list-style-type: none"> Residential Electric Cooktops Room Air Conditioners Room Air Cleaners (Purifiers) |

| Selected Product Highlights | | | | | | | | | | | |
|-------------------------------|--|---------------------------------------|-----------------|--|---------------------------------------|----------------------|------------------|-------|---------------------|-------|-------|
| Product | Key Highlights for Product Specification | | | | | | | | | | |
| Dishwashers | <ul style="list-style-type: none"> Current Specification: V7.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1"> <thead> <tr> <th>Product</th> <th>Annual Energy Consumption (kWh per year)</th> <th>Water Consumption (Gallons per cycle)</th> </tr> </thead> <tbody> <tr> <td>Standard Dishwashers</td> <td>≤ 240</td> <td>≤ 3.2</td> </tr> <tr> <td>Compact Dishwashers</td> <td>≤ 155</td> <td>≤ 2.0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Added a cleaning performance threshold. | | Product | Annual Energy Consumption (kWh per year) | Water Consumption (Gallons per cycle) | Standard Dishwashers | ≤ 240 | ≤ 3.2 | Compact Dishwashers | ≤ 155 | ≤ 2.0 |
| Product | Annual Energy Consumption (kWh per year) | Water Consumption (Gallons per cycle) | | | | | | | | | |
| Standard Dishwashers | ≤ 240 | ≤ 3.2 | | | | | | | | | |
| Compact Dishwashers | ≤ 155 | ≤ 2.0 | | | | | | | | | |
| Room Air Conditioners | <ul style="list-style-type: none"> Current Specification: V5.0 (effective October 30, 2023). <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Minimum CEER requirement ranges from 11.7-14.7 depending on capacity and product class. Excludes packaged terminal air conditioners, portable air conditioners, and room AC models with electric resistance heat as the primary source. For room heat pumps covered under this specification, there is an ongoing effort to add heating mode performance criteria. A final draft test method has been proposed and will be followed by criteria development. | | | | | | | | | | |
| Room Air Cleaners (Purifiers) | <ul style="list-style-type: none"> Current Specification: V2.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1"> <thead> <tr> <th>Smoke CADR Bins</th> <th>Minimum Smoke CADR/Watt</th> </tr> </thead> <tbody> <tr> <td>30 ≤ CADR < 100</td> <td>1.9</td> </tr> <tr> <td>100 ≤ CADR < 150</td> <td>2.4</td> </tr> <tr> <td>CADR ≥ 150</td> <td>2.9</td> </tr> </tbody> </table> | | Smoke CADR Bins | Minimum Smoke CADR/Watt | 30 ≤ CADR < 100 | 1.9 | 100 ≤ CADR < 150 | 2.4 | CADR ≥ 150 | 2.9 | |
| Smoke CADR Bins | Minimum Smoke CADR/Watt | | | | | | | | | | |
| 30 ≤ CADR < 100 | 1.9 | | | | | | | | | | |
| 100 ≤ CADR < 150 | 2.4 | | | | | | | | | | |
| CADR ≥ 150 | 2.9 | | | | | | | | | | |
| Refrigerators and Freezers | <ul style="list-style-type: none"> Current Specification: V5.1. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Maximum annual energy consumptions are specified for each refrigerator and freezer product class, please see specification for equations. Product Finder tool includes capability to filter products by use of low-global warming potential (GWP) refrigerants. | | | | | | | | | | |

| <p>Clothes Washers</p> | <ul style="list-style-type: none"> • Current Specification: V8.1. <p><u>Energy Efficiency Criteria:</u></p> <table border="1"> <thead> <tr> <th>Product</th> <th>IMEF_{BASE}</th> <th>MEF J2_{BASE}</th> </tr> </thead> <tbody> <tr> <td>Front-loading residential clothes washers (> 2.5 cu ft)</td> <td>2.76</td> <td>N/A</td> </tr> <tr> <td>Top-loading residential clothes washers (> 2.5 cu ft)</td> <td>2.06</td> <td>N/A</td> </tr> <tr> <td>Residential clothes washers (>2.5 cu ft)</td> <td>2.07</td> <td>N/A</td> </tr> <tr> <td>Commercial clothes washers</td> <td>N/A</td> <td>2.20</td> </tr> </tbody> </table> | Product | IMEF _{BASE} | MEF J2 _{BASE} | Front-loading residential clothes washers (> 2.5 cu ft) | 2.76 | N/A | Top-loading residential clothes washers (> 2.5 cu ft) | 2.06 | N/A | Residential clothes washers (>2.5 cu ft) | 2.07 | N/A | Commercial clothes washers | N/A | 2.20 |
|---|--|------------------------|-------------------------------|------------------------|---|---|------|---|------|---|--|---|------|----------------------------|-----|------|
| Product | IMEF _{BASE} | MEF J2 _{BASE} | | | | | | | | | | | | | | |
| Front-loading residential clothes washers (> 2.5 cu ft) | 2.76 | N/A | | | | | | | | | | | | | | |
| Top-loading residential clothes washers (> 2.5 cu ft) | 2.06 | N/A | | | | | | | | | | | | | | |
| Residential clothes washers (>2.5 cu ft) | 2.07 | N/A | | | | | | | | | | | | | | |
| Commercial clothes washers | N/A | 2.20 | | | | | | | | | | | | | | |
| <p>Clothes Dryers</p> | <ul style="list-style-type: none"> • Current Specification: V1.1. • Combination all in one washer-dryers are eligible for certification under the clothes washer specification but must also meet dryer performance criteria other than run time requirements. <p><u>Energy Efficiency Criteria:</u></p> <table border="1"> <thead> <tr> <th>Product</th> <th>CEF_{BASE} (lbs/kWh)</th> </tr> </thead> <tbody> <tr> <td>Vented Gas</td> <td>3.48</td> </tr> <tr> <td>Vented or ventless electric, standard (≥ 4.4 cu-ft)</td> <td>3.93</td> </tr> <tr> <td>Vented or ventless electric, compact (120V) (< 4.4 cu-ft)</td> <td>3.80</td> </tr> <tr> <td>Vented electric, compact (240V) (< 4.4 cu-ft)</td> <td>3.45</td> </tr> <tr> <td>Ventless electric, compact (240V) (< 4.4 cu-ft)</td> <td>2.68</td> </tr> </tbody> </table> | Product | CEF _{BASE} (lbs/kWh) | Vented Gas | 3.48 | Vented or ventless electric, standard (≥ 4.4 cu-ft) | 3.93 | Vented or ventless electric, compact (120V) (< 4.4 cu-ft) | 3.80 | Vented electric, compact (240V) (< 4.4 cu-ft) | 3.45 | Ventless electric, compact (240V) (< 4.4 cu-ft) | 2.68 | | | |
| Product | CEF _{BASE} (lbs/kWh) | | | | | | | | | | | | | | | |
| Vented Gas | 3.48 | | | | | | | | | | | | | | | |
| Vented or ventless electric, standard (≥ 4.4 cu-ft) | 3.93 | | | | | | | | | | | | | | | |
| Vented or ventless electric, compact (120V) (< 4.4 cu-ft) | 3.80 | | | | | | | | | | | | | | | |
| Vented electric, compact (240V) (< 4.4 cu-ft) | 3.45 | | | | | | | | | | | | | | | |
| Ventless electric, compact (240V) (< 4.4 cu-ft) | 2.68 | | | | | | | | | | | | | | | |

| <p>Dehumidifiers</p> | <ul style="list-style-type: none"> • Current Specification: V5.0. <p><u>Energy Efficiency Criteria:</u></p> <p><i>Portable Dehumidifiers:</i></p> <table border="1"> <thead> <tr> <th>Product Capacity (Pints/Day)</th> <th>Integrated Energy Factor (L/kWh)</th> </tr> </thead> <tbody> <tr> <td>≤ 25.00</td> <td>≥1.57</td> </tr> <tr> <td>25.01 to 50.00</td> <td>≥1.80</td> </tr> <tr> <td>≥ 50.01</td> <td>≥3.30</td> </tr> </tbody> </table> <p><i>Whole-home Dehumidifiers:</i></p> <table border="1"> <thead> <tr> <th>Product Case Volume (ft³)</th> <th>Integrated Energy Factor (L/kWh)</th> </tr> </thead> <tbody> <tr> <td>≤ 8.0</td> <td>≥2.09</td> </tr> <tr> <td>>8/0</td> <td>≥3.30</td> </tr> </tbody> </table> <p><u>Upcoming Specification Information:</u></p> <ul style="list-style-type: none"> • V6.0 is currently in development. • Proposed energy efficiency criteria: <p><i>Portable Dehumidifiers:</i></p> <table border="1"> <thead> <tr> <th>Product Capacity (Pints/Day)</th> <th>Integrated Energy Factor (L/kWh)</th> </tr> </thead> <tbody> <tr> <td>≤ 25.00</td> <td>≥1.70</td> </tr> <tr> <td>25.01 to 50.00</td> <td>≥2.01</td> </tr> <tr> <td>≥ 50.01</td> <td>≥3.30</td> </tr> </tbody> </table> <p><i>Whole-home Dehumidifiers:</i></p> <table border="1"> <thead> <tr> <th>Product Case Volume (ft³)</th> <th>Integrated Energy Factor (L/kWh)</th> </tr> </thead> <tbody> <tr> <td>≤ 8.0</td> <td>≥2.22</td> </tr> <tr> <td>>8/0</td> <td>≥3.81</td> </tr> </tbody> </table> | Product Capacity (Pints/Day) | Integrated Energy Factor (L/kWh) | ≤ 25.00 | ≥1.57 | 25.01 to 50.00 | ≥1.80 | ≥ 50.01 | ≥3.30 | Product Case Volume (ft ³) | Integrated Energy Factor (L/kWh) | ≤ 8.0 | ≥2.09 | >8/0 | ≥3.30 | Product Capacity (Pints/Day) | Integrated Energy Factor (L/kWh) | ≤ 25.00 | ≥1.70 | 25.01 to 50.00 | ≥2.01 | ≥ 50.01 | ≥3.30 | Product Case Volume (ft ³) | Integrated Energy Factor (L/kWh) | ≤ 8.0 | ≥2.22 | >8/0 | ≥3.81 |
|---|--|------------------------------|----------------------------------|------------------------------|---|----------------|-------|------------------------------------|-------|--|----------------------------------|-------|-------|------|-------|------------------------------|----------------------------------|---------|-------|----------------|-------|---------|-------|--|----------------------------------|-------|-------|------|-------|
| Product Capacity (Pints/Day) | Integrated Energy Factor (L/kWh) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≤ 25.00 | ≥1.57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25.01 to 50.00 | ≥1.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≥ 50.01 | ≥3.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Case Volume (ft ³) | Integrated Energy Factor (L/kWh) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≤ 8.0 | ≥2.09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8/0 | ≥3.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Capacity (Pints/Day) | Integrated Energy Factor (L/kWh) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≤ 25.00 | ≥1.70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25.01 to 50.00 | ≥2.01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≥ 50.01 | ≥3.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Case Volume (ft ³) | Integrated Energy Factor (L/kWh) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ≤ 8.0 | ≥2.22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8/0 | ≥3.81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Electric Cooktops</p> | <ul style="list-style-type: none"> • Current Specification: V1.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1"> <thead> <tr> <th>Product</th> <th>IAEC (kWh/yr)</th> <th>E_{TLP, 0} (kWh/yr)</th> </tr> </thead> <tbody> <tr> <td>Standalone Conventional Electric Cooking Tops</td> <td>≤ 195</td> <td>N/A</td> </tr> <tr> <td>Combined Electric Cooking Products</td> <td>≤ 195</td> <td>≤ 7</td> </tr> </tbody> </table> | Product | IAEC (kWh/yr) | E _{TLP, 0} (kWh/yr) | Standalone Conventional Electric Cooking Tops | ≤ 195 | N/A | Combined Electric Cooking Products | ≤ 195 | ≤ 7 | | | | | | | | | | | | | | | | | | | |
| Product | IAEC (kWh/yr) | E _{TLP, 0} (kWh/yr) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standalone Conventional Electric Cooking Tops | ≤ 195 | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combined Electric Cooking Products | ≤ 195 | ≤ 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Lighting | |
|---|--|
| Current Product Scope with Links to Consumer Resources | |
| <ul style="list-style-type: none"> • Ceiling Fans • Downlights and Recessed Downlight Retrofit Kits • Luminaires (Light Fixtures) • Decorative Light Strings • Light Bulbs (Lamps) • Ventilating Fans | |
| Selected Product Highlights | |
| Product | Key Highlights for Product Specification |
| Light Bulbs | <ul style="list-style-type: none"> • Current Specification: 2.1. • The ENERGY STAR specification for Lamps will be sunset on December 31, 2024. • EPA recommends continued focus on downlights and recessed downlight retrofit kits and released the Downlights V1.0 specification on November 16, 2023, available here. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • 15,000-hour minimum lifetime. • Minimum efficacy (lm/W) requirement of 61 – 80 based on bulb type and color rendering index, please see specification for full information. |
| Luminaires and Downlights | <ul style="list-style-type: none"> • Current Specification: 2.2. • The ENERGY STAR specification for Luminaires will be sunset on December 31, 2024. • EPA recommends continued focus on downlights and recessed downlight retrofit kits and released the Downlights V1.0 specification on November 16, 2023, available here. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • 25,000-hour minimum lifetime. • Minimum efficacy requirement for downlights and downlight retrofit kits increased significantly from 55 to 82 lm/W. 25 percent of currently certified models meet the new requirement. |

| | |
|---|---|
| Ceiling Fans and Ventilating Fans | <ul style="list-style-type: none"> • Current Specifications: 4.1 and 4.2 (respectively). • On August 1, 2023, EPA issued amended versions of the Ceiling Fans and Ventilating Fans specifications with the lighting requirements removed, effective at issuance. <ul style="list-style-type: none"> ○ Fan performance criteria remains the same. ○ Performance of lighting components will no longer be evaluated. ○ Ceiling fan light kits sold separately from the fan are no longer be eligible for ENERGY STAR certification. |
|---|---|

| Commercial Food Service | | | | | | | | | | | | | | | | |
|--|--|------------------|--------------------------------------|------------------|-----------------------------------|-------|----------------|--|-------|-------------|------------------------------------|-------|-----------------|--|-------|---------------|
| Current Product Scope with Links to Buyer Resources | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Coffee Brewers • Dishwashers • Electric Cooktops • Fryers | <ul style="list-style-type: none"> • Griddles • Hot Food Holding Cabinets • Ice Makers | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Ovens • Refrigerators & Freezers • Steam Cookers | | | | | | | | | | | | | | | | |
| Selected Product Highlights | | | | | | | | | | | | | | | | |
| Product | Key Highlights for Product Specification | | | | | | | | | | | | | | | |
| Commercial Refrigerators & Freezers | <ul style="list-style-type: none"> • Current Specification: V5.0. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • Maximum Daily Energy Consumption (MDEC) requirements calculated using formulas based on product volume, equipment type, and operating mode. • Please see the specification for full details. | | | | | | | | | | | | | | | |
| Commercial Fryers | <ul style="list-style-type: none"> • Current Specification: V3.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Product</th> <th style="width: 25%;">Heavy-Load Cooking Energy Efficiency</th> <th style="width: 25%;">Idle Energy Rate</th> </tr> </thead> <tbody> <tr> <td>Standard Open Deep-Fat Gas Fryers</td> <td style="text-align: center;">> 50%</td> <td style="text-align: center;">< 9,000 Btu/hr</td> </tr> <tr> <td>Standard Open Deep-Fat Electric Fryers</td> <td style="text-align: center;">> 83%</td> <td style="text-align: center;">< 800 Watts</td> </tr> <tr> <td>Large Vat Open Deep-Fat Gas Fryers</td> <td style="text-align: center;">> 50%</td> <td style="text-align: center;">< 12,000 Btu/hr</td> </tr> <tr> <td>Large Vat Open Deep-Fat Electric Fryer</td> <td style="text-align: center;">> 80%</td> <td style="text-align: center;">< 1,100 Watts</td> </tr> </tbody> </table> | Product | Heavy-Load Cooking Energy Efficiency | Idle Energy Rate | Standard Open Deep-Fat Gas Fryers | > 50% | < 9,000 Btu/hr | Standard Open Deep-Fat Electric Fryers | > 83% | < 800 Watts | Large Vat Open Deep-Fat Gas Fryers | > 50% | < 12,000 Btu/hr | Large Vat Open Deep-Fat Electric Fryer | > 80% | < 1,100 Watts |
| Product | Heavy-Load Cooking Energy Efficiency | Idle Energy Rate | | | | | | | | | | | | | | |
| Standard Open Deep-Fat Gas Fryers | > 50% | < 9,000 Btu/hr | | | | | | | | | | | | | | |
| Standard Open Deep-Fat Electric Fryers | > 83% | < 800 Watts | | | | | | | | | | | | | | |
| Large Vat Open Deep-Fat Gas Fryers | > 50% | < 12,000 Btu/hr | | | | | | | | | | | | | | |
| Large Vat Open Deep-Fat Electric Fryer | > 80% | < 1,100 Watts | | | | | | | | | | | | | | |

| Commercial Dishwashers | <ul style="list-style-type: none"> Current Specification: V3.0. <p><u>Energy Efficiency and Water Consumption Criteria:</u></p> <ul style="list-style-type: none"> Idle Energy Rate, Washing Energy, and Water Consumption requirements based on machine type for low-, high-, and dual-temperature machines. Please see the specification for full details. | | | | | | | | | | |
|---|--|--------------------------|--|--------------------------------------|--|--------------|--------------|------------------|---------------------|-------------|---------------------|
| Commercial Hot Food Holding Cabinets (HFHC) | <ul style="list-style-type: none"> Current Specification: V2.0. <p><u>Energy Efficiency Criteria:</u></p> <table border="1" data-bbox="488 600 1406 865"> <thead> <tr> <th colspan="2">Maximum Idle Energy Rate</th> </tr> <tr> <th>Product Interior Volume (Cubic Feet)</th> <th>Product Idle Energy Consumption Rate (Watts)</th> </tr> </thead> <tbody> <tr> <td>$0 < V < 13$</td> <td>$\leq 21.5V$</td> </tr> <tr> <td>$13 \leq V < 28$</td> <td>$\leq 2.0V + 254.0$</td> </tr> <tr> <td>$28 \leq V$</td> <td>$\leq 3.8V + 203.5$</td> </tr> </tbody> </table> | Maximum Idle Energy Rate | | Product Interior Volume (Cubic Feet) | Product Idle Energy Consumption Rate (Watts) | $0 < V < 13$ | $\leq 21.5V$ | $13 \leq V < 28$ | $\leq 2.0V + 254.0$ | $28 \leq V$ | $\leq 3.8V + 203.5$ |
| Maximum Idle Energy Rate | | | | | | | | | | | |
| Product Interior Volume (Cubic Feet) | Product Idle Energy Consumption Rate (Watts) | | | | | | | | | | |
| $0 < V < 13$ | $\leq 21.5V$ | | | | | | | | | | |
| $13 \leq V < 28$ | $\leq 2.0V + 254.0$ | | | | | | | | | | |
| $28 \leq V$ | $\leq 3.8V + 203.5$ | | | | | | | | | | |
| Commercial Steam Cookers | <p>Current Specification: V1.2.</p> <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Heavy Load Cooking Efficiency requirement is 50% for electric and 38% for gas. Idle Rate requirement varies from 400-800 Watts for electric and from 6,250-12,500 Btu/h for gas, both depending on the pan capacity. Please see the specification for full details. | | | | | | | | | | |
| Commercial Ovens | <ul style="list-style-type: none"> Current Specification: V3.0. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Idle Rate, Cooking-Energy Efficiency, and Water Consumption (if applicable) requirements for convection, combination, and rack ovens are based on the product type, oven pan capacity, fuel type and operation mode. Please see the specification for full details. | | | | | | | | | | |
| Commercial Electric Cooktops | <ul style="list-style-type: none"> Current Specification: V1.0. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Cooking (Boil) Energy Efficiency $\geq 80\%$. | | | | | | | | | | |
| Automatic Commercial Ice Makers (ACIMs) | <ul style="list-style-type: none"> Current Specification: V3.0. <p><u>Energy Efficiency and Water Consumption Criteria:</u></p> <ul style="list-style-type: none"> Maximum Energy Use requirements calculated using formulas based on equipment type and ice harvest rate, as well as maximum potable water use. Please see the specification for full details. | | | | | | | | | | |

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|---------------------------|--|
| Commercial Griddles | <p>Current Specification: V1.2.</p> <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Normalized Idle Energy Rate requirement is < 2,650 Btu/h per ft² for single- and double-sided gas griddles and < 320 watts/ft² for single- and double-sided electric griddles. Please see the specification for full details. |
| Commercial Coffee Brewers | <ul style="list-style-type: none"> Current Specification: V1.1. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Normalized Ready-to-Brew Idle Energy Rate requirement is ≤ 65 watts/gal. Normalized Heavy-Use Brew Energy Rate requirement is ≤ 350 watt-hrs/gal. Please see the specification for full details. |

| Building Products | |
|--|---|
| Current Product Scope with Links to Consumer Resources | |
| <ul style="list-style-type: none"> Residential Windows, Doors & Skylights | <ul style="list-style-type: none"> Sealing and Insulation Storm Windows |
| Select Product Highlights | |
| Product | Key Highlights for Product Specification |
| Residential Windows, Doors, and Skylights | <ul style="list-style-type: none"> Current Specification: V7.0 (effective October 23, 2023). <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Varies by climate zone and product type. Please see the specification for full details. New specification provides a significant increase in efficiency across a wide range of types and styles of products. |
| Storm Windows | <ul style="list-style-type: none"> Current Specification: V1.0. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> Emissivity: ≤ 0.22 for all regions. Solar Transmission: > 0.55 (Northern), any (North-Central), ≤ 0.55 (South-Central and Southern). |

Other

Current Product Scope with Links to Consumer Resources

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> • Electric Vehicle Chargers • Laboratory Grade Refrigerators and Freezers | <ul style="list-style-type: none"> • Pool Pumps • Smart Home Energy Management Systems (SHEMS) | <ul style="list-style-type: none"> • Vending Machines • Water Coolers |
|--|--|---|

Selected Product Highlights

| Product | Key Highlights for Product Specification |
|---|--|
| Electric Vehicle Chargers (EVSE) | <ul style="list-style-type: none"> • Current Specification: V1.2. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • Covers level 1 and 2 EVSE, dual-input level 1 and 2 EVSE, and DC-output EVSE with output power ≤ 350 kW. • Optional connected criteria available. • Please see the specification for full details. |
| Laboratory Grade Refrigerators & Freezers | <ul style="list-style-type: none"> • Current Specification: V1.1. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • Maximum daily energy consumptions are specified for each refrigerator and freezer product class, please see specification for equations. <p><u>Upcoming Specification Information:</u></p> <ul style="list-style-type: none"> • V2.0 is currently in development. • Addresses additional product types. |
| Refrigerated Beverage Vending Machines | <ul style="list-style-type: none"> • Current Specification: V4.0. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • Maximum daily energy consumptions are specified for each refrigerated beverage vending machine product class. • Please see specification for equations. |

| | |
|---------------|---|
| Water Coolers | <ul style="list-style-type: none"> • Current Specification: V3.0. <p><u>Energy Efficiency Criteria:</u></p> <ul style="list-style-type: none"> • Maximum daily on-mode with no water draw energy consumptions are specified for each water cooler type, conditioning method, and capacity. • Please see specification for equations. |
|---------------|---|

| New Residential Construction | | |
|---|---|---|
| Current Program Scope with Links to Resources | | |
| <ul style="list-style-type: none"> • Manufactured Home | <ul style="list-style-type: none"> • Multifamily • NextGen | <ul style="list-style-type: none"> • Single Family |
| Selected Program Highlights | | |
| Product | Key Highlights for Product Specification | |
| NextGen Certified Homes | <ul style="list-style-type: none"> • ENERGY STAR NextGen is a new, optional new construction program that achieves operational emissions reductions of 40-80% through efficient electrification. • Technical criteria for certification is embedded in the National Rater Field Checklist: <ul style="list-style-type: none"> ○ Highly efficient ENERGY STAR construction. ○ Multi-stage ENERGY STAR certified connected heat pump. ○ ENERGY STAR certified connected heat pump water heater. ○ An electric cooktop and oven. ○ Electric vehicle charging capability. | |

Appendix

| Federal Efficiency Standards and ENERGY STAR Criteria for Small Appliances | | | | | | | | | |
|--|--------------------------|----------------------------------|---|--|---|------|---|------|------|
| Product Category | | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Room Air Cleaners/Purifiers | ENERGY STAR Spec Version | V2.0 | | V3.0 (Draft 1 anticipated Q2 2024) | | | | | |
| | DOE Standard | N/A | Current Standard | | | | | | |
| Dehumidifiers | ENERGY STAR Spec Version | V5.0 | | V6.0 (Draft 2 anticipated Q2 2024) | | | | | |
| | DOE Standard | N/A | | | | | New Standard (Under dvp't – anticipated 2028) | | |
| Room Air Conditioners | ENERGY STAR Spec Version | V4.2 | V5.0 (Final - effective 10/30/2023) | | | | | | |
| | DOE Standard | Current Standard | | | Updated Standard (Final - anticipated May 2026) | | | | |

| Federal Efficiency Standards and ENERGY STAR Criteria for Large Appliances | | | | | | | | | |
|--|--------------------------|----------------------------------|--|--|------|---|------|------|------|
| Product Category | | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Clothes Dryers | ENERGY STAR Spec Version | V1.1 | | V2.0 (Draft 1 anticipated Q2 2024) | | | | | |
| | DOE Standard | Current Standard | Updated Standard (Final – effective 7/10/2024) | | | | | | |
| Clothes Washers | ENERGY STAR Spec Version | V8.1 | | V9.0 (Draft 1 anticipated Q3 2024) | | | | | |
| | DOE Standard | Current Standard | Updated Standard (Final – effective 7/15/2024) | | | | | | |
| Dishwashers | ENERGY STAR Spec Version | V7.0 | | | | | | | |
| | DOE Standard | Current Standard | | | | Updated Standard (Final – effective 4/23/2027) | | | |
| Refrigerators and Freezers | ENERGY STAR Spec Version | V5.1 | | V6.0 (Draft 1 anticipated Q2 2024) | | | | | |
| | DOE Standard | Current Standard | | | | Updated Standard (Under dvp't - anticipated 2027) | | | |
| Residential Cooktops | ENERGY STAR Spec Version | V1.0 | | | | | | | |
| | DOE Standard | Current Standard | | | | | | | |

| Federal Efficiency Standards and ENERGY STAR Criteria for HVAC and Water Heaters | | | | | | | | | |
|--|--------------------------|----------------------------------|--|------|------|------|------|------|------|
| Product Category | | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Air-Source Heat Pumps | ENERGY STAR Spec Version | V6.1 | | | | | | | |
| | DOE Standard | Current Standard | | | | | | | |
| Central Air Conditioners | ENERGY STAR Spec Version | V6.1 | Proposed sunset anticipated effective February 1, 2026 | | | | | | |
| | DOE Standard | Current Standard | | | | | | | |
| Geothermal Heat Pumps | ENERGY STAR Spec Version | V3.2 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |
| Heat Pump Water Heaters | ENERGY STAR Spec Version | V5.0 | | | | | | | |
| | DOE Standard | Current Standard | | | | | | | ** |

**Updated Standard (Under development – anticipated 2030)

| Federal Efficiency Standards and ENERGY STAR Criteria for CFS Products | | | | | | | | | |
|--|--------------------------|----------------------|------|------|------|------|------|------|------|
| Product Category | | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Commercial Coffee Brewers | ENERGY STAR Spec Version | V1.1 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |
| Commercial Dishwashers | ENERGY STAR Spec Version | V3.0 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |
| Commercial Electric Cooktops | ENERGY STAR Spec Version | V1.0 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |
| Commercial Fryers | ENERGY STAR Spec Version | V3.0 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |
| Commercial Griddles | ENERGY STAR Spec Version | V1.2 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |
| Commercial Hot Food Holding Cabinets | ENERGY STAR Spec Version | V2.0 | | | | | | | |
| | DOE Standard | N/A | | | | | | | |

| | | | |
|--|--------------------------|----------------------------------|---|
| Commercial Ice Makers | ENERGY STAR Spec Version | V3.0 | |
| | DOE Standard | Current Standard | Updated Standard (Under dvp't - anticipated 2027) |
| Commercial Ovens | ENERGY STAR Spec Version | V3.0 | |
| | DOE Standard | N/A | |
| Commercial Refrigerators and Freezers | ENERGY STAR Spec Version | V5.0 | |
| | DOE Standard | Current Standard | Updated Standard (Under dvp't – anticipated 2028) |
| Commercial Steam Cookers | ENERGY STAR Spec Version | V1.2 | |
| | DOE Standard | N/A | |

Recently Updated TRMs

- [Arkansas TRM v9.1](#) (updated 2022)
- [Connecticut Program Savings Document v19](#) (updated 2022)
- [Hawaii TRM Program Year 2023](#) (updated 2023)
- [Illinois TRM v12.0](#) (updated 2023)
- [Iowa Statewide TRM v8.0](#) (updated 2023)
- [Maine Commercial/Industrial and Multifamily v2024.1](#) and [Maine Retail/Residential v2024.2](#) (both updated 2023)
- [Massachusetts TRM for Mass Save 2022-2024 Plan](#) (updated 2021)
- [Michigan Energy Measures Database](#) (updated 2023)
- [Minnesota TRM v4.1](#) (updated 2022)
- [NEEP Maryland/MidAtlantic TRM](#) (updated 2020)
- [New Jersey 2023 Triennial TRM](#) (updated 2023)
- [New Mexico 2021 TRM](#) (updated 2021)
- [New York TRM v.11](#) (updated 2023)
- [Pennsylvania TRM - Residential](#) and [Pennsylvania TRM - Commercial and Industrial](#) (both updated 2021)
- [Rhode Island TRM – National Grid](#) (updated 2022)
- [Texas TRM v11.0](#) (updated 2023)