



What is Energy Efficiency?

For Federal Acquisition

Installing energy efficient equipment can lower a building's energy use and reduce energy costs and carbon emissions. Federal agencies are required by law ([42 USC §8259b](#)) to purchase products certified by EPA's ENERGY STAR program or that meet or exceed the efficiency level designated by DOE's Federal Energy Management Program (FEMP).

What is energy efficiency?

Energy efficiency measures the energy service delivered (output) compared to the energy used (input). A more efficient product provides the **same service** with **less energy**.

$$\frac{\text{Energy Service Delivered}}{\text{Energy Used}} = \frac{\text{Output}}{\text{Input}} = \text{Efficiency} \quad (\text{higher is usually better})$$

Common units of energy are kilowatt hours (kWh) & British Thermal Units (BTUs).

How to buy an energy efficient product?

Find required efficiency and compliant products



Apply required efficiency to the acquisition



- [GSA Sustainable Facilities Tool \(sftool.gov\)](#)
- [DOE FEMP Efficient Products Search](#)
<https://www.energy.gov/femp/search-energy-efficient-products>
- [ENERGY STAR Product Search](#)
<https://www.energystar.gov/products>

Preferred Vendor:

- Ask for product that meets or exceeds required efficiency

Solicitation:

- Identify compliant model and/or required efficiency in technical specifications
- Include energy efficiency in evaluation criteria
- Require vendors to document compliance



For this and other Take Five videos, visit
[FEMP's Energy Efficient Product Procurement training webpage](#)
<https://www.energy.gov/femp/energy-efficient-product-procurement-training-federal-agencies>



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How is energy efficiency measured?

Efficiency is usually measured as output over input and in most cases, a **higher value** means a **more efficient** product. To find efficiency metrics for other covered products, use the [DOE FEMP Efficient Products Search](https://www.energy.gov/femp/search-energy-efficient-products) (<https://www.energy.gov/femp/search-energy-efficient-products>)

PRODUCT	EFFICIENCY METRIC*
Boilers	- Combustion or Thermal Efficiency (%) - AFUE: Annual Fuel Utilization Efficiency (%)
Heat Pumps	- SEER: Seasonal Energy Efficiency Rating (BTU/kWh) - HSPF: Heating Seasonal Performance Factor (BTU/kWh)
Air Conditioners	- SEER: Seasonal Energy Efficiency Rating (BTU/kWh)
Chillers*	- Full Load Efficiency (kW/ton) & IPLV: Integrated Part Load Value (kW/ton)
Lighting	- Luminous Efficacy (lumens of light per watt or lm/W)
Water Heaters	- Thermal Efficiency (%)
Ovens	- Cooking Efficiency (%)
Clothes Washers	- MEF: Modified Energy Factor - IWF: Integrated Water Factor*
Refrigerators & Freezers*	- Annual Energy Consumption (kWh) - Maximum Daily Energy Consumption (kWh)
Ice Makers*	- Maximum Energy Use (kWh/100 lb of ice)
Coffee Makers*	- Normalized Ready-to-Brew Idle Energy Rate (watts/gal) - Normalized Heavy-Use Brew Energy Rate (watt-hours/gal)
Computers*	- TEC: Typical Energy Consumption (kWh)
Enterprise Servers	- Power Supply Efficiency (%)

*A lower value represents a more efficient product.

For questions, contact:



Federal Energy Management Program
[Technical Assistance Portal](https://www7.eere.energy.gov/femp/assistance/)
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